



Mini-Circuits

MEDIUM POWER, WIDEBAND, HIGH IP3

## Monolithic Amplifier

PMA3-83MP-D+

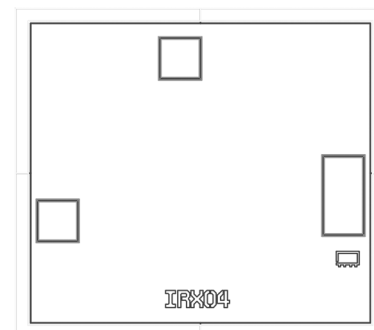
50Ω 0.4 to 8 GHz 0.5W

## THE BIG DEAL

- High Pout, 0.5W to 2GHz
- High IP3, 37.9 dBm Typ.
- Low Noise Figure, 3.1dB Typ
- Patent Pending

## TYPICAL APPLICATIONS

- WiFi
- WLAN
- LTE/WCDMA/EDGE
- L, S and C-band Radar
- C-band Satcom



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**+RoHS Compliant**

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

## PRODUCT OVERVIEW

The PMA3-83MP-D+ is a GaAs PHEMT based wide-band, low noise MMIC amplifier die with a unique combination of low noise, high IP3, and high output power, over a wide-band making it ideal for sensitive, high-dynamic range receiver applications. This design operates on a single supply of 8V, is well matched for 50Ω.

## KEY FEATURES

| Feature                                                                                                                                                                     | Advantages                                                                                                                                                                                                                        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Low noise, 3dB Typical up to 8GHz                                                                                                                                           | Enables lower system noise figure performance.                                                                                                                                                                                    |
| High IP3 <ul style="list-style-type: none"> <li>• +39.5 dBm at 0.4 GHz</li> <li>• +37.9 dBm at 2 GHz</li> <li>• +39.0 dBm at 4 GHz</li> <li>• +38.6 dBm at 8 GHz</li> </ul> | Combination of low noise and high IP3 makes this MMIC amplifier ideal for use in low noise receiver front end (RFE) as it gives the user advantages of sensitivity and two-tone IM performance at both ends of the dynamic range. |
| VDD Operates over 5V to 8V                                                                                                                                                  | Allows the designer to tailor Pout and OIP3 via DC input for easier integration.                                                                                                                                                  |
| Unpackaged die                                                                                                                                                              | Enables users to integrate it directly into hybrids.                                                                                                                                                                              |
| Wide bandwidth with flat gain <ul style="list-style-type: none"> <li>• ±1.5 dB over 4 to 7 GHz</li> <li>• ±2.0 dB over 0.4 to 8 GHz</li> </ul>                              | Enables a single amplifier to be used in many wideband applications including defense, instrumentation and more.                                                                                                                  |

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## Monolithic Amplifier

PMA3-83MP-D+

ELECTRICAL SPECIFICATIONS<sup>1</sup> AT 25°C, 50Ω, UNLESS NOTED

| Parameter                                             | Condition (MHz) | VDD=8V & V <sub>ladj</sub> = 1.7V |      |      | Units |
|-------------------------------------------------------|-----------------|-----------------------------------|------|------|-------|
|                                                       |                 | Min.                              | Typ. | Max. |       |
| Frequency range                                       |                 | 400                               |      | 8000 | MHz   |
| Gain                                                  | 400             |                                   | 21.7 |      | dB    |
|                                                       | 2000            |                                   | 21.0 |      |       |
|                                                       | 4000            |                                   | 18.9 |      |       |
|                                                       | 5000            |                                   | 18.6 |      |       |
|                                                       | 8000            |                                   | 17.3 |      |       |
| Input Return loss                                     | 400             |                                   | 13.1 |      | dB    |
|                                                       | 2000            |                                   | 14.8 |      |       |
|                                                       | 4000            |                                   | 8.3  |      |       |
|                                                       | 5000            |                                   | 8.4  |      |       |
|                                                       | 8000            |                                   | 10.4 |      |       |
| Output Return loss                                    | 400             |                                   | 9.8  |      | dB    |
|                                                       | 2000            |                                   | 17.3 |      |       |
|                                                       | 4000            |                                   | 13.8 |      |       |
|                                                       | 5000            |                                   | 11.8 |      |       |
|                                                       | 8000            |                                   | 23.6 |      |       |
| P1dB                                                  | 400             |                                   | 27.2 |      | dBm   |
|                                                       | 2000            |                                   | 27.8 |      |       |
|                                                       | 4000            |                                   | 25.9 |      |       |
|                                                       | 5000            |                                   | 25.1 |      |       |
|                                                       | 8000            |                                   | 25.3 |      |       |
| OIP3<br>(P <sub>out</sub> = 18dBm/Tone)               | 400             |                                   | 39.5 |      | dBm   |
|                                                       | 2000            |                                   | 37.9 |      |       |
|                                                       | 4000            |                                   | 39.0 |      |       |
|                                                       | 5000            |                                   | 35.2 |      |       |
|                                                       | 8000            |                                   | 38.6 |      |       |
| Noise Figure                                          | 400             |                                   | 3.5  |      | dB    |
|                                                       | 2000            |                                   | 3.2  |      |       |
|                                                       | 4000            |                                   | 3.2  |      |       |
|                                                       | 6000            |                                   | 3.0  |      |       |
|                                                       | 8000            |                                   | 3.3  |      |       |
| Device operating voltage (VDD)                        |                 | 7.6                               | 8.0  | 8.4  | V     |
| Device operating current (IDD)                        |                 |                                   | 144  | 175  | mA    |
| Device current variation vs. temperature <sup>2</sup> |                 |                                   | -50  |      | μA/°C |
| Device current variation vs voltage <sup>3</sup>      |                 |                                   | 0.02 |      | mA/mV |
| Thermal resistance, junction-to-ground Lead           |                 |                                   | 46.3 |      | °C/W  |

1. Die is soldered in 3x3mm 12L MCLP and measured on Mini-Circuits Characterization Test Board TB-PMA3-83MP+. See Characterization Test & Application Circuit (Fig. 1)

2. Device Current Variation vs. Temperature= (Current in mA at 85°C - Current in mA at -45°C)/130°C

3. Device Current Variation vs. Voltage = (Current in mA at 8.4V - Current in mA at 7.6V) / ((8.4V-7.6V)\*1000 mA/mV)

ABSOLUTE MAXIMUM RATINGS<sup>4</sup>

| Parameter                           | Ratings                                          |
|-------------------------------------|--------------------------------------------------|
| Operating temperature (ground lead) | -40°C to 85°C                                    |
| Storage temperature                 | -65°C to 150°C                                   |
| Junction Temperature                | 150°C                                            |
| Total power dissipation             | 1.4W                                             |
| Input power (CW)                    | +22 dBm (5 minutes max.)<br>+17 dBm (continuous) |
| DC voltage at V <sub>ladj</sub>     | 1.8V                                             |
| DC voltage at VDD                   | 9V                                               |

4. Permanent damage may occur if any of those limits are exceeded.

Electrical maximum ratings are not intended for continuous normal operation.





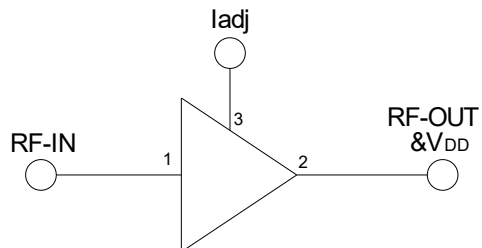
Mini-Circuits

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# Monolithic Amplifier

**PMA3-83MP-D+**

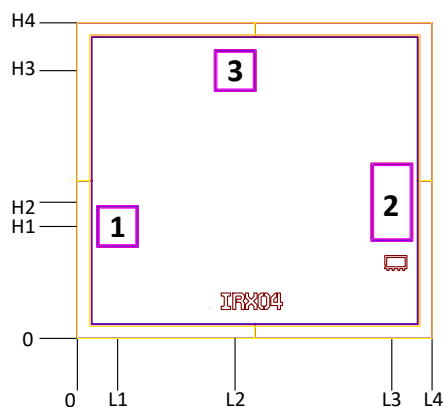
## SIMPLIFIED SCHEMATIC



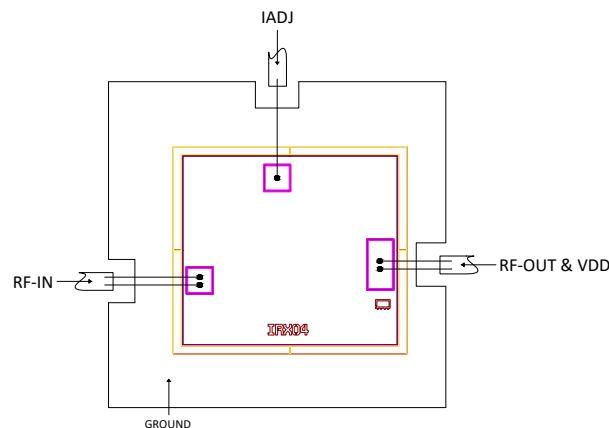
## PAD DESCRIPTION

| Function     | Pad Number | Description (Fig 1)                                     |
|--------------|------------|---------------------------------------------------------|
| RF-IN        | 1          | Connects to RF input via C1                             |
| RF-OUT & VDD | 2          | Connects to RF output via C2 and connects to VDD via L1 |
| Iadj         | 3          | Current Adjustment Pad. Connects to V <sub>Iadj</sub>   |

## BONDING PAD POSITION



## ASSEMBLY DIAGRAM



## DIE DIMENSIONS IN $\mu\text{M}$

|      |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|
| L1   | L2  | L3  | L4  | H1  | H2  | H3  | H4  |
| 83.0 | 324 | 646 | 728 | 230 | 280 | 550 | 648 |

|           |           |                |            |
|-----------|-----------|----------------|------------|
| Thickness | Die Size  | Pad Size 1 & 3 | Pad Size 2 |
| 100       | 728 x 648 | 75 x 75        | 75 x 150   |

## Recommended Wire Length and Loop Height, Typical

| Wire         | Wire Length (mils) | Wire Loop Height (mils) |
|--------------|--------------------|-------------------------|
| RF-IN        | 45                 | 7                       |
| RF-OUT & VDD | 28                 | 7                       |
| IADJ         | Not Critical       |                         |



## CHARACTERIZATION TEST &amp; APPLICATION CIRCUIT

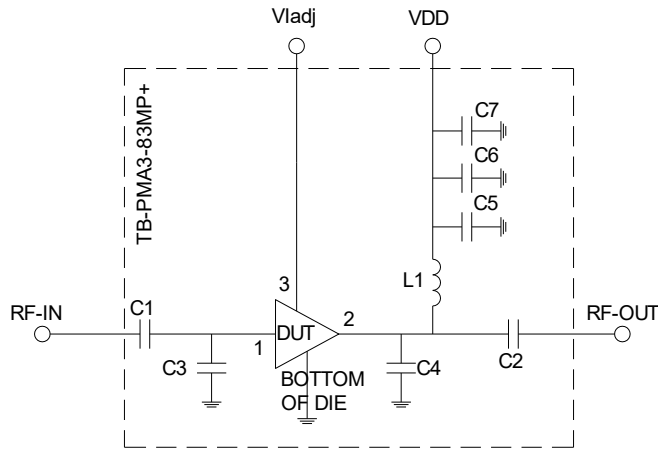


Fig 1. Application and Characterization Circuit

Note: This block diagram is used for characterization. (DUT is packaged in 3x3 12L MCLP and soldered on Mini-Circuits Characterization test board TB-PMA3-83MP+)

Gain, Return loss, Output power at 1dB compression (P1dB), output IP3 (OIP3) and noise figure measured using Agilent's N5242A PNA-X microwave network analyzer.

## Conditions:

1. VDD=8V, V<sub>adj</sub> = 1.7V
2. Gain and Return loss: Pin= -25dBm
3. Output IP3 (OIP3): Two tones, spaced 1 MHz apart, 18 dBm/tone at output.

| Component | Size | Value | Part Number        | Manufacturer |
|-----------|------|-------|--------------------|--------------|
| C1        | 0402 | 100pF | GRM1555C1H101JA01D | Murata       |
| C2        | 0402 | 100pF | GRM1555C1H101JA01D | Murata       |
| C3        | 0402 | 0.3pF | GQM1555C2DR30WB01D | Murata       |
| C4        | 0402 | 0.3pF | GQM1555C2DR30WB01D | Murata       |
| C5        | 0402 | 10pF  | GRM1555C1H100JA01D | Murata       |
| C6        | 0402 | 1uF   | GRM155C71A105KE11D | Murata       |
| C7        | 0603 | 10uF  | GRM188D71A106MA73J | Murata       |
| L1        | 0603 | 33nH  | 0603CS-33NXJEU     | Coilcraft    |

## ASSEMBLY PROCEDURE

1. Storage  
Dice should be stored in a dry nitrogen purged desiccators or equivalent.
2. ESD  
MMIC PHEMT amplifier dice are susceptible to electrostatic and mechanical damage. Die are supplied in antistatic protected material, which should be open in clean room conditions at an appropriately grounded anti-static workstation.
3. Die Handling and Attachment  
Devices need careful handling using correctly designed collets, it is recommended to handle the chip along the edges with a custom design collet. The die mounting surface must be clean and flat. Using conductive silver filled epoxy, recommended epoxies are Ablestik 84-1 LMISR4 or equivalents. Apply sufficient epoxy to meet required epoxy bond line thickness, epoxy fillet height and epoxy coverage around total periphery. Parts shall be cured in a nitrogen filled atmosphere per manufacturer's cure condition. It is recommended to use anti-static die pick up tools only.
4. Wire Bonding  
Bond pad openings in the surface passivation above the bond pads are provided to allow wire bonding to the dice gold bond pads. Thermo-sonic bonding is used with minimized ultrasonic content. Bond force, time, ultrasonic power and temperature are all critical parameters. Suggested wire is pure gold, 1mil diameter. Bonds must be made from the bond pads on the die to the packaged or substrate. All bond wires should be kept as short as low as reasonable to minimize performance degradation due to undesirable series inductance.



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# Monolithic Amplifier

**PMA3-83MP-D+**

ADDITIONAL DETAILED TECHNICAL INFORMATION IS AVAILABLE ON OUR DASH BOARD.

|                                        |                                                                                                                                                                        |                                                 |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| Performance Data                       | Data Table                                                                                                                                                             |                                                 |
|                                        | Swept Graphs                                                                                                                                                           |                                                 |
|                                        | S-Parameter (S2P Files) Data Set with and without port extension(.zip file)                                                                                            |                                                 |
| Case Style                             | Die                                                                                                                                                                    |                                                 |
| Die Ordering and packaging information | Quantity, Package                                                                                                                                                      | Model No.                                       |
|                                        | Small, Gel - Pak: 5,10,50,100<br>KGD* Medium, Partial wafer: KGD*<2254<br>Full Wafer<br><br>†Available upon request contact sales representative<br>Refer to AN-60-067 | PMA3-83MP-DG+<br>PMA3-83MP-DP+<br>PMA3-83MP-DF+ |
| Environmental Ratings                  | ENV80                                                                                                                                                                  |                                                 |

\*Known Good Die ("KGD") means that the dice in question have been subjected to Mini-Circuits DC test performance criteria and measurement instructions and that the parametric data of such dice fall within a predefined range. While DC testing is not definitive, it does provide a higher degree of confidence that die are capable of meeting typical RF electrical parameters specified by Mini-Circuits.

## ESD RATING

Human Body Model (HBM): Class 1A (250V) in accordance with ANSI/ESD STM 5.1 - 2001  
(Tested in 3x3 12L MCLP package)

## NOTES

- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
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## Typical Performance Data

### Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 8.00V, Vadj = 1.7V, Id = 139mA @ Temperature = +25°C

| FREQ  | Gain  | Isolation | Input Return Loss | Output Return Loss | Stability |         | IP-3 Output | 1dB Comp. Output | Noise Figure |
|-------|-------|-----------|-------------------|--------------------|-----------|---------|-------------|------------------|--------------|
| (MHz) | (dB)  | (dB)      | (dB)              | (dB)               | K         | Measure | (dBm)       | (dBm)            | (dB)         |
| 400   | 22.02 | 29.21     | 13.58             | 10.46              | 1.29      | 0.73    | 38.43       | 26.99            | 3.28         |
| 600   | 22.04 | 29.04     | 15.19             | 12.39              | 1.30      | 0.76    | 38.45       | 27.16            | 3.23         |
| 800   | 21.95 | 28.96     | 15.97             | 13.50              | 1.30      | 0.78    | 38.22       | 27.30            | 3.29         |
| 1000  | 21.82 | 28.93     | 16.32             | 14.77              | 1.32      | 0.80    | 38.04       | 27.48            | 3.20         |
| 1200  | 21.71 | 28.87     | 16.35             | 15.44              | 1.32      | 0.82    | 37.83       | 27.56            | 3.21         |
| 1400  | 21.53 | 28.84     | 16.28             | 16.20              | 1.34      | 0.83    | 37.84       | 27.69            | 3.10         |
| 1600  | 21.41 | 28.78     | 16.02             | 16.19              | 1.34      | 0.84    | 37.98       | 27.67            | 3.11         |
| 1800  | 21.21 | 28.80     | 15.75             | 16.12              | 1.36      | 0.85    | 37.68       | 27.54            | 3.12         |
| 2000  | 21.11 | 28.75     | 15.44             | 15.67              | 1.37      | 0.85    | 37.41       | 27.65            | 3.09         |
| 2200  | 20.93 | 28.71     | 14.84             | 15.11              | 1.38      | 0.86    | 37.24       | 27.42            | 3.01         |
| 2400  | 20.76 | 28.76     | 14.17             | 14.81              | 1.40      | 0.87    | 37.40       | 27.49            | 2.93         |
| 2600  | 20.49 | 28.87     | 13.50             | 14.19              | 1.44      | 0.88    | 37.49       | 27.15            | 3.05         |
| 2800  | 20.21 | 29.01     | 12.96             | 14.44              | 1.48      | 0.91    | 38.14       | 27.02            | 3.08         |
| 3000  | 19.91 | 29.09     | 12.16             | 14.23              | 1.50      | 0.93    | 39.50       | 26.86            | 3.08         |
| 3200  | 19.74 | 29.02     | 11.38             | 14.57              | 1.49      | 0.95    | 41.03       | 26.76            | 3.12         |
| 3400  | 19.58 | 28.96     | 10.57             | 14.39              | 1.46      | 0.98    | 43.69       | 26.68            | 3.08         |
| 3600  | 19.36 | 29.01     | 9.87              | 14.22              | 1.47      | 1.00    | 42.22       | 26.45            | 3.01         |
| 3800  | 19.24 | 28.96     | 9.04              | 13.24              | 1.44      | 1.01    | 39.83       | 26.38            | 2.98         |
| 4000  | 19.08 | 29.01     | 8.35              | 12.27              | 1.45      | 1.01    | 38.65       | 25.85            | 2.99         |
| 4200  | 19.02 | 28.96     | 7.72              | 11.07              | 1.43      | 1.00    | 36.83       | 25.20            | 2.99         |
| 4400  | 18.93 | 28.89     | 7.25              | 10.39              | 1.43      | 0.99    | 35.36       | 25.28            | 3.00         |
| 4600  | 18.92 | 28.72     | 7.02              | 9.92               | 1.42      | 0.96    | 34.28       | 24.33            | 2.84         |
| 4800  | 18.93 | 28.49     | 7.07              | 10.07              | 1.42      | 0.95    | 33.95       | 25.25            | 2.81         |
| 5000  | 18.98 | 28.14     | 7.41              | 10.44              | 1.41      | 0.93    | 33.87       | 24.42            | 2.70         |
| 5200  | 19.15 | 27.74     | 8.02              | 11.73              | 1.39      | 0.92    | 33.06       | 24.96            | 2.66         |
| 5400  | 19.29 | 27.45     | 8.90              | 13.31              | 1.39      | 0.91    | 33.40       | 25.72            | 2.62         |
| 5600  | 19.47 | 27.09     | 9.61              | 16.60              | 1.35      | 0.91    | 34.22       | 25.86            | 2.60         |
| 5800  | 19.52 | 26.96     | 10.19             | 21.49              | 1.36      | 0.92    | 35.13       | 26.19            | 2.59         |
| 6000  | 19.45 | 26.89     | 10.00             | 31.42              | 1.36      | 0.94    | 36.28       | 26.16            | 2.66         |
| 6200  | 19.22 | 26.95     | 9.32              | 26.65              | 1.38      | 0.98    | 37.49       | 26.05            | 2.76         |
| 6400  | 19.04 | 27.09     | 8.26              | 20.99              | 1.38      | 1.02    | 38.44       | 25.92            | 2.80         |
| 6600  | 18.93 | 27.28     | 7.48              | 18.66              | 1.37      | 1.07    | 39.12       | 25.84            | 2.87         |
| 6800  | 18.98 | 27.37     | 6.91              | 17.85              | 1.33      | 1.10    | 38.92       | 25.74            | 2.97         |
| 7000  | 18.86 | 27.51     | 6.57              | 18.83              | 1.33      | 1.13    | 38.77       | 25.68            | 2.93         |
| 7200  | 18.66 | 27.64     | 6.32              | 19.11              | 1.34      | 1.16    | 38.43       | 25.63            | 2.89         |
| 7400  | 18.57 | 27.92     | 6.61              | 20.05              | 1.41      | 1.15    | 38.25       | 25.67            | 2.92         |
| 7600  | 18.29 | 28.10     | 7.33              | 22.79              | 1.54      | 1.11    | 37.90       | 25.81            | 2.91         |
| 7800  | 18.04 | 27.88     | 8.05              | 24.67              | 1.60      | 1.07    | 37.64       | 25.81            | 2.88         |
| 8000  | 17.93 | 27.74     | 8.65              | 30.63              | 1.64      | 1.05    | 37.64       | 25.79            | 2.98         |

