

# Plug-In, Low Noise Active Mixer

# NON-CATALOG

## UNCL-R1+

### Level 7 (LO Power +7 dBm) 10 to 500 MHz

#### Maximum Ratings

|                       |                |
|-----------------------|----------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature   | -55°C to 100°C |
| RF Power              | 50mW           |
| IF Current            | 40mA           |

#### Pin Connections

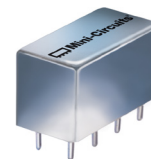
|             |       |
|-------------|-------|
| LO          | 7     |
| RF          | 1     |
| IF          | 8     |
| DC          | 4     |
| GROUND      | 3,5,6 |
| CASE GROUND | 3,5,6 |
| NOT USED    | 2     |

#### Features

- low noise figure, 4.3 dB typ.
- excellent conversion gain, 5.53 dB typ.
- high L-R isolation, 55 dB typ., L-I isolation, 30 dB typ.
- rugged welded construction
- protected by U.S. Patent 6,943,629

#### Applications

- VHF/UHF
- receivers



CASE STYLE: A01

Price: Contact Sales Dept.

**+RoHS Compliant**

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

#### Electrical Specifications

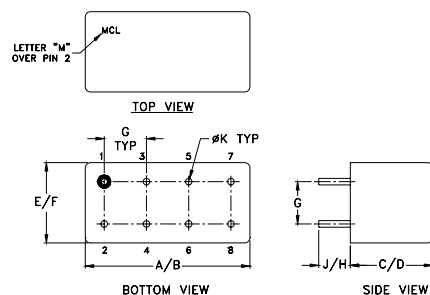
| FREQUENCY<br>(MHz) |        | CONVERSION GAIN<br>(dB) |          |      |                |      | LO-RF ISOLATION<br>(dB) |      |      |      |      |      | LO-IF ISOLATION<br>(dB) |      |      |      |      |      | INPUT<br>POWER<br>(dBm)<br>1 dB<br>Compr. | DC<br>POWER |  |
|--------------------|--------|-------------------------|----------|------|----------------|------|-------------------------|------|------|------|------|------|-------------------------|------|------|------|------|------|-------------------------------------------|-------------|--|
| LO/RF              | IF     | Mid-Band<br>m           |          |      | Total<br>Range |      | L                       |      