Note: Test data of Die packaged in industry standard 3x3mm 12L MCLP package

## Typical Performance Data

### Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 7.60V, Vadj = 1.7V, Id = 127mA @ Temperature = +25°C

| FREQ  | Gain  | Isolation | Input<br>Return<br>Loss | Output<br>Return<br>Loss | Stability |         | IP-3<br>Output | 1dB<br>Comp.<br>Output | Noise<br>Figure |
|-------|-------|-----------|-------------------------|--------------------------|-----------|---------|----------------|------------------------|-----------------|
| (MHz) | (dB)  | (dB)      | (dB)                    | (dB)                     | K         | Measure | (dBm)          | (dBm)                  | (dB)            |
| 400   | 21.83 | 28.90     | 13.52                   | 10.39                    | 1.28      | 0.72    | 38.63          | 26.57                  | 3.26            |
| 600   | 21.86 | 28.84     | 15.15                   | 12.25                    | 1.29      | 0.75    | 38.50          | 26.74                  | 3.14            |
| 800   | 21.78 | 28.78     | 15.96                   | 13.39                    | 1.30      | 0.78    | 38.21          | 26.90                  | 3.26            |
| 1000  | 21.66 | 28.76     | 16.34                   | 14.61                    | 1.31      | 0.80    | 38.04          | 27.09                  | 3.25            |
| 1200  | 21.55 | 28.71     | 16.41                   | 15.32                    | 1.32      | 0.81    | 37.84          | 27.17                  | 3.12            |
| 1400  | 21.38 | 28.67     | 16.36                   | 16.06                    | 1.33      | 0.83    | 37.88          | 27.29                  | 3.05            |
| 1600  | 21.26 | 28.61     | 16.12                   | 16.10                    | 1.34      | 0.84    | 38.05          | 27.25                  | 3.05            |
| 1800  | 21.07 | 28.63     | 15.86                   | 16.04                    | 1.36      | 0.85    | 37.80          | 27.17                  | 3.08            |
| 2000  | 20.97 | 28.51     | 15.53                   | 15.59                    | 1.36      | 0.85    | 37.64          | 27.25                  | 3.03            |
| 2200  | 20.80 | 28.54     | 14.93                   | 15.03                    | 1.38      | 0.85    | 37.42          | 27.00                  | 2.99            |
| 2400  | 20.63 | 28.57     | 14.25                   | 14.73                    | 1.39      | 0.87    | 37.53          | 27.09                  | 2.95            |
| 2600  | 20.37 | 28.67     | 13.57                   | 14.15                    | 1.43      | 0.88    | 37.73          | 26.73                  | 3.00            |
| 2800  | 20.09 | 28.85     | 13.04                   | 14.36                    | 1.48      | 0.90    | 38.40          | 26.64                  | 3.04            |
| 3000  | 19.80 | 28.92     | 12.24                   | 14.21                    | 1.50      | 0.93    | 39.73          | 26.51                  | 3.04            |
| 3200  | 19.63 | 28.84     | 11.46                   | 14.52                    | 1.48      | 0.95    | 41.33          | 26.51                  | 3.12            |
| 3400  | 19.48 | 28.78     | 10.66                   | 14.40                    | 1.45      | 0.97    | 44.45          | 26.43                  | 3.06            |
| 3600  | 19.27 | 28.83     | 9.94                    | 14.21                    | 1.46      | 1.00    | 41.00          | 26.31                  | 3.06            |
| 3800  | 19.14 | 28.80     | 9.12                    | 13.28                    | 1.43      | 1.01    | 39.22          | 26.34                  | 2.96            |
| 4000  | 18.99 | 28.84     | 8.41                    | 12.29                    | 1.44      | 1.01    | 38.12          | 25.92                  | 3.02            |
| 4200  | 18.94 | 28.78     | 7.77                    | 11.12                    | 1.42      | 1.00    | 36.56          | 25.49                  | 2.97            |
| 4400  | 18.86 | 28.74     | 7.28                    | 10.40                    | 1.42      | 0.98    | 35.17          | 25.53                  | 2.94            |
| 4600  | 18.85 | 28.63     | 7.04                    | 9.96                     | 1.42      | 0.96    | 34.08          | 24.53                  | 2.84            |
| 4800  | 18.86 | 28.33     | 7.08                    | 10.08                    | 1.41      | 0.95    | 33.64          | 25.39                  | 2.80            |
| 5000  | 18.91 | 28.01     | 7.42                    | 10.48                    | 1.41      | 0.93    | 33.42          | 24.47                  | 2.71            |
| 5200  | 19.07 | 27.64     | 8.05                    | 11.75                    | 1.39      | 0.92    | 32.58          | 24.85                  | 2.64            |
| 5400  | 19.22 | 27.31     | 8.94                    | 13.39                    | 1.38      | 0.91    | 33.02          | 25.56                  | 2.63            |
| 5600  | 19.41 | 27.03     | 9.69                    | 16.68                    | 1.36      | 0.91    | 33.63          | 25.64                  | 2.59            |
| 5800  | 19.46 | 26.83     | 10.30                   | 21.76                    | 1.35      | 0.92    | 34.72          | 25.88                  | 2.58            |
| 6000  | 19.39 | 26.79     | 10.12                   | 31.81                    | 1.36      | 0.94    | 36.14          | 25.85                  | 2.60            |
| 6200  | 19.18 | 26.84     | 9.42                    | 26.28                    | 1.38      | 0.97    | 37.98          | 25.67                  | 2.69            |
| 6400  | 18.99 | 26.96     | 8.35                    | 20.79                    | 1.37      | 1.02    | 38.94          | 25.53                  | 2.76            |
| 6600  | 18.89 | 27.17     | 7.56                    | 18.48                    | 1.37      | 1.06    | 39.22          | 25.44                  | 2.81            |
| 6800  | 18.94 | 27.27     | 7.00                    | 17.72                    | 1.33      | 1.09    | 38.92          | 25.37                  | 2.96            |
| 7000  | 18.83 | 27.41     | 6.64                    | 18.66                    | 1.33      | 1.13    | 38.48          | 25.30                  | 2.93            |
| 7200  | 18.63 | 27.55     | 6.40                    | 19.03                    | 1.34      | 1.15    | 38.10          | 25.29                  | 2.93            |
| 7400  | 18.55 | 27.80     | 6.68                    | 19.95                    | 1.40      | 1.14    | 37.98          | 25.35                  | 2.94            |
| 7600  | 18.26 | 27.99     | 7.40                    | 22.83                    | 1.54      | 1.11    | 37.76          | 25.53                  | 2.85            |
| 7800  | 18.02 | 27.76     | 8.12                    | 24.87                    | 1.59      | 1.07    | 37.55          | 25.54                  | 2.86            |
| 8000  | 17.92 | 27.63     | 8.73                    | 31.58                    | 1.63      | 1.04    | 37.55          | 25.52                  | 2.92            |

Note: Test data of Die packaged in industry standard 3x3mm 12L MCLP package

*Typical Performance Data***Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS:  $V_d = 8.40V$ ,  $V_{adj} = 1.7V$ ,  $I_d = 150mA$  @ Temperature = +25°C

| FREQ  | Gain  | Isolation | Input<br>Return<br>Loss | Output<br>Return<br>Loss | Stability |         | IP-3<br>Output | 1dB<br>Comp.<br>Output | Noise<br>Figure |
|-------|-------|-----------|-------------------------|--------------------------|-----------|---------|----------------|------------------------|-----------------|
| (MHz) | (dB)  | (dB)      | (dB)                    | (dB)                     | K         | Measure | (dBm)          | (dBm)                  | (dB)            |
| 400   | 22.25 | 29.26     | 13.50                   | 10.60                    | 1.27      | 0.72    | 38.44          | 27.45                  | 3.32            |
| 600   | 22.26 | 29.18     | 15.11                   | 12.46                    | 1.29      | 0.76    | 38.55          | 27.64                  | 3.23            |
| 800   | 22.16 | 29.10     | 15.90                   | 13.74                    | 1.29      | 0.78    | 38.36          | 27.75                  | 3.30            |
| 1000  | 22.04 | 29.07     | 16.20                   | 14.88                    | 1.31      | 0.80    | 38.21          | 27.95                  | 3.18            |
| 1200  | 21.91 | 29.01     | 16.23                   | 15.70                    | 1.31      | 0.82    | 38.03          | 28.01                  | 3.23            |
| 1400  | 21.74 | 29.00     | 16.13                   | 16.31                    | 1.33      | 0.83    | 38.00          | 28.11                  | 3.09            |
| 1600  | 21.59 | 28.93     | 15.88                   | 16.41                    | 1.34      | 0.84    | 38.19          | 28.06                  | 3.07            |
| 1800  | 21.40 | 28.89     | 15.60                   | 16.26                    | 1.35      | 0.85    | 37.76          | 27.99                  | 3.06            |
| 2000  | 21.29 | 28.85     | 15.29                   | 15.81                    | 1.36      | 0.85    | 37.37          | 28.09                  | 3.02            |
| 2200  | 21.12 | 28.81     | 14.70                   | 15.26                    | 1.37      | 0.86    | 37.31          | 27.86                  | 3.08            |
| 2400  | 20.93 | 28.86     | 14.05                   | 14.89                    | 1.39      | 0.87    | 37.34          | 27.93                  | 3.14            |
| 2600  | 20.67 | 28.97     | 13.37                   | 14.36                    | 1.42      | 0.88    | 37.45          | 27.61                  | 3.05            |
| 2800  | 20.38 | 29.10     | 12.83                   | 14.48                    | 1.47      | 0.91    | 38.08          | 27.45                  | 3.08            |
| 3000  | 20.08 | 29.21     | 12.01                   | 14.38                    | 1.49      | 0.93    | 39.42          | 27.30                  | 3.12            |
| 3200  | 19.91 | 29.09     | 11.24                   | 14.57                    | 1.47      | 0.96    | 40.86          | 27.05                  | 3.08            |
| 3400  | 19.73 | 29.07     | 10.44                   | 14.49                    | 1.45      | 0.98    | 43.23          | 26.98                  | 3.04            |
| 3600  | 19.53 | 29.09     | 9.69                    | 14.15                    | 1.45      | 1.00    | 43.42          | 26.68                  | 3.09            |
| 3800  | 19.37 | 29.09     | 8.91                    | 13.25                    | 1.43      | 1.02    | 40.43          | 26.49                  | 3.02            |
| 4000  | 19.23 | 29.10     | 8.21                    | 12.17                    | 1.43      | 1.02    | 39.09          | 25.80                  | 3.04            |
| 4200  | 19.15 | 29.05     | 7.59                    | 11.06                    | 1.42      | 1.00    | 37.18          | 24.90                  | 3.02            |
| 4400  | 19.08 | 28.95     | 7.11                    | 10.29                    | 1.41      | 0.99    | 35.60          | 24.96                  | 2.90            |
| 4600  | 19.05 | 28.83     | 6.90                    | 9.90                     | 1.41      | 0.97    | 34.59          | 24.03                  | 2.85            |
| 4800  | 19.06 | 28.54     | 6.95                    | 9.97                     | 1.40      | 0.95    | 34.36          | 25.04                  | 2.82            |
| 5000  | 19.12 | 28.26     | 7.29                    | 10.43                    | 1.40      | 0.93    | 34.00          | 24.26                  | 2.77            |
| 5200  | 19.27 | 27.84     | 7.89                    | 11.60                    | 1.38      | 0.92    | 33.37          | 24.91                  | 2.70            |
| 5400  | 19.43 | 27.50     | 8.74                    | 13.27                    | 1.37      | 0.91    | 34.06          | 25.86                  | 2.65            |
| 5600  | 19.60 | 27.24     | 9.46                    | 16.32                    | 1.35      | 0.91    | 34.72          | 26.06                  | 2.60            |
| 5800  | 19.65 | 27.01     | 10.02                   | 21.32                    | 1.34      | 0.92    | 35.62          | 26.48                  | 2.60            |
| 6000  | 19.57 | 26.94     | 9.83                    | 30.44                    | 1.35      | 0.94    | 36.52          | 26.46                  | 2.64            |
| 6200  | 19.36 | 27.02     | 9.12                    | 26.99                    | 1.37      | 0.98    | 37.36          | 26.40                  | 2.79            |
| 6400  | 19.15 | 27.18     | 8.10                    | 21.39                    | 1.37      | 1.03    | 38.06          | 26.29                  | 2.73            |
| 6600  | 19.06 | 27.36     | 7.31                    | 18.81                    | 1.36      | 1.07    | 38.77          | 26.22                  | 2.87            |
| 6800  | 19.09 | 27.44     | 6.77                    | 18.15                    | 1.32      | 1.11    | 38.72          | 26.08                  | 2.90            |
| 7000  | 18.99 | 27.57     | 6.40                    | 18.98                    | 1.31      | 1.14    | 38.75          | 25.98                  | 2.94            |
| 7200  | 18.76 | 27.72     | 6.19                    | 19.38                    | 1.33      | 1.17    | 38.58          | 25.95                  | 2.95            |
| 7400  | 18.69 | 28.00     | 6.47                    | 20.08                    | 1.39      | 1.15    | 38.44          | 25.93                  | 2.94            |
| 7600  | 18.38 | 28.19     | 7.19                    | 22.83                    | 1.53      | 1.12    | 38.20          | 26.02                  | 2.96            |
| 7800  | 18.15 | 27.95     | 7.88                    | 24.06                    | 1.59      | 1.08    | 37.95          | 26.04                  | 2.81            |
| 8000  | 18.03 | 27.85     | 8.48                    | 29.61                    | 1.64      | 1.05    | 37.84          | 26.01                  | 3.01            |

Note: Test data of Die packaged in industry standard 3x3mm 12L MCLP package



## Typical Performance Data

### Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 8.00V, Vadj = 1.7V, Id = 176mA Temperature = -45°C

| FREQ  | Gain  | Isolation | Input<br>Return<br>Loss | Output<br>Return<br>Loss | Stability |         | IP-3<br>Output | 1dB<br>Comp.<br>Output | Noise<br>Figure |
|-------|-------|-----------|-------------------------|--------------------------|-----------|---------|----------------|------------------------|-----------------|
| (MHz) | (dB)  | (dB)      | (dB)                    | (dB)                     | K         | Measure | (dBm)          | (dBm)                  | (dB)            |
| 400   | 21.65 | 29.33     | 12.82                   | 8.27                     | 1.28      | 0.67    | 38.92          | 27.36                  | 2.93            |
| 600   | 21.72 | 29.21     | 14.08                   | 9.49                     | 1.30      | 0.71    | 39.20          | 27.50                  | 2.84            |
| 800   | 21.68 | 29.14     | 14.94                   | 9.92                     | 1.30      | 0.72    | 39.03          | 27.60                  | 2.82            |
| 1000  | 21.62 | 29.05     | 15.68                   | 10.98                    | 1.32      | 0.75    | 38.82          | 27.83                  | 2.86            |
| 1200  | 21.58 | 28.95     | 16.20                   | 11.49                    | 1.31      | 0.76    | 38.50          | 27.96                  | 2.83            |
| 1400  | 21.45 | 28.93     | 16.48                   | 12.30                    | 1.34      | 0.78    | 38.34          | 28.10                  | 2.71            |
| 1600  | 21.40 | 28.85     | 16.28                   | 12.52                    | 1.33      | 0.79    | 38.23          | 28.14                  | 2.69            |
| 1800  | 21.20 | 28.91     | 16.06                   | 12.65                    | 1.37      | 0.80    | 37.84          | 28.02                  | 2.66            |
| 2000  | 21.15 | 28.76     | 15.52                   | 12.42                    | 1.35      | 0.80    | 37.55          | 28.09                  | 2.56            |
| 2200  | 20.97 | 28.85     | 14.68                   | 11.91                    | 1.38      | 0.80    | 37.31          | 27.87                  | 2.65            |
| 2400  | 20.86 | 28.76     | 13.77                   | 11.97                    | 1.38      | 0.81    | 37.15          | 27.96                  | 2.74            |
| 2600  | 20.57 | 28.97     | 13.08                   | 11.44                    | 1.42      | 0.83    | 37.18          | 27.63                  | 2.65            |
| 2800  | 20.38 | 29.02     | 12.76                   | 12.05                    | 1.45      | 0.85    | 37.33          | 27.53                  | 2.71            |
| 3000  | 20.08 | 29.15     | 12.58                   | 12.31                    | 1.50      | 0.88    | 38.22          | 27.44                  | 2.71            |
| 3200  | 20.03 | 28.97     | 11.97                   | 13.43                    | 1.47      | 0.91    | 38.94          | 27.49                  | 2.65            |
| 3400  | 19.98 | 28.85     | 11.45                   | 13.98                    | 1.44      | 0.93    | 40.30          | 27.43                  | 2.65            |
| 3600  | 19.84 | 28.82     | 11.09                   | 15.51                    | 1.45      | 0.96    | 43.80          | 27.31                  | 2.57            |
| 3800  | 19.85 | 28.68     | 10.39                   | 15.60                    | 1.41      | 0.98    | 40.93          | 27.28                  | 2.55            |
| 4000  | 19.73 | 28.77     | 9.80                    | 15.52                    | 1.44      | 0.99    | 39.34          | 26.93                  | 2.61            |
| 4200  | 19.77 | 28.66     | 9.10                    | 13.88                    | 1.41      | 0.98    | 38.06          | 26.59                  | 2.50            |
| 4400  | 19.69 | 28.63     | 8.51                    | 12.97                    | 1.42      | 0.97    | 36.30          | 26.77                  | 2.41            |
| 4600  | 19.76 | 28.48     | 8.07                    | 11.98                    | 1.39      | 0.95    | 35.19          | 25.59                  | 2.32            |
| 4800  | 19.73 | 28.38     | 8.03                    | 12.00                    | 1.40      | 0.94    | 35.11          | 26.39                  | 2.31            |
| 5000  | 19.76 | 28.16     | 8.29                    | 12.07                    | 1.39      | 0.92    | 34.89          | 25.89                  | 2.20            |
| 5200  | 19.82 | 27.82     | 8.96                    | 13.68                    | 1.38      | 0.91    | 34.14          | 26.23                  | 2.28            |
| 5400  | 19.81 | 27.52     | 10.02                   | 15.49                    | 1.38      | 0.89    | 34.77          | 27.02                  | 2.10            |
| 5600  | 19.94 | 27.29     | 10.82                   | 19.57                    | 1.36      | 0.89    | 35.53          | 27.31                  | 2.14            |
| 5800  | 20.02 | 27.06     | 11.48                   | 22.85                    | 1.35      | 0.88    | 36.65          | 27.27                  | 2.15            |
| 6000  | 20.03 | 27.03     | 11.35                   | 21.92                    | 1.35      | 0.88    | 38.20          | 27.28                  | 2.20            |
| 6200  | 19.89 | 27.13     | 10.63                   | 19.29                    | 1.37      | 0.91    | 41.09          | 27.00                  | 2.26            |
| 6400  | 19.71 | 27.26     | 9.43                    | 17.39                    | 1.38      | 0.95    | 43.33          | 26.72                  | 2.30            |
| 6600  | 19.57 | 27.26     | 8.57                    | 16.53                    | 1.37      | 0.98    | 42.95          | 26.62                  | 2.38            |
| 6800  | 19.65 | 27.28     | 7.84                    | 16.14                    | 1.32      | 1.01    | 41.78          | 26.44                  | 2.41            |
| 7000  | 19.61 | 27.39     | 7.30                    | 17.14                    | 1.30      | 1.05    | 41.31          | 26.29                  | 2.45            |
| 7200  | 19.69 | 27.40     | 6.74                    | 18.79                    | 1.25      | 1.09    | 40.59          | 26.27                  | 2.50            |
| 7400  | 19.39 | 27.72     | 7.12                    | 20.50                    | 1.33      | 1.10    | 40.23          | 26.00                  | 2.45            |
| 7600  | 19.17 | 27.54     | 7.66                    | 25.62                    | 1.37      | 1.07    | 40.63          | 26.54                  | 2.42            |
| 7800  | 18.85 | 27.47     | 8.56                    | 38.34                    | 1.46      | 1.03    | 40.39          | 26.55                  | 2.43            |
| 8000  | 18.66 | 27.73     | 9.50                    | 24.82                    | 1.58      | 1.00    | 40.11          | 26.56                  | 2.45            |

Note: Test data of Die packaged in industry standard 3x3mm 12L MCLP package



## Typical Performance Data

### Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 7.60V, Vadj = 1.7V Id = 162mA @ Temperature = -45°C

| FREQ  | Gain  | Isolation | Input Return Loss | Output Return Loss | Stability |         | IP-3 Output | 1dB Comp. Output | Noise Figure |
|-------|-------|-----------|-------------------|--------------------|-----------|---------|-------------|------------------|--------------|
| (MHz) | (dB)  | (dB)      | (dB)              | (dB)               | K         | Measure | (dBm)       | (dBm)            | (dB)         |
| 400   | 21.78 | 29.25     | 12.43             | 8.23               | 1.26      | 0.66    | 38.93       | 26.74            | 2.86         |
| 600   | 21.83 | 29.10     | 13.70             | 9.15               | 1.27      | 0.69    | 39.11       | 26.87            | 2.83         |
| 800   | 21.79 | 29.05     | 14.58             | 9.84               | 1.28      | 0.71    | 38.94       | 27.02            | 2.88         |
| 1000  | 21.75 | 28.97     | 15.26             | 10.60              | 1.29      | 0.73    | 38.80       | 27.25            | 2.78         |
| 1200  | 21.69 | 28.90     | 15.87             | 11.33              | 1.30      | 0.75    | 38.55       | 27.38            | 2.79         |
| 1400  | 21.60 | 28.82     | 16.13             | 11.93              | 1.30      | 0.77    | 38.41       | 27.56            | 2.68         |
| 1600  | 21.50 | 28.80     | 16.07             | 12.26              | 1.32      | 0.78    | 38.34       | 27.56            | 2.66         |
| 1800  | 21.35 | 28.76     | 15.77             | 12.39              | 1.33      | 0.79    | 38.06       | 27.50            | 2.60         |
| 2000  | 21.26 | 28.73     | 15.29             | 12.10              | 1.34      | 0.79    | 37.86       | 27.56            | 2.58         |
| 2200  | 21.12 | 28.68     | 14.38             | 11.77              | 1.34      | 0.79    | 38.06       | 27.36            | 2.61         |
| 2400  | 20.95 | 28.74     | 13.55             | 11.60              | 1.36      | 0.80    | 37.51       | 27.41            | 2.63         |
| 2600  | 20.73 | 28.85     | 12.82             | 11.38              | 1.38      | 0.82    | 37.45       | 27.12            | 2.62         |
| 2800  | 20.47 | 28.94     | 12.55             | 11.67              | 1.43      | 0.84    | 37.67       | 27.02            | 2.64         |
| 3000  | 20.22 | 29.07     | 12.32             | 12.26              | 1.47      | 0.87    | 38.31       | 26.94            | 2.72         |
| 3200  | 20.16 | 28.87     | 11.84             | 13.00              | 1.43      | 0.90    | 39.14       | 27.04            | 2.61         |
| 3400  | 20.10 | 28.77     | 11.35             | 14.02              | 1.41      | 0.93    | 40.38       | 26.93            | 2.60         |
| 3600  | 20.02 | 28.69     | 10.90             | 15.14              | 1.40      | 0.95    | 43.16       | 26.85            | 2.55         |
| 3800  | 19.95 | 28.63     | 10.37             | 15.91              | 1.39      | 0.98    | 40.22       | 26.90            | 2.58         |
| 4000  | 19.91 | 28.58     | 9.74              | 15.58              | 1.39      | 0.98    | 39.18       | 26.57            | 2.57         |
| 4200  | 19.89 | 28.51     | 9.06              | 14.33              | 1.38      | 0.98    | 38.09       | 26.39            | 2.55         |
| 4400  | 19.87 | 28.52     | 8.41              | 13.10              | 1.38      | 0.97    | 36.38       | 26.54            | 2.37         |
| 4600  | 19.88 | 28.42     | 8.03              | 12.34              | 1.37      | 0.95    | 35.14       | 25.47            | 2.34         |
| 4800  | 19.90 | 28.25     | 7.93              | 12.09              | 1.37      | 0.93    | 34.91       | 26.32            | 2.56         |
| 5000  | 19.91 | 28.06     | 8.22              | 12.45              | 1.37      | 0.92    | 34.94       | 25.78            | 2.26         |
| 5200  | 19.92 | 27.76     | 8.90              | 13.78              | 1.36      | 0.91    | 34.01       | 26.19            | 2.21         |
| 5400  | 19.96 | 27.43     | 9.94              | 16.01              | 1.36      | 0.89    | 34.81       | 26.79            | 2.14         |
| 5600  | 20.05 | 27.26     | 10.86             | 19.56              | 1.35      | 0.89    | 35.85       | 27.10            | 2.15         |
| 5800  | 20.12 | 27.02     | 11.55             | 23.16              | 1.33      | 0.87    | 37.70       | 26.92            | 2.14         |
| 6000  | 20.12 | 27.01     | 11.38             | 21.59              | 1.34      | 0.88    | 40.19       | 26.88            | 2.21         |
| 6200  | 20.01 | 27.07     | 10.59             | 18.67              | 1.35      | 0.90    | 43.76       | 26.60            | 2.28         |
| 6400  | 19.79 | 27.21     | 9.44              | 17.17              | 1.36      | 0.94    | 41.43       | 26.29            | 2.26         |
| 6600  | 19.69 | 27.24     | 8.54              | 16.07              | 1.35      | 0.97    | 39.33       | 26.16            | 2.33         |
| 6800  | 19.71 | 27.26     | 7.84              | 15.95              | 1.31      | 1.01    | 38.40       | 25.94            | 2.48         |
| 7000  | 19.76 | 27.29     | 7.20              | 16.70              | 1.26      | 1.05    | 38.31       | 25.82            | 2.46         |
| 7200  | 19.74 | 27.39     | 6.76              | 18.62              | 1.24      | 1.09    | 38.32       | 25.83            | 2.52         |
| 7400  | 19.53 | 27.62     | 7.10              | 20.08              | 1.30      | 1.09    | 38.17       | 25.50            | 2.50         |
| 7600  | 19.25 | 27.53     | 7.69              | 25.63              | 1.37      | 1.06    | 39.55       | 26.09            | 2.44         |
| 7800  | 18.98 | 27.44     | 8.53              | 35.78              | 1.44      | 1.03    | 39.94       | 26.09            | 2.46         |
| 8000  | 18.73 | 27.74     | 9.57              | 23.81              | 1.57      | 1.00    | 39.88       | 26.13            | 2.43         |

Note: Test data of Die packaged in industry standard 3x3mm 12L MCLP package



*Typical Performance Data***Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 8.40V, Vadj = 1.7V, Id = 182mA @ Temperature = -45°C

| FREQ  | Gain  | Isolation | Input<br>Return<br>Loss | Output<br>Return<br>Loss | Stability |         | IP-3<br>Output | 1dB<br>Comp.<br>Output | Noise<br>Figure |
|-------|-------|-----------|-------------------------|--------------------------|-----------|---------|----------------|------------------------|-----------------|
| (MHz) | (dB)  | (dB)      | (dB)                    | (dB)                     | K         | Measure | (dBm)          | (dBm)                  | (dB)            |
| 400   | 21.62 | 29.41     | 13.02                   | 8.34                     | 1.30      | 0.68    | 38.95          | 27.92                  | 2.94            |
| 600   | 21.72 | 29.26     | 14.29                   | 9.79                     | 1.31      | 0.72    | 39.34          | 28.06                  | 2.84            |
| 800   | 21.64 | 29.21     | 15.15                   | 10.03                    | 1.31      | 0.73    | 39.18          | 28.16                  | 2.85            |
| 1000  | 21.61 | 29.10     | 15.89                   | 11.39                    | 1.33      | 0.76    | 38.97          | 28.38                  | 2.83            |
| 1200  | 21.54 | 29.02     | 16.42                   | 11.59                    | 1.33      | 0.77    | 38.65          | 28.50                  | 2.77            |
| 1400  | 21.42 | 29.00     | 16.66                   | 12.80                    | 1.35      | 0.79    | 38.46          | 28.63                  | 2.76            |
| 1600  | 21.36 | 28.90     | 16.44                   | 12.60                    | 1.34      | 0.79    | 38.32          | 28.65                  | 2.71            |
| 1800  | 21.17 | 28.94     | 16.21                   | 13.17                    | 1.38      | 0.81    | 37.80          | 28.54                  | 2.75            |
| 2000  | 21.10 | 28.80     | 15.70                   | 12.46                    | 1.36      | 0.80    | 37.36          | 28.59                  | 2.64            |
| 2200  | 20.92 | 28.87     | 14.85                   | 12.38                    | 1.39      | 0.81    | 37.11          | 28.38                  | 2.68            |
| 2400  | 20.83 | 28.86     | 13.93                   | 12.00                    | 1.39      | 0.82    | 36.98          | 28.41                  | 2.72            |
| 2600  | 20.51 | 28.99     | 13.24                   | 11.85                    | 1.44      | 0.84    | 36.94          | 28.14                  | 2.67            |
| 2800  | 20.34 | 29.06     | 12.90                   | 12.11                    | 1.46      | 0.86    | 37.20          | 28.03                  | 2.68            |
| 3000  | 19.98 | 29.22     | 12.77                   | 12.71                    | 1.53      | 0.89    | 37.85          | 27.93                  | 2.75            |
| 3200  | 20.02 | 28.95     | 12.02                   | 13.48                    | 1.47      | 0.91    | 38.58          | 27.98                  | 2.66            |
| 3400  | 19.85 | 28.91     | 11.55                   | 14.41                    | 1.47      | 0.94    | 39.67          | 27.85                  | 2.63            |
| 3600  | 19.83 | 28.79     | 11.07                   | 15.33                    | 1.44      | 0.96    | 42.77          | 27.71                  | 2.61            |
| 3800  | 19.72 | 28.83     | 10.44                   | 15.91                    | 1.45      | 0.98    | 42.25          | 27.74                  | 2.54            |
| 4000  | 19.66 | 28.79     | 9.77                    | 14.90                    | 1.44      | 0.99    | 40.03          | 27.26                  | 2.61            |
| 4200  | 19.67 | 28.69     | 9.10                    | 13.95                    | 1.43      | 0.98    | 38.42          | 26.81                  | 2.47            |
| 4400  | 19.59 | 28.70     | 8.51                    | 12.42                    | 1.43      | 0.97    | 36.81          | 26.98                  | 2.43            |
| 4600  | 19.67 | 28.52     | 8.07                    | 12.03                    | 1.41      | 0.95    | 35.33          | 25.69                  | 2.37            |
| 4800  | 19.59 | 28.46     | 8.07                    | 11.50                    | 1.43      | 0.93    | 35.06          | 26.54                  | 2.35            |
| 5000  | 19.72 | 28.15     | 8.24                    | 12.14                    | 1.40      | 0.92    | 34.91          | 26.03                  | 2.26            |
| 5200  | 19.63 | 27.93     | 9.07                    | 13.08                    | 1.42      | 0.91    | 34.24          | 26.29                  | 2.21            |
| 5400  | 19.79 | 27.47     | 9.94                    | 15.66                    | 1.38      | 0.90    | 34.79          | 27.22                  | 2.19            |
| 5600  | 19.82 | 27.37     | 10.79                   | 18.45                    | 1.38      | 0.89    | 35.50          | 27.49                  | 2.14            |
| 5800  | 19.95 | 27.11     | 11.39                   | 23.71                    | 1.36      | 0.89    | 36.47          | 27.63                  | 2.16            |
| 6000  | 19.91 | 27.10     | 11.37                   | 22.19                    | 1.37      | 0.89    | 37.56          | 27.62                  | 2.19            |
| 6200  | 19.87 | 27.10     | 10.58                   | 19.57                    | 1.37      | 0.91    | 39.36          | 27.38                  | 2.29            |
| 6400  | 19.59 | 27.29     | 9.48                    | 18.08                    | 1.40      | 0.95    | 40.92          | 27.12                  | 2.30            |
| 6600  | 19.56 | 27.26     | 8.53                    | 16.66                    | 1.37      | 0.98    | 42.58          | 27.03                  | 2.35            |
| 6800  | 19.50 | 27.40     | 7.93                    | 16.74                    | 1.36      | 1.02    | 43.15          | 26.85                  | 2.44            |
| 7000  | 19.63 | 27.29     | 7.20                    | 17.24                    | 1.28      | 1.06    | 42.50          | 26.72                  | 2.44            |
| 7200  | 19.50 | 27.53     | 6.86                    | 19.67                    | 1.30      | 1.10    | 41.64          | 26.74                  | 2.54            |
| 7400  | 19.39 | 27.64     | 7.02                    | 20.37                    | 1.31      | 1.10    | 41.27          | 26.48                  | 2.48            |
| 7600  | 19.02 | 27.64     | 7.70                    | 27.19                    | 1.41      | 1.07    | 40.59          | 26.90                  | 2.44            |
| 7800  | 18.83 | 27.47     | 8.48                    | 38.96                    | 1.46      | 1.04    | 39.98          | 26.97                  | 2.39            |
| 8000  | 18.50 | 27.84     | 9.55                    | 24.33                    | 1.62      | 1.00    | 39.70          | 27.01                  | 2.49            |

Note: Test data of Die packaged in industry standard 3x3mm 12L MCLP package

## Typical Performance Data

### Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 8.00V, Vadj = 1.7V, Id = 117mA @ Temperature = +85°C

| FREQ  | Gain  | Isolation | Input Return Loss | Output Return Loss | Stability |         | IP-3 Output | 1dB Comp. Output | Noise Figure |
|-------|-------|-----------|-------------------|--------------------|-----------|---------|-------------|------------------|--------------|
| (MHz) | (dB)  | (dB)      | (dB)              | (dB)               | K         | Measure | (dBm)       | (dBm)            | (dB)         |
| 400   | 22.00 | 28.94     | 13.59             | 12.37              | 1.29      | 0.76    | 40.60       | 26.71            | 3.47         |
| 600   | 21.99 | 28.82     | 15.16             | 15.66              | 1.30      | 0.79    | 40.52       | 26.92            | 3.51         |
| 800   | 21.86 | 28.77     | 15.65             | 17.88              | 1.31      | 0.82    | 40.16       | 27.03            | 3.46         |
| 1000  | 21.68 | 28.75     | 15.64             | 19.57              | 1.32      | 0.84    | 40.45       | 27.17            | 3.43         |
| 1200  | 21.52 | 28.70     | 15.37             | 19.80              | 1.33      | 0.85    | 40.72       | 27.21            | 3.42         |
| 1400  | 21.30 | 28.68     | 15.12             | 19.82              | 1.34      | 0.86    | 41.34       | 27.29            | 3.28         |
| 1600  | 21.14 | 28.67     | 14.81             | 18.91              | 1.35      | 0.87    | 42.56       | 27.19            | 3.35         |
| 1800  | 20.93 | 28.66     | 14.65             | 18.37              | 1.37      | 0.88    | 41.26       | 27.12            | 3.31         |
| 2000  | 20.81 | 28.55     | 14.50             | 17.65              | 1.37      | 0.88    | 40.62       | 27.09            | 3.25         |
| 2200  | 20.64 | 28.55     | 14.20             | 17.15              | 1.39      | 0.89    | 40.78       | 27.06            | 3.24         |
| 2400  | 20.44 | 28.61     | 13.76             | 16.57              | 1.42      | 0.90    | 41.88       | 27.00            | 3.23         |
| 2600  | 20.18 | 28.70     | 13.18             | 15.86              | 1.45      | 0.91    | 42.06       | 26.79            | 3.32         |
| 2800  | 19.88 | 28.81     | 12.52             | 15.61              | 1.49      | 0.93    | 41.90       | 26.62            | 3.32         |
| 3000  | 19.54 | 28.95     | 11.55             | 14.77              | 1.51      | 0.96    | 39.92       | 26.49            | 3.36         |
| 3200  | 19.29 | 28.95     | 10.68             | 14.35              | 1.51      | 0.98    | 38.16       | 26.13            | 3.32         |
| 3400  | 19.05 | 28.99     | 9.75              | 13.45              | 1.49      | 1.00    | 37.33       | 26.15            | 3.31         |
| 3600  | 18.76 | 29.11     | 8.92              | 12.52              | 1.49      | 1.02    | 35.31       | 25.85            | 3.26         |
| 3800  | 18.56 | 29.09     | 8.07              | 11.32              | 1.46      | 1.03    | 34.30       | 25.42            | 3.28         |
| 4000  | 18.36 | 29.19     | 7.41              | 10.32              | 1.47      | 1.02    | 33.76       | 24.86            | 3.36         |
| 4200  | 18.26 | 29.15     | 6.86              | 9.39               | 1.45      | 1.00    | 33.02       | 23.95            | 3.21         |
| 4400  | 18.19 | 29.11     | 6.46              | 8.83               | 1.45      | 0.98    | 32.56       | 24.03            | 3.17         |
| 4600  | 18.19 | 28.94     | 6.29              | 8.55               | 1.44      | 0.96    | 32.08       | 22.87            | 3.09         |
| 4800  | 18.25 | 28.69     | 6.32              | 8.69               | 1.43      | 0.95    | 31.91       | 23.67            | 3.10         |
| 5000  | 18.32 | 28.32     | 6.61              | 9.13               | 1.42      | 0.94    | 31.30       | 22.75            | 2.96         |
| 5200  | 18.49 | 27.80     | 7.15              | 10.31              | 1.40      | 0.94    | 30.91       | 23.21            | 2.98         |
| 5400  | 18.64 | 27.37     | 7.99              | 11.89              | 1.39      | 0.93    | 31.20       | 24.05            | 2.95         |
| 5600  | 18.83 | 27.02     | 8.67              | 14.78              | 1.37      | 0.95    | 31.31       | 24.19            | 2.89         |
| 5800  | 18.92 | 26.76     | 9.25              | 19.48              | 1.36      | 0.96    | 32.04       | 24.79            | 2.95         |
| 6000  | 18.92 | 26.75     | 9.13              | 29.33              | 1.37      | 0.98    | 33.21       | 24.79            | 3.00         |
| 6200  | 18.73 | 26.85     | 8.60              | 30.88              | 1.39      | 1.02    | 34.26       | 24.89            | 3.07         |
| 6400  | 18.48 | 27.01     | 7.72              | 22.28              | 1.39      | 1.07    | 34.81       | 24.96            | 3.14         |
| 6600  | 18.29 | 27.21     | 7.07              | 19.37              | 1.40      | 1.11    | 35.40       | 24.93            | 3.24         |
| 6800  | 18.25 | 27.34     | 6.56              | 18.18              | 1.38      | 1.14    | 35.60       | 24.89            | 3.30         |
| 7000  | 18.06 | 27.51     | 6.20              | 18.02              | 1.38      | 1.17    | 35.31       | 24.81            | 3.28         |
| 7200  | 17.88 | 27.58     | 5.96              | 16.78              | 1.37      | 1.19    | 35.04       | 24.69            | 3.32         |
| 7400  | 17.77 | 27.68     | 6.12              | 16.94              | 1.42      | 1.17    | 35.05       | 24.60            | 3.31         |
| 7600  | 17.49 | 27.81     | 6.77              | 17.92              | 1.55      | 1.13    | 34.89       | 24.46            | 3.31         |
| 7800  | 17.25 | 27.51     | 7.50              | 19.45              | 1.61      | 1.09    | 34.77       | 24.44            | 3.26         |
| 8000  | 17.14 | 27.38     | 8.17              | 25.42              | 1.67      | 1.07    | 34.83       | 24.30            | 3.32         |

Note: Test data of Die packaged in industry standard 3x3mm 12L MCLP package

## Typical Performance Data

### Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 7.60V, Vadj = 1.7V, Id = 107mA @ Temperature = +85°C

| FREQ  | Gain  | Isolation | Input<br>Return<br>Loss | Output<br>Return<br>Loss | Stability |         | IP-3<br>Output | 1dB<br>Comp.<br>Output | Noise<br>Figure |
|-------|-------|-----------|-------------------------|--------------------------|-----------|---------|----------------|------------------------|-----------------|
| (MHz) | (dB)  | (dB)      | (dB)                    | (dB)                     | K         | Measure | (dBm)          | (dBm)                  | (dB)            |
| 400   | 21.88 | 28.76     | 13.50                   | 12.47                    | 1.28      | 0.76    | 41.45          | 26.24                  | 3.51            |
| 600   | 21.88 | 28.64     | 15.07                   | 15.84                    | 1.29      | 0.79    | 40.90          | 26.44                  | 3.51            |
| 800   | 21.74 | 28.57     | 15.59                   | 18.32                    | 1.30      | 0.81    | 40.20          | 26.54                  | 3.45            |
| 1000  | 21.58 | 28.56     | 15.54                   | 19.84                    | 1.31      | 0.83    | 40.39          | 26.71                  | 3.41            |
| 1200  | 21.40 | 28.52     | 15.30                   | 20.30                    | 1.32      | 0.85    | 40.94          | 26.74                  | 3.48            |
| 1400  | 21.21 | 28.49     | 15.03                   | 19.92                    | 1.33      | 0.86    | 41.63          | 26.82                  | 3.34            |
| 1600  | 21.03 | 28.48     | 14.74                   | 19.19                    | 1.34      | 0.87    | 42.81          | 26.76                  | 3.34            |
| 1800  | 20.84 | 28.45     | 14.58                   | 18.38                    | 1.36      | 0.88    | 41.83          | 26.67                  | 3.31            |
| 2000  | 20.71 | 28.35     | 14.45                   | 17.77                    | 1.36      | 0.88    | 41.02          | 26.65                  | 3.26            |
| 2200  | 20.54 | 28.33     | 14.16                   | 17.20                    | 1.38      | 0.89    | 41.14          | 26.61                  | 3.30            |
| 2400  | 20.34 | 28.44     | 13.74                   | 16.61                    | 1.41      | 0.90    | 41.98          | 26.51                  | 3.34            |
| 2600  | 20.09 | 28.52     | 13.17                   | 15.94                    | 1.44      | 0.91    | 41.86          | 26.28                  | 3.32            |
| 2800  | 19.79 | 28.67     | 12.50                   | 15.59                    | 1.48      | 0.93    | 41.63          | 26.14                  | 3.28            |
| 3000  | 19.46 | 28.77     | 11.52                   | 14.79                    | 1.50      | 0.96    | 39.47          | 25.98                  | 3.31            |
| 3200  | 19.21 | 28.80     | 10.64                   | 14.24                    | 1.49      | 0.98    | 37.84          | 25.74                  | 3.39            |
| 3400  | 18.95 | 28.83     | 9.71                    | 13.37                    | 1.48      | 1.00    | 36.95          | 25.82                  | 3.34            |
| 3600  | 18.69 | 28.92     | 8.83                    | 12.34                    | 1.47      | 1.02    | 35.20          | 25.55                  | 3.32            |
| 3800  | 18.45 | 28.99     | 8.02                    | 11.20                    | 1.46      | 1.02    | 34.06          | 25.13                  | 3.34            |
| 4000  | 18.28 | 29.08     | 7.33                    | 10.15                    | 1.46      | 1.02    | 33.75          | 24.69                  | 3.31            |
| 4200  | 18.17 | 29.10     | 6.78                    | 9.29                     | 1.45      | 1.00    | 33.14          | 23.76                  | 3.27            |
| 4400  | 18.11 | 29.01     | 6.37                    | 8.70                     | 1.43      | 0.98    | 32.72          | 23.89                  | 3.22            |
| 4600  | 18.11 | 28.86     | 6.20                    | 8.46                     | 1.43      | 0.96    | 32.02          | 22.58                  | 3.12            |
| 4800  | 18.17 | 28.63     | 6.22                    | 8.55                     | 1.42      | 0.95    | 31.87          | 23.43                  | 3.12            |
| 5000  | 18.27 | 28.22     | 6.49                    | 9.03                     | 1.41      | 0.94    | 31.32          | 22.38                  | 3.00            |
| 5200  | 18.42 | 27.72     | 7.05                    | 10.14                    | 1.39      | 0.94    | 30.97          | 22.93                  | 2.94            |
| 5400  | 18.59 | 27.29     | 7.85                    | 11.79                    | 1.38      | 0.94    | 30.98          | 23.73                  | 2.94            |
| 5600  | 18.76 | 26.92     | 8.59                    | 14.57                    | 1.36      | 0.95    | 31.18          | 23.90                  | 2.94            |
| 5800  | 18.87 | 26.66     | 9.18                    | 19.40                    | 1.35      | 0.96    | 31.81          | 24.46                  | 2.93            |
| 6000  | 18.86 | 26.64     | 9.10                    | 28.52                    | 1.36      | 0.98    | 32.77          | 24.45                  | 2.94            |
| 6200  | 18.72 | 26.72     | 8.54                    | 29.74                    | 1.37      | 1.02    | 33.79          | 24.52                  | 3.09            |
| 6400  | 18.45 | 26.93     | 7.72                    | 22.20                    | 1.39      | 1.07    | 34.38          | 24.56                  | 3.18            |
| 6600  | 18.27 | 27.10     | 7.06                    | 19.20                    | 1.39      | 1.11    | 34.93          | 24.52                  | 3.19            |
| 6800  | 18.20 | 27.24     | 6.58                    | 18.12                    | 1.37      | 1.14    | 35.09          | 24.49                  | 3.27            |
| 7000  | 18.04 | 27.35     | 6.18                    | 17.75                    | 1.36      | 1.17    | 34.77          | 24.41                  | 3.26            |
| 7200  | 17.83 | 27.48     | 5.96                    | 16.58                    | 1.37      | 1.19    | 34.50          | 24.33                  | 3.30            |
| 7400  | 17.75 | 27.54     | 6.09                    | 16.60                    | 1.39      | 1.17    | 34.51          | 24.27                  | 3.31            |
| 7600  | 17.46 | 27.63     | 6.73                    | 17.68                    | 1.52      | 1.13    | 34.47          | 24.11                  | 3.27            |
| 7800  | 17.24 | 27.32     | 7.44                    | 19.12                    | 1.58      | 1.09    | 34.31          | 24.12                  | 3.33            |
| 8000  | 17.12 | 27.18     | 8.14                    | 25.33                    | 1.64      | 1.07    | 34.44          | 24.00                  | 3.31            |

Note: Test data of Die packaged in industry standard 3x3mm 12L MCLP package

*Typical Performance Data***Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 8.40V, Vadj = 1.7V, Id = 127mA @ Temperature = +85°C

| FREQ  | Gain  | Isolation | Input<br>Return<br>Loss | Output<br>Return<br>Loss | Stability |         | IP-3<br>Output | 1dB<br>Comp.<br>Output | Noise<br>Figure |
|-------|-------|-----------|-------------------------|--------------------------|-----------|---------|----------------|------------------------|-----------------|
| (MHz) | (dB)  | (dB)      | (dB)                    | (dB)                     | K         | Measure | (dBm)          | (dBm)                  | (dB)            |
| 400   | 22.09 | 29.12     | 13.68                   | 12.26                    | 1.30      | 0.76    | 40.16          | 27.15                  | 3.67            |
| 600   | 22.06 | 29.00     | 15.26                   | 15.54                    | 1.31      | 0.80    | 40.16          | 27.36                  | 3.46            |
| 800   | 21.95 | 28.93     | 15.74                   | 17.47                    | 1.31      | 0.82    | 40.09          | 27.47                  | 3.50            |
| 1000  | 21.75 | 28.94     | 15.76                   | 19.40                    | 1.34      | 0.84    | 40.45          | 27.63                  | 3.47            |
| 1200  | 21.60 | 28.87     | 15.47                   | 19.37                    | 1.34      | 0.85    | 40.68          | 27.63                  | 3.48            |
| 1400  | 21.36 | 28.87     | 15.23                   | 19.79                    | 1.36      | 0.86    | 41.23          | 27.70                  | 3.41            |
| 1600  | 21.22 | 28.82     | 14.89                   | 18.68                    | 1.36      | 0.87    | 42.27          | 27.59                  | 3.48            |
| 1800  | 21.00 | 28.83     | 14.73                   | 18.42                    | 1.39      | 0.88    | 41.02          | 27.50                  | 3.34            |
| 2000  | 20.88 | 28.69     | 14.57                   | 17.54                    | 1.38      | 0.88    | 40.50          | 27.47                  | 3.36            |
| 2200  | 20.70 | 28.72     | 14.26                   | 17.13                    | 1.41      | 0.89    | 40.50          | 27.50                  | 3.32            |
| 2400  | 20.51 | 28.78     | 13.80                   | 16.55                    | 1.43      | 0.90    | 41.40          | 27.41                  | 3.27            |
| 2600  | 20.23 | 28.87     | 13.22                   | 15.82                    | 1.47      | 0.92    | 41.66          | 27.22                  | 3.33            |
| 2800  | 19.94 | 29.01     | 12.57                   | 15.66                    | 1.51      | 0.94    | 41.86          | 26.97                  | 3.34            |
| 3000  | 19.60 | 29.08     | 11.61                   | 14.77                    | 1.52      | 0.96    | 40.37          | 26.82                  | 3.39            |
| 3200  | 19.34 | 29.10     | 10.73                   | 14.46                    | 1.52      | 0.98    | 38.56          | 26.34                  | 3.37            |
| 3400  | 19.12 | 29.10     | 9.80                    | 13.54                    | 1.50      | 1.00    | 37.77          | 26.38                  | 3.47            |
| 3600  | 18.80 | 29.24     | 9.03                    | 12.68                    | 1.52      | 1.02    | 35.50          | 25.98                  | 3.39            |
| 3800  | 18.64 | 29.23     | 8.13                    | 11.42                    | 1.48      | 1.03    | 33.61          | 25.55                  | 3.38            |
| 4000  | 18.41 | 29.33     | 7.50                    | 10.45                    | 1.49      | 1.02    | 34.26          | 24.92                  | 3.34            |
| 4200  | 18.35 | 29.25     | 6.93                    | 9.47                     | 1.46      | 1.00    | 33.42          | 23.91                  | 3.38            |
| 4400  | 18.24 | 29.23     | 6.56                    | 8.96                     | 1.47      | 0.98    | 32.67          | 23.95                  | 3.30            |
| 4600  | 18.27 | 29.03     | 6.37                    | 8.61                     | 1.45      | 0.96    | 32.17          | 22.86                  | 3.22            |
| 4800  | 18.29 | 28.79     | 6.43                    | 8.81                     | 1.45      | 0.95    | 32.05          | 23.74                  | 3.19            |
| 5000  | 18.37 | 28.42     | 6.72                    | 9.19                     | 1.44      | 0.94    | 31.59          | 22.88                  | 3.06            |
| 5200  | 18.55 | 27.92     | 7.26                    | 10.45                    | 1.41      | 0.94    | 31.02          | 23.44                  | 3.07            |
| 5400  | 18.68 | 27.51     | 8.10                    | 11.93                    | 1.41      | 0.93    | 31.45          | 24.30                  | 3.01            |
| 5600  | 18.89 | 27.14     | 8.74                    | 14.96                    | 1.38      | 0.95    | 31.81          | 24.47                  | 2.99            |
| 5800  | 18.97 | 26.90     | 9.29                    | 19.46                    | 1.37      | 0.96    | 32.72          | 25.12                  | 2.96            |
| 6000  | 18.96 | 26.86     | 9.15                    | 30.04                    | 1.38      | 0.98    | 33.81          | 25.11                  | 3.00            |
| 6200  | 18.74 | 26.97     | 8.62                    | 32.13                    | 1.41      | 1.02    | 34.89          | 25.25                  | 3.11            |
| 6400  | 18.52 | 27.13     | 7.70                    | 22.38                    | 1.41      | 1.07    | 35.46          | 25.38                  | 3.14            |
| 6600  | 18.31 | 27.31     | 7.07                    | 19.67                    | 1.42      | 1.11    | 35.96          | 25.34                  | 3.31            |
| 6800  | 18.30 | 27.47     | 6.54                    | 18.35                    | 1.39      | 1.14    | 36.11          | 25.29                  | 3.30            |
| 7000  | 18.08 | 27.62     | 6.25                    | 18.42                    | 1.41      | 1.17    | 35.85          | 25.18                  | 3.36            |
| 7200  | 17.94 | 27.70     | 5.95                    | 17.00                    | 1.38      | 1.19    | 35.66          | 25.03                  | 3.40            |
| 7400  | 17.80 | 27.87     | 6.13                    | 17.27                    | 1.45      | 1.17    | 35.49          | 24.93                  | 3.33            |
| 7600  | 17.55 | 27.94     | 6.76                    | 18.07                    | 1.56      | 1.14    | 35.28          | 24.77                  | 3.37            |
| 7800  | 17.29 | 27.66     | 7.52                    | 19.65                    | 1.63      | 1.10    | 35.11          | 24.76                  | 3.31            |
| 8000  | 17.19 | 27.48     | 8.14                    | 25.28                    | 1.68      | 1.07    | 35.18          | 24.60                  | 3.28            |

Note: Test data of Die packaged in industry standard 3x3mm 12L MCLP package



## Typical Performance Data

### Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 8.00V , Iadj connection = Ground, Id = 63mA @ Temperature = +25°C

| FREQ  | Gain  | Isolation | Input<br>Return<br>Loss | Output<br>Return<br>Loss | Stability |         | IP-3<br>Output | 1dB<br>Comp.<br>Output | Noise<br>Figure |
|-------|-------|-----------|-------------------------|--------------------------|-----------|---------|----------------|------------------------|-----------------|
| (MHz) | (dB)  | (dB)      | (dB)                    | (dB)                     | K         | Measure | (dBm)          | (dBm)                  | (dB)            |
| 400   | 20.23 | 26.83     | 13.32                   | 13.23                    | 1.27      | 0.75    | 35.32          | 27.04                  | 3.36            |
| 600   | 20.29 | 26.73     | 14.98                   | 18.63                    | 1.28      | 0.79    | 35.06          | 27.27                  | 3.27            |
| 800   | 20.17 | 26.72     | 15.52                   | 25.07                    | 1.29      | 0.81    | 34.42          | 27.45                  | 3.35            |
| 1000  | 20.04 | 26.69     | 15.43                   | 29.40                    | 1.29      | 0.83    | 34.16          | 27.74                  | 3.35            |
| 1200  | 19.87 | 26.69     | 15.15                   | 25.57                    | 1.30      | 0.84    | 33.96          | 27.88                  | 3.25            |
| 1400  | 19.70 | 26.68     | 14.89                   | 22.12                    | 1.31      | 0.85    | 34.01          | 28.18                  | 3.17            |
| 1600  | 19.54 | 26.67     | 14.73                   | 20.30                    | 1.32      | 0.85    | 34.02          | 28.13                  | 3.24            |
| 1800  | 19.37 | 26.67     | 14.72                   | 18.98                    | 1.33      | 0.86    | 33.87          | 28.05                  | 3.14            |
| 2000  | 19.28 | 26.59     | 14.80                   | 18.41                    | 1.34      | 0.86    | 33.91          | 28.18                  | 3.16            |
| 2200  | 19.16 | 26.57     | 14.72                   | 17.94                    | 1.35      | 0.87    | 33.71          | 27.94                  | 3.08            |
| 2400  | 18.99 | 26.64     | 14.41                   | 17.24                    | 1.37      | 0.88    | 33.44          | 28.06                  | 2.99            |
| 2600  | 18.77 | 26.73     | 13.94                   | 16.58                    | 1.40      | 0.90    | 33.27          | 27.75                  | 3.15            |
| 2800  | 18.47 | 26.92     | 13.32                   | 16.04                    | 1.44      | 0.92    | 33.45          | 27.74                  | 3.22            |
| 3000  | 18.15 | 27.09     | 12.26                   | 14.91                    | 1.47      | 0.94    | 33.96          | 27.59                  | 3.18            |
| 3200  | 17.95 | 27.10     | 11.20                   | 13.82                    | 1.45      | 0.95    | 34.52          | 27.74                  | 3.15            |
| 3400  | 17.71 | 27.16     | 10.06                   | 12.46                    | 1.43      | 0.97    | 35.04          | 27.53                  | 3.18            |
| 3600  | 17.47 | 27.28     | 9.03                    | 11.15                    | 1.41      | 0.97    | 35.33          | 27.49                  | 3.12            |
| 3800  | 17.23 | 27.43     | 8.07                    | 9.91                     | 1.41      | 0.97    | 35.25          | 27.55                  | 3.13            |
| 4000  | 17.04 | 27.55     | 7.27                    | 8.85                     | 1.40      | 0.96    | 35.72          | 27.22                  | 3.18            |
| 4200  | 16.93 | 27.62     | 6.63                    | 8.04                     | 1.39      | 0.94    | 35.81          | 26.71                  | 3.14            |
| 4400  | 16.85 | 27.57     | 6.17                    | 7.50                     | 1.37      | 0.91    | 35.83          | 26.57                  | 3.07            |
| 4600  | 16.84 | 27.45     | 5.95                    | 7.30                     | 1.37      | 0.90    | 35.95          | 25.03                  | 3.02            |
| 4800  | 16.91 | 27.25     | 5.96                    | 7.40                     | 1.37      | 0.89    | 34.89          | 26.30                  | 2.98            |
| 5000  | 17.07 | 26.91     | 6.18                    | 7.79                     | 1.36      | 0.88    | 36.22          | 24.68                  | 2.87            |
| 5200  | 17.31 | 26.51     | 6.67                    | 8.60                     | 1.34      | 0.88    | 34.41          | 25.36                  | 2.84            |
| 5400  | 17.63 | 26.12     | 7.33                    | 9.74                     | 1.32      | 0.88    | 33.50          | 26.25                  | 2.77            |
| 5600  | 17.93 | 25.75     | 8.07                    | 11.66                    | 1.29      | 0.89    | 33.31          | 26.51                  | 2.67            |
| 5800  | 18.13 | 25.41     | 8.84                    | 14.54                    | 1.27      | 0.91    | 33.52          | 26.45                  | 2.67            |
| 6000  | 18.17 | 25.21     | 9.12                    | 18.39                    | 1.27      | 0.94    | 34.19          | 26.52                  | 2.68            |
| 6200  | 18.14 | 25.17     | 8.84                    | 22.22                    | 1.26      | 0.98    | 35.48          | 26.31                  | 2.83            |
| 6400  | 18.08 | 25.30     | 8.07                    | 21.09                    | 1.25      | 1.03    | 36.70          | 26.09                  | 2.82            |
| 6600  | 18.05 | 25.45     | 7.41                    | 19.03                    | 1.23      | 1.07    | 38.35          | 25.99                  | 2.89            |
| 6800  | 17.98 | 25.64     | 6.90                    | 17.59                    | 1.22      | 1.10    | 38.75          | 25.82                  | 2.98            |
| 7000  | 17.80 | 25.85     | 6.53                    | 16.71                    | 1.23      | 1.12    | 40.41          | 25.71                  | 3.03            |
| 7200  | 17.49 | 26.10     | 6.31                    | 15.53                    | 1.27      | 1.13    | 40.27          | 25.65                  | 3.01            |
| 7400  | 17.36 | 26.20     | 6.39                    | 14.75                    | 1.30      | 1.12    | 39.05          | 25.64                  | 2.93            |
| 7600  | 17.17 | 26.20     | 6.55                    | 14.81                    | 1.35      | 1.09    | 39.35          | 25.90                  | 2.97            |
| 7800  | 17.14 | 25.97     | 6.79                    | 15.51                    | 1.35      | 1.07    | 40.02          | 25.86                  | 2.95            |
| 8000  | 17.13 | 25.86     | 7.58                    | 18.94                    | 1.41      | 1.05    | 41.20          | 25.90                  | 2.94            |

Note: Test data of Die packaged in industry standard 3x3mm 12L MCLP package

## Typical Performance Data

### Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 8.00V , Iadj connection = 0.2V, Id = 77mA @ Temperature = +25°C

| FREQ  | Gain  | Isolation | Input<br>Return<br>Loss | Output<br>Return<br>Loss | Stability |         | IP-3<br>Output | 1dB<br>Comp.<br>Output | Noise<br>Figure |
|-------|-------|-----------|-------------------------|--------------------------|-----------|---------|----------------|------------------------|-----------------|
| (MHz) | (dB)  | (dB)      | (dB)                    | (dB)                     | K         | Measure | (dBm)          | (dBm)                  | (dB)            |
| 400   | 20.94 | 27.68     | 13.54                   | 12.38                    | 1.27      | 0.74    | 36.86          | 27.00                  | 3.32            |
| 600   | 20.99 | 27.49     | 15.27                   | 15.97                    | 1.27      | 0.78    | 36.45          | 27.20                  | 3.27            |
| 800   | 20.88 | 27.46     | 15.95                   | 18.89                    | 1.28      | 0.80    | 35.70          | 27.38                  | 3.25            |
| 1000  | 20.75 | 27.44     | 16.01                   | 20.94                    | 1.29      | 0.82    | 35.45          | 27.67                  | 3.29            |
| 1200  | 20.60 | 27.40     | 15.84                   | 21.76                    | 1.30      | 0.83    | 35.29          | 27.79                  | 3.24            |
| 1400  | 20.43 | 27.36     | 15.62                   | 21.25                    | 1.31      | 0.84    | 35.41          | 28.03                  | 3.10            |
| 1600  | 20.28 | 27.34     | 15.42                   | 20.28                    | 1.32      | 0.85    | 35.48          | 27.99                  | 3.14            |
| 1800  | 20.11 | 27.36     | 15.33                   | 19.26                    | 1.33      | 0.86    | 35.07          | 27.89                  | 3.10            |
| 2000  | 20.01 | 27.29     | 15.26                   | 18.51                    | 1.34      | 0.86    | 34.98          | 28.00                  | 3.10            |
| 2200  | 19.88 | 27.30     | 14.99                   | 17.84                    | 1.35      | 0.87    | 34.76          | 27.78                  | 3.00            |
| 2400  | 19.70 | 27.34     | 14.52                   | 17.08                    | 1.37      | 0.88    | 34.56          | 27.88                  | 2.90            |
| 2600  | 19.47 | 27.46     | 13.94                   | 16.37                    | 1.40      | 0.89    | 34.45          | 27.57                  | 3.08            |
| 2800  | 19.18 | 27.60     | 13.32                   | 16.10                    | 1.44      | 0.91    | 34.66          | 27.51                  | 3.14            |
| 3000  | 18.87 | 27.76     | 12.31                   | 15.32                    | 1.47      | 0.94    | 35.34          | 27.33                  | 3.14            |
| 3200  | 18.68 | 27.75     | 11.35                   | 14.65                    | 1.45      | 0.96    | 36.17          | 27.34                  | 3.12            |
| 3400  | 18.48 | 27.77     | 10.31                   | 13.63                    | 1.43      | 0.98    | 36.94          | 27.11                  | 3.05            |
| 3600  | 18.26 | 27.84     | 9.35                    | 12.45                    | 1.42      | 0.99    | 37.33          | 26.93                  | 3.06            |
| 3800  | 18.05 | 27.95     | 8.43                    | 11.17                    | 1.41      | 0.99    | 37.80          | 26.97                  | 3.08            |
| 4000  | 17.89 | 28.04     | 7.64                    | 10.02                    | 1.40      | 0.98    | 38.38          | 26.11                  | 3.13            |
| 4200  | 17.79 | 28.07     | 7.00                    | 9.10                     | 1.39      | 0.96    | 37.88          | 25.35                  | 3.00            |
| 4400  | 17.72 | 28.04     | 6.52                    | 8.46                     | 1.38      | 0.94    | 37.53          | 25.22                  | 2.93            |
| 4600  | 17.71 | 27.90     | 6.30                    | 8.20                     | 1.38      | 0.92    | 36.44          | 23.95                  | 2.95            |
| 4800  | 17.75 | 27.63     | 6.33                    | 8.30                     | 1.37      | 0.91    | 34.91          | 25.45                  | 2.87            |
| 5000  | 17.88 | 27.35     | 6.58                    | 8.73                     | 1.37      | 0.90    | 35.29          | 23.55                  | 2.83            |
| 5200  | 18.09 | 26.99     | 7.11                    | 9.65                     | 1.36      | 0.89    | 33.67          | 24.64                  | 2.72            |
| 5400  | 18.35 | 26.62     | 7.83                    | 10.97                    | 1.33      | 0.89    | 32.94          | 26.00                  | 2.65            |
| 5600  | 18.59 | 26.32     | 8.59                    | 13.26                    | 1.32      | 0.90    | 32.88          | 26.33                  | 2.65            |
| 5800  | 18.72 | 25.99     | 9.29                    | 16.88                    | 1.30      | 0.92    | 33.24          | 26.41                  | 2.69            |
| 6000  | 18.69 | 25.88     | 9.41                    | 22.67                    | 1.30      | 0.95    | 34.06          | 26.47                  | 2.67            |
| 6200  | 18.61 | 25.86     | 8.96                    | 28.59                    | 1.30      | 0.98    | 35.34          | 26.27                  | 2.78            |
| 6400  | 18.52 | 26.06     | 8.08                    | 22.80                    | 1.29      | 1.03    | 36.91          | 26.04                  | 2.75            |
| 6600  | 18.49 | 26.24     | 7.38                    | 19.99                    | 1.28      | 1.07    | 38.03          | 25.94                  | 2.82            |
| 6800  | 18.43 | 26.42     | 6.89                    | 18.73                    | 1.27      | 1.11    | 38.27          | 25.74                  | 2.87            |
| 7000  | 18.27 | 26.62     | 6.58                    | 18.52                    | 1.29      | 1.13    | 39.68          | 25.59                  | 2.95            |
| 7200  | 17.96 | 26.88     | 6.42                    | 17.66                    | 1.34      | 1.14    | 40.55          | 25.50                  | 2.96            |
| 7400  | 17.84 | 26.94     | 6.59                    | 16.90                    | 1.37      | 1.13    | 38.65          | 25.41                  | 2.87            |
| 7600  | 17.64 | 26.98     | 6.84                    | 17.06                    | 1.42      | 1.10    | 38.95          | 25.74                  | 2.96            |
| 7800  | 17.59 | 26.76     | 7.12                    | 17.82                    | 1.43      | 1.08    | 39.36          | 25.70                  | 2.82            |
| 8000  | 17.52 | 26.75     | 7.93                    | 22.15                    | 1.51      | 1.06    | 39.76          | 25.74                  | 2.93            |

Note: Test data of Die packaged in industry standard 3x3mm 12L MCLP package



*Typical Performance Data***Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 8.00V, Iadj connection = 0.4V, Id = 87mA @ Temperature = +25°C

| FREQ  | Gain  | Isolation | Input<br>Return<br>Loss | Output<br>Return<br>Loss | Stability |         | IP-3<br>Output | 1dB<br>Comp.<br>Output | Noise<br>Figure |
|-------|-------|-----------|-------------------------|--------------------------|-----------|---------|----------------|------------------------|-----------------|
| (MHz) | (dB)  | (dB)      | (dB)                    | (dB)                     | K         | Measure | (dBm)          | (dBm)                  | (dB)            |
| 400   | 21.31 | 28.09     | 13.55                   | 11.80                    | 1.27      | 0.74    | 37.93          | 26.98                  | 3.25            |
| 600   | 21.35 | 27.93     | 15.29                   | 14.64                    | 1.27      | 0.77    | 37.45          | 27.16                  | 3.21            |
| 800   | 21.24 | 27.89     | 16.03                   | 16.79                    | 1.28      | 0.79    | 36.69          | 27.31                  | 3.27            |
| 1000  | 21.12 | 27.85     | 16.18                   | 18.36                    | 1.29      | 0.81    | 36.45          | 27.59                  | 3.24            |
| 1200  | 20.98 | 27.82     | 16.09                   | 19.36                    | 1.30      | 0.83    | 36.34          | 27.73                  | 3.13            |
| 1400  | 20.81 | 27.78     | 15.90                   | 19.56                    | 1.31      | 0.84    | 36.53          | 27.90                  | 3.11            |
| 1600  | 20.66 | 27.76     | 15.70                   | 19.16                    | 1.32      | 0.84    | 36.57          | 27.85                  | 3.12            |
| 1800  | 20.49 | 27.75     | 15.54                   | 18.51                    | 1.33      | 0.85    | 36.18          | 27.76                  | 3.09            |
| 2000  | 20.39 | 27.69     | 15.40                   | 17.82                    | 1.34      | 0.85    | 36.08          | 27.86                  | 3.03            |
| 2200  | 20.25 | 27.68     | 15.02                   | 17.17                    | 1.35      | 0.86    | 35.88          | 27.65                  | 3.01            |
| 2400  | 20.06 | 27.73     | 14.47                   | 16.48                    | 1.37      | 0.87    | 35.70          | 27.76                  | 3.00            |
| 2600  | 19.83 | 27.86     | 13.85                   | 15.84                    | 1.40      | 0.89    | 35.48          | 27.43                  | 3.04            |
| 2800  | 19.55 | 28.03     | 13.25                   | 15.72                    | 1.45      | 0.91    | 35.80          | 27.35                  | 3.06            |
| 3000  | 19.24 | 28.15     | 12.28                   | 15.22                    | 1.47      | 0.94    | 36.67          | 27.09                  | 3.07            |
| 3200  | 19.06 | 28.10     | 11.38                   | 14.82                    | 1.45      | 0.96    | 37.71          | 26.96                  | 3.11            |
| 3400  | 18.86 | 28.11     | 10.41                   | 14.10                    | 1.43      | 0.98    | 39.19          | 26.76                  | 3.10            |
| 3600  | 18.66 | 28.17     | 9.50                    | 13.09                    | 1.42      | 0.99    | 40.41          | 26.50                  | 3.02            |
| 3800  | 18.47 | 28.26     | 8.62                    | 11.87                    | 1.41      | 1.00    | 40.13          | 26.33                  | 3.09            |
| 4000  | 18.31 | 28.32     | 7.84                    | 10.69                    | 1.41      | 0.99    | 39.42          | 25.48                  | 3.05            |
| 4200  | 18.23 | 28.31     | 7.20                    | 9.72                     | 1.39      | 0.98    | 38.03          | 24.70                  | 2.96            |
| 4400  | 18.16 | 28.28     | 6.72                    | 9.01                     | 1.39      | 0.96    | 37.14          | 24.74                  | 2.91            |
| 4600  | 18.14 | 28.15     | 6.50                    | 8.72                     | 1.38      | 0.94    | 35.55          | 23.28                  | 2.90            |
| 4800  | 18.18 | 27.88     | 6.53                    | 8.81                     | 1.38      | 0.92    | 34.39          | 24.96                  | 2.79            |
| 5000  | 18.29 | 27.58     | 6.80                    | 9.26                     | 1.37      | 0.91    | 34.35          | 23.01                  | 2.74            |
| 5200  | 18.47 | 27.27     | 7.36                    | 10.24                    | 1.37      | 0.90    | 32.99          | 24.33                  | 2.69            |
| 5400  | 18.71 | 26.91     | 8.10                    | 11.66                    | 1.35      | 0.90    | 32.60          | 25.83                  | 2.60            |
| 5600  | 18.91 | 26.60     | 8.86                    | 14.15                    | 1.33      | 0.91    | 32.66          | 26.23                  | 2.57            |
| 5800  | 19.01 | 26.33     | 9.53                    | 18.26                    | 1.32      | 0.92    | 33.09          | 26.36                  | 2.60            |
| 6000  | 18.95 | 26.24     | 9.54                    | 25.73                    | 1.32      | 0.95    | 34.09          | 26.41                  | 2.63            |
| 6200  | 18.84 | 26.24     | 8.99                    | 31.45                    | 1.32      | 0.98    | 35.33          | 26.25                  | 2.72            |
| 6400  | 18.75 | 26.42     | 8.07                    | 22.57                    | 1.31      | 1.03    | 36.81          | 26.02                  | 2.76            |
| 6600  | 18.71 | 26.60     | 7.36                    | 19.81                    | 1.30      | 1.07    | 37.76          | 25.91                  | 2.72            |
| 6800  | 18.66 | 26.79     | 6.88                    | 18.84                    | 1.29      | 1.11    | 37.98          | 25.70                  | 2.87            |
| 7000  | 18.50 | 27.00     | 6.59                    | 19.16                    | 1.31      | 1.13    | 38.69          | 25.50                  | 2.93            |
| 7200  | 18.20 | 27.25     | 6.46                    | 18.82                    | 1.36      | 1.15    | 38.97          | 25.40                  | 2.95            |
| 7400  | 18.08 | 27.38     | 6.67                    | 18.13                    | 1.41      | 1.13    | 38.03          | 25.34                  | 2.88            |
| 7600  | 17.87 | 27.38     | 6.97                    | 18.43                    | 1.46      | 1.11    | 38.16          | 25.64                  | 2.88            |
| 7800  | 17.81 | 27.16     | 7.28                    | 19.28                    | 1.47      | 1.08    | 38.27          | 25.64                  | 2.83            |
| 8000  | 17.72 | 27.16     | 8.08                    | 24.13                    | 1.55      | 1.06    | 38.39          | 25.70                  | 2.88            |

Note: Test data of Die packaged in industry standard 3x3mm 12L MCLP package

## Typical Performance Data

### Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 8.00V, Iadj connection = 0.6V, Id = 97mA @ Temperature = +25°C

| FREQ  | Gain  | Isolation | Input Return Loss | Output Return Loss | Stability |         | IP-3 Output | 1dB Comp. Output | Noise Figure |
|-------|-------|-----------|-------------------|--------------------|-----------|---------|-------------|------------------|--------------|
| (MHz) | (dB)  | (dB)      | (dB)              | (dB)               | K         | Measure | (dBm)       | (dBm)            | (dB)         |
| 400   | 21.56 | 28.37     | 13.54             | 11.35              | 1.27      | 0.73    | 38.51       | 26.95            | 3.25         |
| 600   | 21.60 | 28.30     | 15.26             | 13.78              | 1.28      | 0.76    | 38.05       | 27.15            | 3.17         |
| 800   | 21.50 | 28.22     | 16.03             | 15.55              | 1.28      | 0.79    | 37.34       | 27.26            | 3.21         |
| 1000  | 21.38 | 28.19     | 16.23             | 16.89              | 1.29      | 0.81    | 37.14       | 27.54            | 3.21         |
| 1200  | 21.24 | 28.13     | 16.21             | 17.88              | 1.30      | 0.82    | 37.06       | 27.66            | 3.14         |
| 1400  | 21.08 | 28.07     | 16.05             | 18.31              | 1.31      | 0.83    | 37.31       | 27.81            | 3.06         |
| 1600  | 20.93 | 28.08     | 15.84             | 18.17              | 1.32      | 0.84    | 37.48       | 27.77            | 3.05         |
| 1800  | 20.76 | 28.05     | 15.65             | 17.74              | 1.33      | 0.85    | 37.08       | 27.68            | 3.07         |
| 2000  | 20.65 | 27.99     | 15.43             | 17.13              | 1.34      | 0.85    | 36.98       | 27.80            | 3.08         |
| 2200  | 20.51 | 27.98     | 14.99             | 16.53              | 1.35      | 0.86    | 36.67       | 27.59            | 2.97         |
| 2400  | 20.32 | 28.03     | 14.39             | 15.93              | 1.37      | 0.87    | 36.52       | 27.67            | 2.87         |
| 2600  | 20.08 | 28.13     | 13.75             | 15.35              | 1.40      | 0.89    | 36.34       | 27.34            | 3.01         |
| 2800  | 19.80 | 28.32     | 13.16             | 15.31              | 1.45      | 0.91    | 36.91       | 27.22            | 3.05         |
| 3000  | 19.50 | 28.44     | 12.24             | 15.00              | 1.47      | 0.93    | 37.84       | 26.99            | 3.07         |
| 3200  | 19.32 | 28.40     | 11.38             | 14.81              | 1.46      | 0.96    | 38.97       | 26.76            | 3.01         |
| 3400  | 19.13 | 28.35     | 10.46             | 14.36              | 1.43      | 0.98    | 41.15       | 26.53            | 3.04         |
| 3600  | 18.94 | 28.39     | 9.60              | 13.52              | 1.42      | 1.00    | 41.33       | 26.18            | 2.97         |
| 3800  | 18.75 | 28.44     | 8.74              | 12.39              | 1.41      | 1.00    | 39.77       | 26.09            | 3.00         |
| 4000  | 18.61 | 28.50     | 7.98              | 11.20              | 1.41      | 1.00    | 38.39       | 25.27            | 3.06         |
| 4200  | 18.53 | 28.50     | 7.34              | 10.18              | 1.40      | 0.98    | 36.91       | 24.53            | 2.90         |
| 4400  | 18.46 | 28.45     | 6.87              | 9.44               | 1.39      | 0.97    | 36.08       | 24.50            | 2.88         |
| 4600  | 18.44 | 28.28     | 6.64              | 9.13               | 1.38      | 0.95    | 34.70       | 23.18            | 2.80         |
| 4800  | 18.47 | 28.05     | 6.69              | 9.20               | 1.38      | 0.93    | 33.93       | 24.75            | 2.80         |
| 5000  | 18.57 | 27.75     | 6.97              | 9.66               | 1.38      | 0.92    | 33.75       | 23.16            | 2.68         |
| 5200  | 18.73 | 27.44     | 7.54              | 10.68              | 1.37      | 0.91    | 32.68       | 24.22            | 2.63         |
| 5400  | 18.95 | 27.14     | 8.30              | 12.17              | 1.36      | 0.90    | 32.47       | 25.73            | 2.57         |
| 5600  | 19.13 | 26.79     | 9.05              | 14.81              | 1.33      | 0.91    | 32.60       | 26.16            | 2.52         |
| 5800  | 19.20 | 26.58     | 9.67              | 19.27              | 1.33      | 0.92    | 33.11       | 26.35            | 2.52         |
| 6000  | 19.12 | 26.46     | 9.62              | 28.55              | 1.33      | 0.95    | 34.13       | 26.39            | 2.61         |
| 6200  | 19.00 | 26.48     | 9.01              | 30.47              | 1.33      | 0.98    | 35.56       | 26.24            | 2.72         |
| 6400  | 18.90 | 26.70     | 8.05              | 21.92              | 1.33      | 1.03    | 36.90       | 25.98            | 2.76         |
| 6600  | 18.86 | 26.89     | 7.34              | 19.45              | 1.32      | 1.07    | 37.91       | 25.90            | 2.73         |
| 6800  | 18.81 | 27.08     | 6.87              | 18.71              | 1.31      | 1.11    | 38.09       | 25.69            | 2.90         |
| 7000  | 18.66 | 27.32     | 6.60              | 19.43              | 1.34      | 1.14    | 38.41       | 25.48            | 2.87         |
| 7200  | 18.36 | 27.55     | 6.48              | 19.59              | 1.39      | 1.15    | 38.38       | 25.42            | 2.93         |
| 7400  | 18.25 | 27.63     | 6.73              | 19.05              | 1.43      | 1.13    | 37.81       | 25.33            | 2.89         |
| 7600  | 18.04 | 27.67     | 7.05              | 19.50              | 1.49      | 1.11    | 37.77       | 25.63            | 2.88         |
| 7800  | 17.97 | 27.40     | 7.38              | 20.44              | 1.49      | 1.08    | 37.75       | 25.66            | 2.86         |
| 8000  | 17.86 | 27.44     | 8.18              | 25.77              | 1.58      | 1.06    | 37.84       | 25.77            | 2.87         |

Note: Test data of Die packaged in industry standard 3x3mm 12L MCLP package

*Typical Performance Data***Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 8.00V, Iadj connection = 0.8V, Id = 106mA @ Temperature = +25°C

| FREQ  | Gain  | Isolation | Input<br>Return<br>Loss | Output<br>Return<br>Loss | Stability |         | IP-3<br>Output | 1dB<br>Comp.<br>Output | Noise<br>Figure |
|-------|-------|-----------|-------------------------|--------------------------|-----------|---------|----------------|------------------------|-----------------|
| (MHz) | (dB)  | (dB)      | (dB)                    | (dB)                     | K         | Measure | (dBm)          | (dBm)                  | (dB)            |
| 400   | 21.75 | 28.63     | 13.53                   | 11.03                    | 1.27      | 0.72    | 38.69          | 26.96                  | 3.19            |
| 600   | 21.78 | 28.51     | 15.19                   | 13.20                    | 1.28      | 0.76    | 38.31          | 27.14                  | 3.13            |
| 800   | 21.69 | 28.47     | 16.00                   | 14.76                    | 1.29      | 0.78    | 37.70          | 27.29                  | 3.14            |
| 1000  | 21.57 | 28.41     | 16.24                   | 15.97                    | 1.29      | 0.80    | 37.54          | 27.54                  | 3.15            |
| 1200  | 21.43 | 28.37     | 16.26                   | 16.95                    | 1.30      | 0.82    | 37.46          | 27.61                  | 3.13            |
| 1400  | 21.28 | 28.33     | 16.12                   | 17.45                    | 1.31      | 0.83    | 37.77          | 27.80                  | 3.03            |
| 1600  | 21.13 | 28.30     | 15.91                   | 17.45                    | 1.32      | 0.84    | 37.98          | 27.73                  | 3.03            |
| 1800  | 20.95 | 28.30     | 15.69                   | 17.15                    | 1.34      | 0.85    | 37.64          | 27.64                  | 2.96            |
| 2000  | 20.84 | 28.22     | 15.44                   | 16.59                    | 1.34      | 0.85    | 37.56          | 27.74                  | 2.88            |
| 2200  | 20.69 | 28.20     | 14.95                   | 16.04                    | 1.36      | 0.86    | 37.19          | 27.53                  | 2.96            |
| 2400  | 20.50 | 28.28     | 14.32                   | 15.51                    | 1.38      | 0.87    | 37.06          | 27.63                  | 3.04            |
| 2600  | 20.26 | 28.38     | 13.65                   | 14.97                    | 1.41      | 0.88    | 36.97          | 27.32                  | 3.00            |
| 2800  | 19.98 | 28.50     | 13.09                   | 14.99                    | 1.45      | 0.90    | 37.53          | 27.17                  | 3.00            |
| 3000  | 19.68 | 28.62     | 12.19                   | 14.77                    | 1.47      | 0.93    | 38.77          | 26.93                  | 3.08            |
| 3200  | 19.51 | 28.53     | 11.37                   | 14.73                    | 1.45      | 0.95    | 39.90          | 26.67                  | 3.01            |
| 3400  | 19.32 | 28.56     | 10.49                   | 14.47                    | 1.44      | 0.98    | 42.30          | 26.52                  | 3.03            |
| 3600  | 19.14 | 28.56     | 9.66                    | 13.80                    | 1.42      | 1.00    | 40.57          | 26.05                  | 2.93            |
| 3800  | 18.96 | 28.62     | 8.83                    | 12.75                    | 1.42      | 1.01    | 38.89          | 26.01                  | 2.99            |
| 4000  | 18.82 | 28.68     | 8.08                    | 11.57                    | 1.41      | 1.01    | 37.57          | 25.17                  | 2.99            |
| 4200  | 18.74 | 28.65     | 7.45                    | 10.53                    | 1.40      | 0.99    | 36.17          | 24.51                  | 2.91            |
| 4400  | 18.67 | 28.55     | 6.97                    | 9.75                     | 1.39      | 0.97    | 35.35          | 24.53                  | 2.84            |
| 4600  | 18.65 | 28.44     | 6.75                    | 9.42                     | 1.39      | 0.95    | 34.22          | 23.32                  | 2.77            |
| 4800  | 18.67 | 28.20     | 6.80                    | 9.48                     | 1.39      | 0.94    | 33.65          | 24.77                  | 2.73            |
| 5000  | 18.77 | 27.87     | 7.09                    | 9.95                     | 1.38      | 0.92    | 33.38          | 23.45                  | 2.67            |
| 5200  | 18.92 | 27.58     | 7.67                    | 11.00                    | 1.38      | 0.91    | 32.45          | 24.38                  | 2.62            |
| 5400  | 19.13 | 27.25     | 8.44                    | 12.54                    | 1.36      | 0.90    | 32.45          | 25.73                  | 2.57            |
| 5600  | 19.29 | 26.99     | 9.19                    | 15.29                    | 1.35      | 0.91    | 32.65          | 26.11                  | 2.50            |
| 5800  | 19.34 | 26.77     | 9.79                    | 20.03                    | 1.34      | 0.92    | 33.33          | 26.34                  | 2.54            |
| 6000  | 19.24 | 26.70     | 9.67                    | 30.82                    | 1.35      | 0.95    | 34.46          | 26.36                  | 2.55            |
| 6200  | 19.11 | 26.68     | 9.02                    | 28.79                    | 1.35      | 0.99    | 36.00          | 26.22                  | 2.72            |
| 6400  | 19.01 | 26.91     | 8.04                    | 21.32                    | 1.34      | 1.03    | 37.33          | 26.00                  | 2.74            |
| 6600  | 18.97 | 27.07     | 7.32                    | 19.08                    | 1.33      | 1.07    | 38.27          | 25.94                  | 2.80            |
| 6800  | 18.92 | 27.28     | 6.86                    | 18.51                    | 1.33      | 1.11    | 38.36          | 25.70                  | 2.86            |
| 7000  | 18.77 | 27.49     | 6.60                    | 19.49                    | 1.35      | 1.14    | 38.45          | 25.55                  | 2.84            |
| 7200  | 18.47 | 27.80     | 6.50                    | 20.11                    | 1.41      | 1.15    | 38.26          | 25.47                  | 2.94            |
| 7400  | 18.37 | 27.87     | 6.76                    | 19.71                    | 1.45      | 1.14    | 37.83          | 25.39                  | 2.88            |
| 7600  | 18.16 | 27.87     | 7.11                    | 20.33                    | 1.51      | 1.11    | 37.72          | 25.69                  | 2.86            |
| 7800  | 18.08 | 27.63     | 7.45                    | 21.37                    | 1.51      | 1.09    | 37.60          | 25.74                  | 2.78            |
| 8000  | 17.95 | 27.63     | 8.24                    | 26.94                    | 1.60      | 1.06    | 37.66          | 25.75                  | 2.82            |

Note: Test data of Die packaged in industry standard 3x3mm 12L MCLP package

*Typical Performance Data***Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 8.00V, Iadj connection = 1.0V, Id = 116mA @ Temperature = +25°C

| FREQ  | Gain  | Isolation | Input<br>Return<br>Loss | Output<br>Return<br>Loss | Stability |         | IP-3<br>Output | 1dB<br>Comp.<br>Output | Noise<br>Figure |
|-------|-------|-----------|-------------------------|--------------------------|-----------|---------|----------------|------------------------|-----------------|
| (MHz) | (dB)  | (dB)      | (dB)                    | (dB)                     | K         | Measure | (dBm)          | (dBm)                  | (dB)            |
| 400   | 21.90 | 28.90     | 13.49                   | 10.79                    | 1.28      | 0.72    | 38.68          | 26.97                  | 3.23            |
| 600   | 21.93 | 28.72     | 15.15                   | 12.78                    | 1.28      | 0.76    | 38.37          | 27.16                  | 3.16            |
| 800   | 21.83 | 28.65     | 15.95                   | 14.22                    | 1.29      | 0.78    | 37.89          | 27.31                  | 3.16            |
| 1000  | 21.72 | 28.61     | 16.23                   | 15.35                    | 1.30      | 0.80    | 37.74          | 27.53                  | 3.19            |
| 1200  | 21.58 | 28.55     | 16.28                   | 16.29                    | 1.30      | 0.81    | 37.67          | 27.64                  | 3.12            |
| 1400  | 21.42 | 28.51     | 16.17                   | 16.83                    | 1.31      | 0.83    | 38.00          | 27.78                  | 3.00            |
| 1600  | 21.27 | 28.52     | 15.95                   | 16.91                    | 1.33      | 0.84    | 38.24          | 27.72                  | 3.04            |
| 1800  | 21.10 | 28.47     | 15.71                   | 16.70                    | 1.34      | 0.85    | 37.97          | 27.63                  | 2.97            |
| 2000  | 20.99 | 28.40     | 15.42                   | 16.18                    | 1.35      | 0.85    | 37.89          | 27.72                  | 3.01            |
| 2200  | 20.84 | 28.40     | 14.90                   | 15.66                    | 1.36      | 0.85    | 37.49          | 27.51                  | 3.01            |
| 2400  | 20.64 | 28.46     | 14.25                   | 15.18                    | 1.38      | 0.87    | 37.41          | 27.60                  | 2.71            |
| 2600  | 20.40 | 28.53     | 13.58                   | 14.68                    | 1.41      | 0.88    | 37.33          | 27.29                  | 2.99            |
| 2800  | 20.12 | 28.69     | 13.02                   | 14.72                    | 1.45      | 0.90    | 37.97          | 27.14                  | 3.10            |
| 3000  | 19.82 | 28.80     | 12.15                   | 14.59                    | 1.48      | 0.93    | 39.35          | 26.90                  | 3.02            |
| 3200  | 19.65 | 28.71     | 11.35                   | 14.64                    | 1.46      | 0.95    | 40.61          | 26.64                  | 3.02            |
| 3400  | 19.47 | 28.68     | 10.50                   | 14.53                    | 1.44      | 0.98    | 42.93          | 26.47                  | 3.01            |
| 3600  | 19.29 | 28.71     | 9.70                    | 13.99                    | 1.43      | 1.00    | 40.22          | 26.12                  | 2.98            |
| 3800  | 19.12 | 28.74     | 8.90                    | 13.02                    | 1.42      | 1.01    | 38.56          | 26.00                  | 3.00            |
| 4000  | 18.98 | 28.78     | 8.15                    | 11.86                    | 1.41      | 1.01    | 37.31          | 25.25                  | 3.00            |
| 4200  | 18.91 | 28.74     | 7.53                    | 10.79                    | 1.40      | 0.99    | 36.02          | 24.56                  | 2.89            |
| 4400  | 18.84 | 28.70     | 7.06                    | 9.99                     | 1.40      | 0.98    | 35.05          | 24.55                  | 2.81            |
| 4600  | 18.81 | 28.53     | 6.83                    | 9.64                     | 1.39      | 0.96    | 34.00          | 23.53                  | 2.85            |
| 4800  | 18.83 | 28.30     | 6.88                    | 9.71                     | 1.39      | 0.94    | 33.48          | 24.82                  | 2.74            |
| 5000  | 18.92 | 27.96     | 7.18                    | 10.17                    | 1.38      | 0.92    | 33.48          | 23.75                  | 2.69            |
| 5200  | 19.06 | 27.67     | 7.77                    | 11.25                    | 1.38      | 0.91    | 32.45          | 24.52                  | 2.65            |
| 5400  | 19.26 | 27.35     | 8.54                    | 12.82                    | 1.36      | 0.91    | 32.58          | 25.78                  | 2.60            |
| 5600  | 19.41 | 27.12     | 9.29                    | 15.66                    | 1.35      | 0.91    | 32.85          | 26.10                  | 2.54            |
| 5800  | 19.45 | 26.85     | 9.86                    | 20.58                    | 1.34      | 0.92    | 33.65          | 26.36                  | 2.47            |
| 6000  | 19.33 | 26.80     | 9.70                    | 32.48                    | 1.35      | 0.95    | 34.88          | 26.38                  | 2.57            |
| 6200  | 19.20 | 26.82     | 9.02                    | 27.41                    | 1.35      | 0.98    | 36.48          | 26.24                  | 2.68            |
| 6400  | 19.09 | 27.04     | 8.03                    | 20.84                    | 1.35      | 1.03    | 37.81          | 26.02                  | 2.72            |
| 6600  | 19.05 | 27.22     | 7.30                    | 18.75                    | 1.34      | 1.07    | 38.70          | 25.92                  | 2.80            |
| 6800  | 19.00 | 27.42     | 6.84                    | 18.28                    | 1.33      | 1.11    | 38.65          | 25.75                  | 2.84            |
| 7000  | 18.85 | 27.64     | 6.60                    | 19.45                    | 1.36      | 1.14    | 38.53          | 25.59                  | 2.84            |
| 7200  | 18.56 | 27.90     | 6.51                    | 20.44                    | 1.42      | 1.15    | 38.23          | 25.51                  | 3.00            |
| 7400  | 18.46 | 28.03     | 6.79                    | 20.22                    | 1.46      | 1.14    | 37.95          | 25.47                  | 2.85            |
| 7600  | 18.25 | 27.97     | 7.16                    | 21.06                    | 1.51      | 1.11    | 37.79          | 25.76                  | 2.87            |
| 7800  | 18.17 | 27.77     | 7.51                    | 22.17                    | 1.53      | 1.09    | 37.58          | 25.81                  | 2.90            |
| 8000  | 18.03 | 27.79     | 8.29                    | 27.91                    | 1.61      | 1.06    | 37.62          | 25.81                  | 2.94            |

Note: Test data of Die packaged in industry standard 3x3mm 12L MCLP package

## Typical Performance Data

### Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 8.00V, Iadj connection = 1.2V, Id = 125mA @ Temperature = +25°C

| FREQ  | Gain  | Isolation | Input<br>Return<br>Loss | Output<br>Return<br>Loss | Stability |         | IP-3<br>Output | 1dB<br>Comp.<br>Output | Noise<br>Figure |
|-------|-------|-----------|-------------------------|--------------------------|-----------|---------|----------------|------------------------|-----------------|
| (MHz) | (dB)  | (dB)      | (dB)                    | (dB)                     | K         | Measure | (dBm)          | (dBm)                  | (dB)            |
| 400   | 22.01 | 28.96     | 13.46                   | 10.61                    | 1.27      | 0.72    | 38.60          | 27.03                  | 3.23            |
| 600   | 22.04 | 28.87     | 15.10                   | 12.47                    | 1.28      | 0.75    | 38.39          | 27.20                  | 3.14            |
| 800   | 21.94 | 28.80     | 15.92                   | 13.82                    | 1.29      | 0.78    | 38.00          | 27.35                  | 3.15            |
| 1000  | 21.83 | 28.75     | 16.21                   | 14.90                    | 1.30      | 0.80    | 37.88          | 27.57                  | 3.24            |
| 1200  | 21.69 | 28.71     | 16.29                   | 15.82                    | 1.31      | 0.81    | 37.80          | 27.63                  | 3.12            |
| 1400  | 21.54 | 28.64     | 16.19                   | 16.39                    | 1.31      | 0.82    | 38.09          | 27.75                  | 3.02            |
| 1600  | 21.39 | 28.65     | 15.97                   | 16.50                    | 1.33      | 0.84    | 38.34          | 27.72                  | 3.03            |
| 1800  | 21.21 | 28.65     | 15.71                   | 16.35                    | 1.35      | 0.85    | 38.17          | 27.64                  | 3.02            |
| 2000  | 21.10 | 28.57     | 15.40                   | 15.87                    | 1.35      | 0.85    | 38.03          | 27.72                  | 2.92            |
| 2200  | 20.95 | 28.56     | 14.86                   | 15.37                    | 1.36      | 0.85    | 37.61          | 27.55                  | 2.99            |
| 2400  | 20.75 | 28.58     | 14.20                   | 14.91                    | 1.38      | 0.86    | 37.52          | 27.60                  | 2.80            |
| 2600  | 20.51 | 28.72     | 13.51                   | 14.44                    | 1.42      | 0.88    | 37.47          | 27.27                  | 3.00            |
| 2800  | 20.23 | 28.83     | 12.97                   | 14.51                    | 1.46      | 0.90    | 38.11          | 27.15                  | 3.03            |
| 3000  | 19.93 | 28.91     | 12.10                   | 14.43                    | 1.48      | 0.93    | 39.54          | 26.88                  | 3.08            |
| 3200  | 19.76 | 28.83     | 11.33                   | 14.54                    | 1.46      | 0.95    | 40.91          | 26.69                  | 3.02            |
| 3400  | 19.58 | 28.83     | 10.51                   | 14.54                    | 1.44      | 0.98    | 43.58          | 26.56                  | 2.97            |
| 3600  | 19.41 | 28.82     | 9.73                    | 14.12                    | 1.43      | 1.00    | 40.64          | 26.23                  | 3.03            |
| 3800  | 19.24 | 28.85     | 8.94                    | 13.22                    | 1.42      | 1.01    | 38.19          | 26.07                  | 2.96            |
| 4000  | 19.11 | 28.87     | 8.22                    | 12.08                    | 1.42      | 1.01    | 37.10          | 25.37                  | 2.98            |
| 4200  | 19.03 | 28.87     | 7.59                    | 11.00                    | 1.41      | 1.00    | 36.03          | 24.73                  | 2.90            |
| 4400  | 18.97 | 28.71     | 7.12                    | 10.18                    | 1.39      | 0.98    | 34.88          | 24.71                  | 2.91            |
| 4600  | 18.94 | 28.63     | 6.90                    | 9.83                     | 1.40      | 0.96    | 33.90          | 23.75                  | 2.82            |
| 4800  | 18.95 | 28.37     | 6.96                    | 9.89                     | 1.40      | 0.94    | 33.56          | 24.93                  | 2.72            |
| 5000  | 19.03 | 28.07     | 7.26                    | 10.36                    | 1.39      | 0.93    | 33.41          | 23.96                  | 2.70            |
| 5200  | 19.17 | 27.77     | 7.85                    | 11.45                    | 1.39      | 0.92    | 32.63          | 24.64                  | 2.60            |
| 5400  | 19.37 | 27.48     | 8.62                    | 13.04                    | 1.37      | 0.91    | 32.76          | 25.79                  | 2.58            |
| 5600  | 19.51 | 27.20     | 9.37                    | 15.94                    | 1.35      | 0.91    | 33.09          | 26.07                  | 2.53            |
| 5800  | 19.53 | 26.98     | 9.92                    | 20.99                    | 1.35      | 0.92    | 34.01          | 26.35                  | 2.58            |
| 6000  | 19.41 | 26.90     | 9.73                    | 33.43                    | 1.35      | 0.95    | 35.35          | 26.37                  | 2.56            |
| 6200  | 19.27 | 26.90     | 9.02                    | 26.39                    | 1.35      | 0.98    | 36.92          | 26.23                  | 2.75            |
| 6400  | 19.16 | 27.15     | 8.02                    | 20.45                    | 1.35      | 1.03    | 38.09          | 26.05                  | 2.82            |
| 6600  | 19.12 | 27.35     | 7.28                    | 18.48                    | 1.34      | 1.07    | 39.00          | 25.95                  | 2.78            |
| 6800  | 19.07 | 27.54     | 6.83                    | 18.09                    | 1.34      | 1.11    | 38.92          | 25.77                  | 2.86            |
| 7000  | 18.92 | 27.78     | 6.60                    | 19.37                    | 1.37      | 1.14    | 38.67          | 25.65                  | 2.91            |
| 7200  | 18.64 | 28.03     | 6.52                    | 20.68                    | 1.43      | 1.15    | 38.34          | 25.60                  | 2.92            |
| 7400  | 18.54 | 28.10     | 6.80                    | 20.57                    | 1.46      | 1.14    | 38.08          | 25.57                  | 2.89            |
| 7600  | 18.33 | 28.10     | 7.18                    | 21.63                    | 1.52      | 1.11    | 37.85          | 25.82                  | 2.86            |
| 7800  | 18.24 | 27.87     | 7.55                    | 22.80                    | 1.53      | 1.09    | 37.61          | 25.82                  | 2.83            |
| 8000  | 18.10 | 27.88     | 8.32                    | 28.70                    | 1.62      | 1.06    | 37.55          | 25.86                  | 2.89            |

Note: Test data of Die packaged in industry standard 3x3mm 12L MCLP package

## Typical Performance Data

### Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 8.00V, Iadj connection = 1.4V, Id = 134mA @ Temperature = +25°C

| FREQ  | Gain  | Isolation | Input<br>Return<br>Loss | Output<br>Return<br>Loss | Stability |         | IP-3<br>Output | 1dB<br>Comp.<br>Output | Noise<br>Figure |
|-------|-------|-----------|-------------------------|--------------------------|-----------|---------|----------------|------------------------|-----------------|
| (MHz) | (dB)  | (dB)      | (dB)                    | (dB)                     | K         | Measure | (dBm)          | (dBm)                  | (dB)            |
| 400   | 22.10 | 29.13     | 13.44                   | 10.48                    | 1.27      | 0.72    | 38.52          | 27.09                  | 3.24            |
| 600   | 22.12 | 28.98     | 15.07                   | 12.25                    | 1.28      | 0.75    | 38.39          | 27.22                  | 3.20            |
| 800   | 22.02 | 28.92     | 15.88                   | 13.54                    | 1.29      | 0.77    | 38.07          | 27.36                  | 3.16            |
| 1000  | 21.92 | 28.89     | 16.19                   | 14.59                    | 1.30      | 0.79    | 37.95          | 27.60                  | 3.20            |
| 1200  | 21.78 | 28.85     | 16.29                   | 15.49                    | 1.31      | 0.81    | 37.84          | 27.68                  | 3.13            |
| 1400  | 21.63 | 28.75     | 16.19                   | 16.06                    | 1.32      | 0.82    | 38.11          | 27.80                  | 3.06            |
| 1600  | 21.48 | 28.75     | 15.98                   | 16.21                    | 1.33      | 0.83    | 38.34          | 27.75                  | 3.05            |
| 1800  | 21.30 | 28.75     | 15.71                   | 16.09                    | 1.35      | 0.84    | 38.24          | 27.66                  | 3.07            |
| 2000  | 21.19 | 28.64     | 15.37                   | 15.63                    | 1.35      | 0.84    | 38.17          | 27.75                  | 2.99            |
| 2200  | 21.03 | 28.66     | 14.82                   | 15.16                    | 1.36      | 0.85    | 37.64          | 27.53                  | 2.96            |
| 2400  | 20.84 | 28.70     | 14.15                   | 14.72                    | 1.38      | 0.86    | 37.58          | 27.61                  | 2.93            |
| 2600  | 20.59 | 28.80     | 13.46                   | 14.27                    | 1.42      | 0.88    | 37.53          | 27.31                  | 3.06            |
| 2800  | 20.31 | 28.90     | 12.92                   | 14.35                    | 1.45      | 0.90    | 38.13          | 27.15                  | 3.04            |
| 3000  | 20.01 | 29.02     | 12.07                   | 14.30                    | 1.48      | 0.93    | 39.48          | 26.94                  | 3.00            |
| 3200  | 19.84 | 28.95     | 11.32                   | 14.47                    | 1.46      | 0.95    | 40.87          | 26.77                  | 3.05            |
| 3400  | 19.67 | 28.92     | 10.52                   | 14.54                    | 1.44      | 0.98    | 43.62          | 26.68                  | 3.04            |
| 3600  | 19.50 | 28.90     | 9.75                    | 14.19                    | 1.43      | 1.00    | 40.98          | 26.36                  | 2.96            |
| 3800  | 19.33 | 28.95     | 8.98                    | 13.37                    | 1.43      | 1.01    | 38.24          | 26.21                  | 2.98            |
| 4000  | 19.20 | 28.97     | 8.26                    | 12.24                    | 1.42      | 1.01    | 37.34          | 25.60                  | 2.99            |
| 4200  | 19.13 | 28.92     | 7.64                    | 11.16                    | 1.41      | 1.00    | 36.16          | 24.92                  | 2.92            |
| 4400  | 19.06 | 28.84     | 7.17                    | 10.34                    | 1.40      | 0.98    | 34.98          | 24.90                  | 2.87            |
| 4600  | 19.03 | 28.67     | 6.95                    | 9.96                     | 1.40      | 0.96    | 34.02          | 23.95                  | 2.75            |
| 4800  | 19.05 | 28.40     | 7.02                    | 10.02                    | 1.40      | 0.94    | 33.65          | 25.11                  | 2.79            |
| 5000  | 19.12 | 28.12     | 7.32                    | 10.50                    | 1.39      | 0.93    | 33.53          | 24.20                  | 2.71            |
| 5200  | 19.26 | 27.82     | 7.92                    | 11.60                    | 1.39      | 0.92    | 32.81          | 24.86                  | 2.61            |
| 5400  | 19.45 | 27.56     | 8.69                    | 13.20                    | 1.37      | 0.91    | 33.08          | 25.83                  | 2.56            |
| 5600  | 19.58 | 27.26     | 9.43                    | 16.13                    | 1.36      | 0.91    | 33.42          | 26.11                  | 2.58            |
| 5800  | 19.60 | 27.04     | 9.95                    | 21.30                    | 1.35      | 0.92    | 34.47          | 26.38                  | 2.61            |
| 6000  | 19.47 | 26.94     | 9.74                    | 33.87                    | 1.35      | 0.95    | 35.81          | 26.37                  | 2.58            |
| 6200  | 19.33 | 27.00     | 9.01                    | 25.70                    | 1.36      | 0.98    | 37.27          | 26.24                  | 2.70            |
| 6400  | 19.21 | 27.21     | 8.00                    | 20.12                    | 1.35      | 1.03    | 38.39          | 26.08                  | 2.76            |
| 6600  | 19.17 | 27.45     | 7.27                    | 18.27                    | 1.35      | 1.07    | 39.27          | 25.98                  | 2.81            |
| 6800  | 19.12 | 27.65     | 6.83                    | 17.93                    | 1.35      | 1.10    | 39.11          | 25.81                  | 2.87            |
| 7000  | 18.97 | 27.86     | 6.61                    | 19.29                    | 1.37      | 1.13    | 38.83          | 25.70                  | 2.95            |
| 7200  | 18.69 | 28.12     | 6.53                    | 20.82                    | 1.43      | 1.15    | 38.48          | 25.66                  | 2.90            |
| 7400  | 18.60 | 28.23     | 6.82                    | 20.83                    | 1.48      | 1.14    | 38.22          | 25.62                  | 2.91            |
| 7600  | 18.40 | 28.18     | 7.19                    | 22.00                    | 1.53      | 1.11    | 37.95          | 25.86                  | 2.88            |
| 7800  | 18.31 | 27.95     | 7.56                    | 23.25                    | 1.54      | 1.09    | 37.66          | 25.87                  | 2.81            |
| 8000  | 18.15 | 27.97     | 8.34                    | 29.35                    | 1.63      | 1.06    | 37.59          | 25.89                  | 2.87            |

Note: Test data of Die packaged in industry standard 3x3mm 12L MCLP package



*Typical Performance Data***Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 8.00V, Iadj connection = 1.6V, Id = 142mA @ Temperature = +25°C

| FREQ  | Gain  | Isolation | Input<br>Return<br>Loss | Output<br>Return<br>Loss | Stability |         | IP-3<br>Output | 1dB<br>Comp.<br>Output | Noise<br>Figure |
|-------|-------|-----------|-------------------------|--------------------------|-----------|---------|----------------|------------------------|-----------------|
| (MHz) | (dB)  | (dB)      | (dB)                    | (dB)                     | K         | Measure | (dBm)          | (dBm)                  | (dB)            |
| 400   | 22.16 | 29.27     | 13.42                   | 10.38                    | 1.28      | 0.72    | 38.47          | 27.10                  | 3.22            |
| 600   | 22.19 | 29.07     | 15.03                   | 12.10                    | 1.28      | 0.75    | 38.41          | 27.27                  | 3.19            |
| 800   | 22.09 | 29.00     | 15.85                   | 13.35                    | 1.29      | 0.77    | 38.14          | 27.41                  | 3.15            |
| 1000  | 21.99 | 28.98     | 16.17                   | 14.37                    | 1.30      | 0.79    | 38.01          | 27.63                  | 3.26            |
| 1200  | 21.85 | 28.91     | 16.27                   | 15.26                    | 1.31      | 0.81    | 37.87          | 27.68                  | 3.17            |
| 1400  | 21.70 | 28.86     | 16.19                   | 15.84                    | 1.32      | 0.82    | 38.09          | 27.85                  | 3.06            |
| 1600  | 21.55 | 28.83     | 15.98                   | 15.99                    | 1.33      | 0.83    | 38.31          | 27.80                  | 2.99            |
| 1800  | 21.37 | 28.82     | 15.70                   | 15.91                    | 1.35      | 0.84    | 38.25          | 27.71                  | 2.99            |
| 2000  | 21.26 | 28.76     | 15.36                   | 15.46                    | 1.35      | 0.84    | 38.14          | 27.79                  | 3.04            |
| 2200  | 21.10 | 28.73     | 14.79                   | 15.00                    | 1.36      | 0.85    | 37.66          | 27.56                  | 2.94            |
| 2400  | 20.90 | 28.78     | 14.11                   | 14.58                    | 1.39      | 0.86    | 37.58          | 27.62                  | 2.84            |
| 2600  | 20.66 | 28.89     | 13.42                   | 14.14                    | 1.42      | 0.88    | 37.55          | 27.32                  | 3.00            |
| 2800  | 20.38 | 29.02     | 12.88                   | 14.23                    | 1.46      | 0.90    | 38.08          | 27.16                  | 3.04            |
| 3000  | 20.08 | 29.14     | 12.04                   | 14.20                    | 1.49      | 0.93    | 39.30          | 26.99                  | 3.06            |
| 3200  | 19.91 | 29.04     | 11.30                   | 14.39                    | 1.47      | 0.95    | 40.58          | 26.84                  | 3.06            |
| 3400  | 19.73 | 28.97     | 10.52                   | 14.52                    | 1.44      | 0.98    | 43.00          | 26.76                  | 3.01            |
| 3600  | 19.56 | 28.98     | 9.77                    | 14.25                    | 1.43      | 1.00    | 41.97          | 26.48                  | 2.99            |
| 3800  | 19.40 | 29.00     | 9.01                    | 13.47                    | 1.43      | 1.01    | 38.55          | 26.34                  | 2.99            |
| 4000  | 19.27 | 29.00     | 8.29                    | 12.36                    | 1.42      | 1.01    | 37.50          | 25.78                  | 2.99            |
| 4200  | 19.21 | 28.98     | 7.68                    | 11.28                    | 1.41      | 1.00    | 36.50          | 25.06                  | 2.91            |
| 4400  | 19.14 | 28.88     | 7.21                    | 10.45                    | 1.40      | 0.98    | 35.15          | 25.12                  | 2.88            |
| 4600  | 19.11 | 28.70     | 7.00                    | 10.07                    | 1.40      | 0.96    | 34.14          | 24.18                  | 2.82            |
| 4800  | 19.12 | 28.50     | 7.07                    | 10.14                    | 1.40      | 0.95    | 33.93          | 25.24                  | 2.78            |
| 5000  | 19.19 | 28.16     | 7.38                    | 10.61                    | 1.39      | 0.93    | 33.74          | 24.43                  | 2.74            |
| 5200  | 19.33 | 27.90     | 7.97                    | 11.71                    | 1.39      | 0.92    | 33.06          | 24.98                  | 2.65            |
| 5400  | 19.51 | 27.59     | 8.75                    | 13.33                    | 1.37      | 0.91    | 33.41          | 25.91                  | 2.57            |
| 5600  | 19.64 | 27.32     | 9.48                    | 16.28                    | 1.36      | 0.91    | 33.85          | 26.12                  | 2.56            |
| 5800  | 19.65 | 27.14     | 9.98                    | 21.51                    | 1.36      | 0.93    | 34.94          | 26.38                  | 2.56            |
| 6000  | 19.51 | 27.01     | 9.74                    | 33.98                    | 1.36      | 0.95    | 36.21          | 26.37                  | 2.61            |
| 6200  | 19.37 | 27.06     | 9.00                    | 25.19                    | 1.36      | 0.98    | 37.58          | 26.25                  | 2.72            |
| 6400  | 19.25 | 27.29     | 7.98                    | 19.86                    | 1.36      | 1.03    | 38.66          | 26.07                  | 2.74            |
| 6600  | 19.22 | 27.52     | 7.26                    | 18.06                    | 1.35      | 1.07    | 39.47          | 26.00                  | 2.80            |
| 6800  | 19.16 | 27.71     | 6.82                    | 17.77                    | 1.35      | 1.10    | 39.29          | 25.85                  | 2.89            |
| 7000  | 19.02 | 27.93     | 6.62                    | 19.20                    | 1.38      | 1.13    | 39.00          | 25.75                  | 2.93            |
| 7200  | 18.73 | 28.18     | 6.54                    | 20.92                    | 1.44      | 1.15    | 38.59          | 25.71                  | 2.96            |
| 7400  | 18.65 | 28.28     | 6.84                    | 21.02                    | 1.48      | 1.14    | 38.35          | 25.71                  | 2.92            |
| 7600  | 18.45 | 28.23     | 7.22                    | 22.31                    | 1.53      | 1.11    | 38.05          | 25.90                  | 2.90            |
| 7800  | 18.36 | 28.03     | 7.58                    | 23.61                    | 1.54      | 1.09    | 37.73          | 25.92                  | 2.83            |
| 8000  | 18.20 | 28.04     | 8.35                    | 29.89                    | 1.63      | 1.06    | 37.64          | 25.92                  | 2.88            |

Note: Test data of Die packaged in industry standard 3x3mm 12L MCLP package



*Typical Performance Data***Definitions:**

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 8.00V, Iadj connection = 1.8V, Id = 150mA @ Temperature = +25°C

| FREQ  | Gain  | Isolation | Input<br>Return<br>Loss | Output<br>Return<br>Loss | Stability |         | IP-3<br>Output | 1dB<br>Comp.<br>Output | Noise<br>Figure |
|-------|-------|-----------|-------------------------|--------------------------|-----------|---------|----------------|------------------------|-----------------|
| (MHz) | (dB)  | (dB)      | (dB)                    | (dB)                     | K         | Measure | (dBm)          | (dBm)                  | (dB)            |
| 400   | 22.22 | 29.31     | 13.40                   | 10.31                    | 1.28      | 0.72    | 38.45          | 27.15                  | 3.26            |
| 600   | 22.24 | 29.16     | 15.00                   | 11.97                    | 1.28      | 0.75    | 38.46          | 27.32                  | 3.21            |
| 800   | 22.14 | 29.07     | 15.83                   | 13.20                    | 1.29      | 0.77    | 38.22          | 27.46                  | 3.19            |
| 1000  | 22.04 | 29.04     | 16.16                   | 14.20                    | 1.30      | 0.79    | 38.07          | 27.65                  | 3.27            |
| 1200  | 21.91 | 28.99     | 16.27                   | 15.09                    | 1.31      | 0.81    | 37.94          | 27.73                  | 3.20            |
| 1400  | 21.75 | 28.94     | 16.20                   | 15.66                    | 1.32      | 0.82    | 38.11          | 27.89                  | 3.06            |
| 1600  | 21.60 | 28.90     | 15.98                   | 15.84                    | 1.33      | 0.83    | 38.34          | 27.84                  | 3.04            |
| 1800  | 21.43 | 28.91     | 15.69                   | 15.76                    | 1.35      | 0.84    | 38.29          | 27.73                  | 2.99            |
| 2000  | 21.31 | 28.83     | 15.33                   | 15.33                    | 1.35      | 0.84    | 38.16          | 27.80                  | 2.95            |
| 2200  | 21.15 | 28.81     | 14.76                   | 14.88                    | 1.37      | 0.85    | 37.69          | 27.60                  | 3.01            |
| 2400  | 20.95 | 28.86     | 14.07                   | 14.46                    | 1.39      | 0.86    | 37.63          | 27.63                  | 3.07            |
| 2600  | 20.71 | 28.94     | 13.38                   | 14.04                    | 1.42      | 0.88    | 37.60          | 27.33                  | 3.03            |
| 2800  | 20.43 | 29.07     | 12.84                   | 14.13                    | 1.46      | 0.90    | 37.98          | 27.20                  | 3.08            |
| 3000  | 20.13 | 29.19     | 12.02                   | 14.12                    | 1.48      | 0.93    | 39.19          | 27.02                  | 3.08            |
| 3200  | 19.96 | 29.10     | 11.28                   | 14.33                    | 1.47      | 0.95    | 40.17          | 26.94                  | 3.04            |
| 3400  | 19.79 | 29.05     | 10.51                   | 14.50                    | 1.45      | 0.98    | 42.37          | 26.86                  | 3.01            |
| 3600  | 19.62 | 29.05     | 9.77                    | 14.28                    | 1.44      | 1.00    | 43.18          | 26.64                  | 2.99            |
| 3800  | 19.46 | 29.04     | 9.03                    | 13.55                    | 1.42      | 1.01    | 39.02          | 26.53                  | 3.02            |
| 4000  | 19.33 | 29.10     | 8.32                    | 12.45                    | 1.43      | 1.02    | 38.22          | 25.96                  | 3.02            |
| 4200  | 19.27 | 29.01     | 7.71                    | 11.38                    | 1.41      | 1.00    | 36.95          | 25.31                  | 3.00            |
| 4400  | 19.20 | 28.92     | 7.25                    | 10.53                    | 1.40      | 0.98    | 35.40          | 25.34                  | 2.86            |
| 4600  | 19.17 | 28.74     | 7.04                    | 10.15                    | 1.40      | 0.96    | 34.42          | 24.40                  | 2.77            |
| 4800  | 19.18 | 28.55     | 7.10                    | 10.21                    | 1.40      | 0.95    | 34.28          | 25.36                  | 2.77            |
| 5000  | 19.25 | 28.22     | 7.41                    | 10.69                    | 1.40      | 0.93    | 34.13          | 24.64                  | 2.70            |
| 5200  | 19.38 | 27.94     | 8.01                    | 11.80                    | 1.39      | 0.92    | 33.27          | 25.18                  | 2.56            |
| 5400  | 19.57 | 27.63     | 8.79                    | 13.42                    | 1.37      | 0.91    | 33.77          | 25.96                  | 2.58            |
| 5600  | 19.70 | 27.39     | 9.51                    | 16.40                    | 1.36      | 0.91    | 34.41          | 26.11                  | 2.59            |
| 5800  | 19.70 | 27.13     | 10.01                   | 21.70                    | 1.35      | 0.92    | 35.41          | 26.40                  | 2.58            |
| 6000  | 19.55 | 27.08     | 9.75                    | 34.11                    | 1.36      | 0.95    | 36.44          | 26.38                  | 2.53            |
| 6200  | 19.41 | 27.11     | 8.99                    | 24.83                    | 1.36      | 0.98    | 37.79          | 26.25                  | 2.71            |
| 6400  | 19.29 | 27.34     | 7.98                    | 19.69                    | 1.36      | 1.03    | 38.80          | 26.08                  | 2.77            |
| 6600  | 19.26 | 27.54     | 7.25                    | 17.92                    | 1.35      | 1.07    | 39.63          | 26.00                  | 2.90            |
| 6800  | 19.21 | 27.78     | 6.81                    | 17.62                    | 1.35      | 1.10    | 39.39          | 25.86                  | 2.92            |
| 7000  | 19.06 | 28.00     | 6.61                    | 19.06                    | 1.38      | 1.13    | 39.12          | 25.79                  | 2.95            |
| 7200  | 18.78 | 28.20     | 6.54                    | 20.88                    | 1.43      | 1.15    | 38.70          | 25.75                  | 2.98            |
| 7400  | 18.69 | 28.31     | 6.84                    | 21.12                    | 1.48      | 1.14    | 38.48          | 25.76                  | 2.89            |
| 7600  | 18.49 | 28.28     | 7.23                    | 22.60                    | 1.53      | 1.11    | 38.03          | 25.93                  | 2.98            |
| 7800  | 18.41 | 28.06     | 7.60                    | 24.05                    | 1.54      | 1.09    | 37.77          | 25.95                  | 2.86            |
| 8000  | 18.24 | 28.10     | 8.37                    | 30.40                    | 1.64      | 1.06    | 37.68          | 25.95                  | 2.91            |

Note: Test data of Die packaged in industry standard 3x3mm 12L MCLP package

## Typical Performance Data

### Definitions:

Input Return Loss = -S11 (dB)

Gain(Power Gain) = S21 (dB)

Reverse Isolation = -S12 (dB)

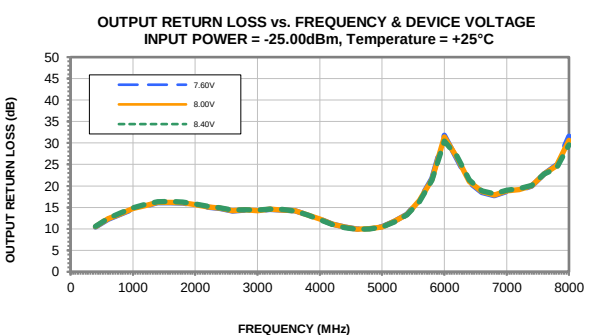
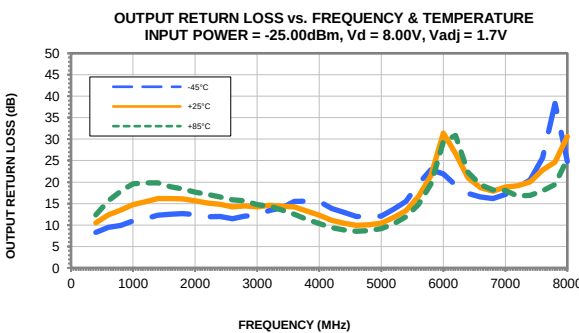
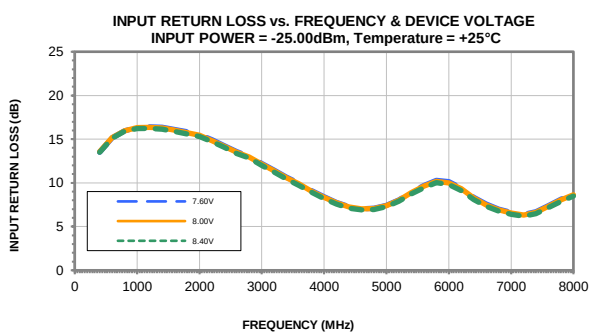
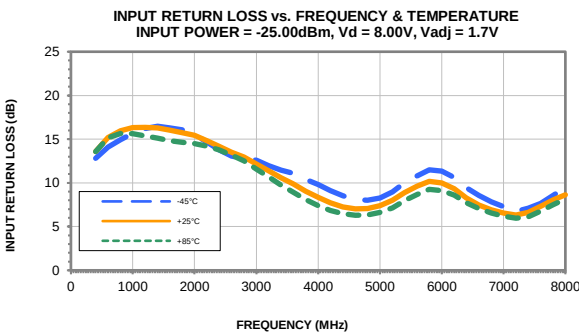
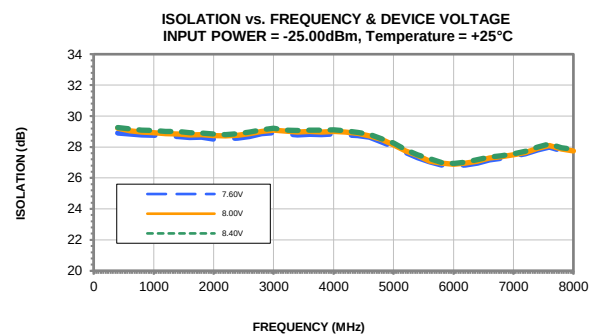
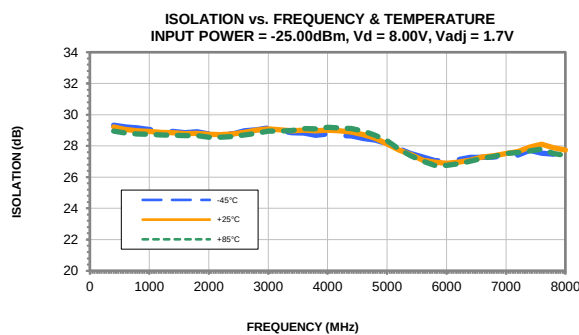
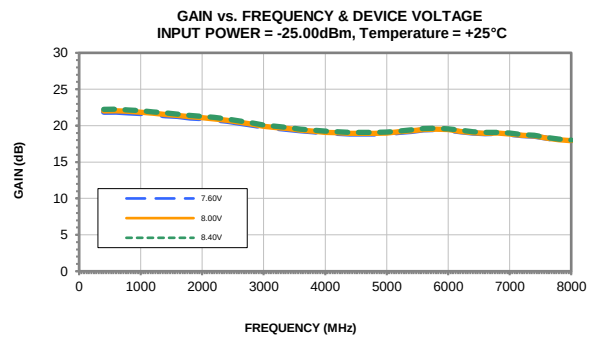
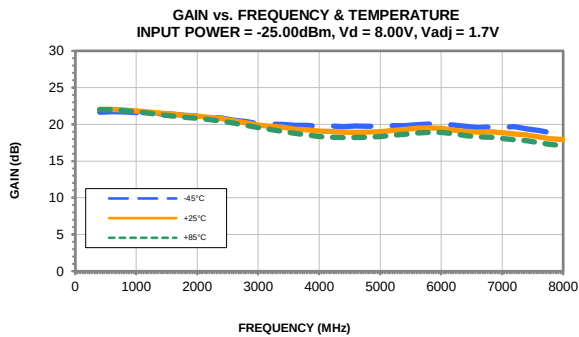
Output Return Loss = -S22 (dB)

TEST CONDITIONS: Vd = 8.00V, Iadj connection = 2.0V, Id = 158mA @ Temperature = +25°C

| FREQ  | Gain  | Isolation | Input Return Loss | Output Return Loss | Stability |         | IP-3 Output | 1dB Comp. Output | Noise Figure |
|-------|-------|-----------|-------------------|--------------------|-----------|---------|-------------|------------------|--------------|
| (MHz) | (dB)  | (dB)      | (dB)              | (dB)               | K         | Measure | (dBm)       | (dBm)            | (dB)         |
| 400   | 22.27 | 29.32     | 13.38             | 10.25              | 1.27      | 0.71    | 38.49       | 27.22            | 3.29         |
| 600   | 22.29 | 29.20     | 14.98             | 11.90              | 1.28      | 0.75    | 38.52       | 27.37            | 3.16         |
| 800   | 22.19 | 29.15     | 15.80             | 13.09              | 1.29      | 0.77    | 38.30       | 27.51            | 3.18         |
| 1000  | 22.08 | 29.10     | 16.14             | 14.08              | 1.30      | 0.79    | 38.16       | 27.69            | 3.11         |
| 1200  | 21.95 | 29.05     | 16.26             | 14.96              | 1.31      | 0.81    | 38.02       | 27.77            | 3.18         |
| 1400  | 21.80 | 29.02     | 16.18             | 15.55              | 1.32      | 0.82    | 38.14       | 27.93            | 3.10         |
| 1600  | 21.65 | 28.97     | 15.97             | 15.73              | 1.33      | 0.83    | 38.41       | 27.88            | 3.06         |
| 1800  | 21.47 | 28.96     | 15.68             | 15.66              | 1.35      | 0.84    | 38.36       | 27.75            | 3.05         |
| 2000  | 21.36 | 28.88     | 15.31             | 15.23              | 1.35      | 0.84    | 38.25       | 27.84            | 2.99         |
| 2200  | 21.20 | 28.86     | 14.73             | 14.80              | 1.37      | 0.85    | 37.76       | 27.63            | 3.03         |
| 2400  | 21.00 | 28.92     | 14.03             | 14.38              | 1.39      | 0.86    | 37.68       | 27.66            | 3.08         |
| 2600  | 20.75 | 29.00     | 13.35             | 13.96              | 1.42      | 0.88    | 37.67       | 27.36            | 3.06         |
| 2800  | 20.47 | 29.12     | 12.81             | 14.06              | 1.46      | 0.90    | 38.03       | 27.22            | 3.09         |
| 3000  | 20.17 | 29.27     | 11.99             | 14.05              | 1.49      | 0.93    | 38.95       | 27.10            | 3.05         |
| 3200  | 20.00 | 29.14     | 11.26             | 14.27              | 1.46      | 0.95    | 40.03       | 27.03            | 3.03         |
| 3400  | 19.83 | 29.11     | 10.50             | 14.47              | 1.45      | 0.98    | 41.91       | 26.99            | 3.04         |
| 3600  | 19.66 | 29.11     | 9.78              | 14.28              | 1.44      | 1.00    | 44.66       | 26.75            | 3.00         |
| 3800  | 19.50 | 29.08     | 9.04              | 13.59              | 1.42      | 1.01    | 39.59       | 26.72            | 3.03         |
| 4000  | 19.38 | 29.07     | 8.34              | 12.52              | 1.42      | 1.01    | 38.73       | 26.19            | 3.04         |
| 4200  | 19.32 | 29.05     | 7.74              | 11.44              | 1.41      | 1.00    | 37.41       | 25.47            | 2.95         |
| 4400  | 19.25 | 28.94     | 7.28              | 10.59              | 1.40      | 0.98    | 35.73       | 25.54            | 2.85         |
| 4600  | 19.22 | 28.80     | 7.07              | 10.22              | 1.40      | 0.97    | 34.72       | 24.60            | 2.85         |
| 4800  | 19.22 | 28.53     | 7.14              | 10.27              | 1.40      | 0.95    | 34.64       | 25.51            | 2.82         |
| 5000  | 19.29 | 28.23     | 7.45              | 10.75              | 1.39      | 0.93    | 34.38       | 24.83            | 2.73         |
| 5200  | 19.43 | 27.95     | 8.06              | 11.87              | 1.39      | 0.92    | 33.56       | 25.24            | 2.61         |
| 5400  | 19.61 | 27.68     | 8.82              | 13.50              | 1.38      | 0.91    | 34.23       | 26.00            | 2.58         |
| 5600  | 19.74 | 27.44     | 9.54              | 16.50              | 1.36      | 0.91    | 34.81       | 26.11            | 2.57         |
| 5800  | 19.74 | 27.18     | 10.03             | 21.85              | 1.35      | 0.92    | 35.77       | 26.39            | 2.62         |
| 6000  | 19.59 | 27.12     | 9.76              | 34.05              | 1.36      | 0.95    | 36.73       | 26.37            | 2.60         |
| 6200  | 19.44 | 27.12     | 9.00              | 24.57              | 1.36      | 0.98    | 37.98       | 26.24            | 2.77         |
| 6400  | 19.33 | 27.39     | 7.97              | 19.51              | 1.36      | 1.03    | 38.90       | 26.10            | 2.79         |
| 6600  | 19.29 | 27.57     | 7.24              | 17.78              | 1.35      | 1.07    | 39.55       | 26.02            | 2.82         |
| 6800  | 19.24 | 27.83     | 6.81              | 17.51              | 1.35      | 1.10    | 39.52       | 25.87            | 2.89         |
| 7000  | 19.09 | 28.04     | 6.60              | 18.94              | 1.38      | 1.13    | 39.16       | 25.82            | 2.96         |
| 7200  | 18.82 | 28.30     | 6.54              | 20.86              | 1.44      | 1.15    | 38.79       | 25.79            | 3.03         |
| 7400  | 18.73 | 28.37     | 6.85              | 21.18              | 1.48      | 1.14    | 38.58       | 25.80            | 2.88         |
| 7600  | 18.54 | 28.35     | 7.25              | 22.80              | 1.54      | 1.11    | 38.11       | 25.95            | 2.94         |
| 7800  | 18.45 | 28.08     | 7.62              | 24.34              | 1.54      | 1.09    | 37.74       | 25.97            | 2.84         |
| 8000  | 18.28 | 28.16     | 8.39              | 30.95              | 1.64      | 1.06    | 37.71       | 25.95            | 2.87         |

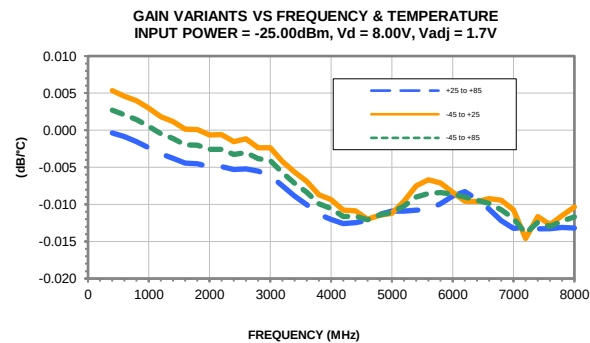
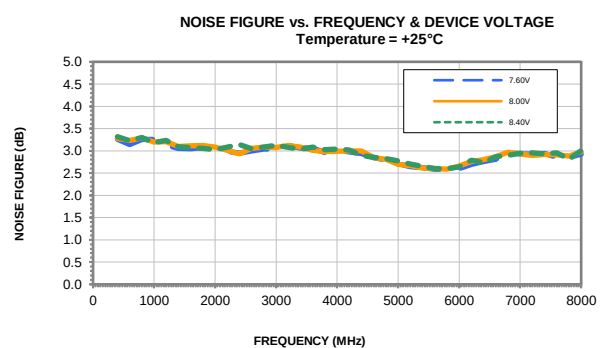
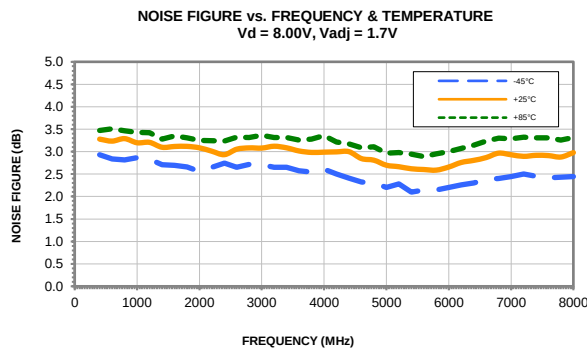
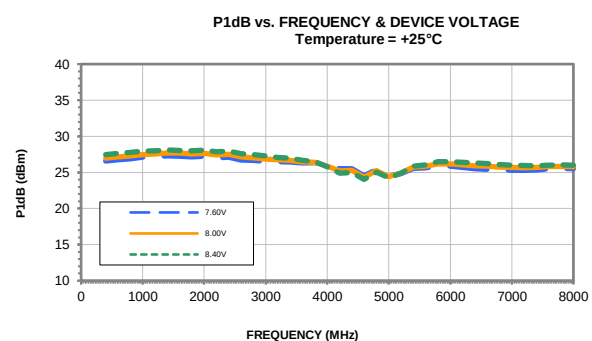
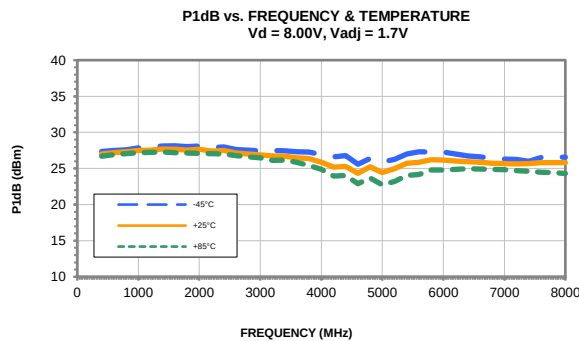
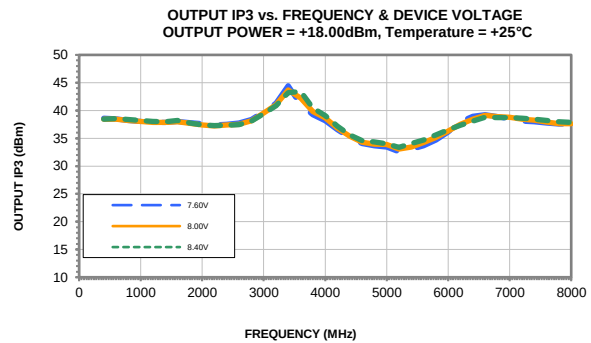
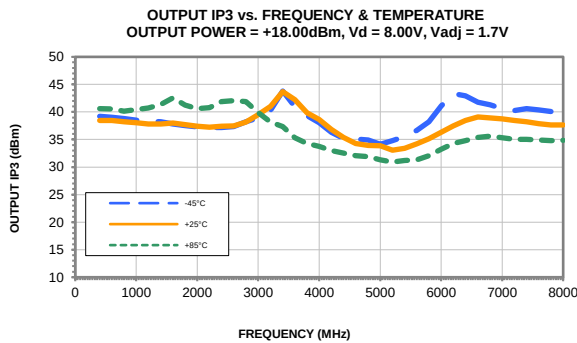
Note: Test data of Die packaged in industry standard 3x3mm 12L MCLP package

## Typical Performance Curves



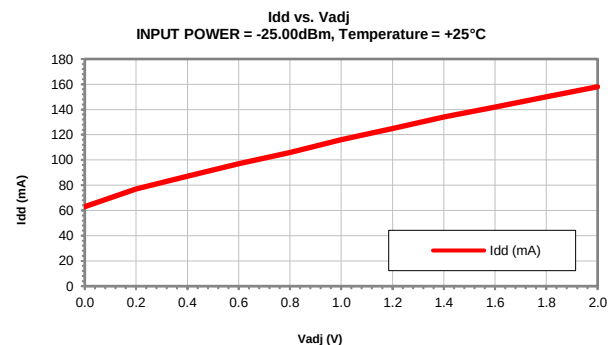
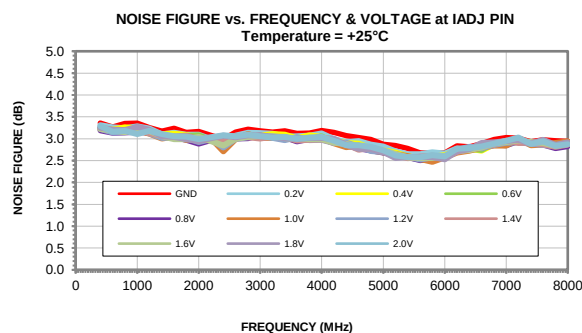
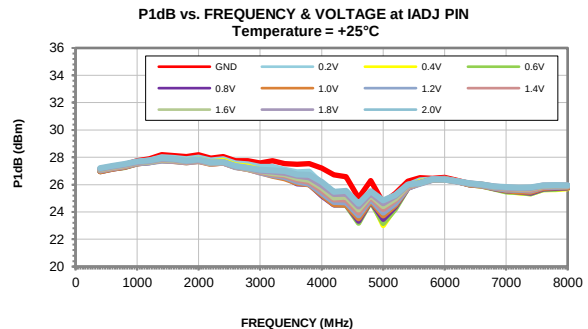
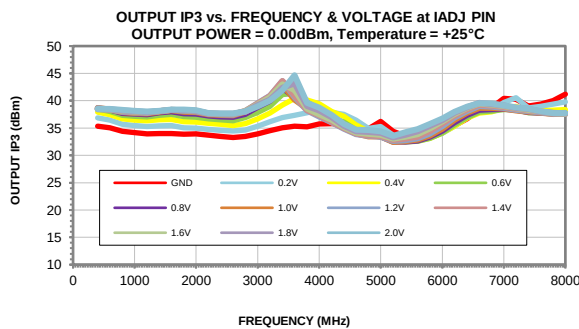
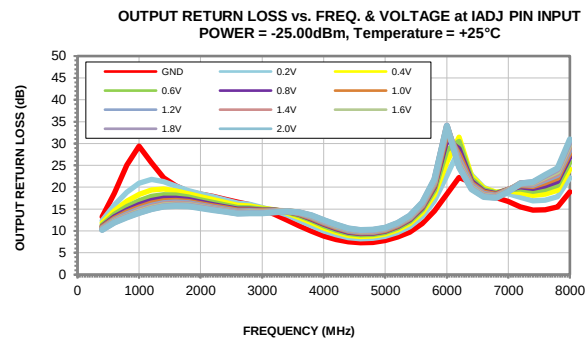
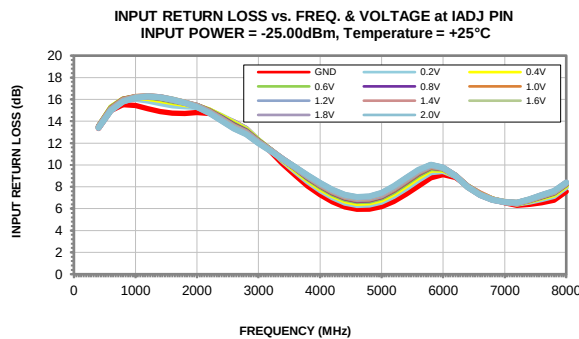
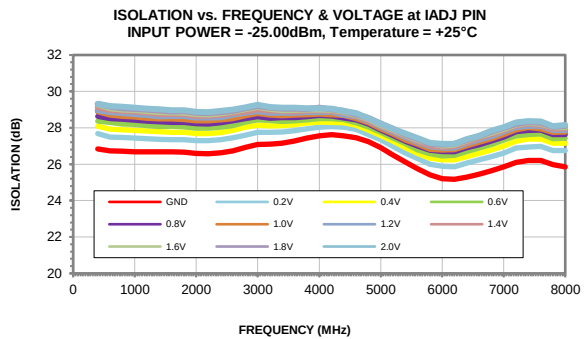
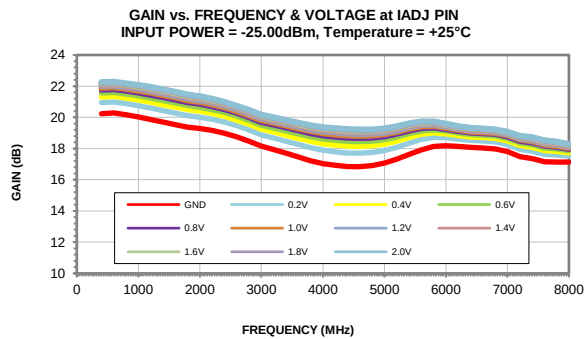
Note: Test data of Die packaged in industry standard 3x3mm 12L MCLP package

## Typical Performance Curves



Note: Test data of Die packaged in industry standard 3x3mm 12L MCLP package

## Typical Performance Curves



Note: Test data of Die packaged in industry standard 3x3mm 12L MCLP package



All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

| Specification         | Test/Inspection Condition                                                | Reference/Spec                       |
|-----------------------|--------------------------------------------------------------------------|--------------------------------------|
| Operating Temperature | -40° to 85° C or -40° to 105° C or -55° to 105° C<br>Ambient Environment | Refer to Individual Model Data Sheet |
| Storage Environment   | 20° to 35° C and 40 to 60% humidity<br>(In Factory Shipped Package)      | Individual Model Data Sheet          |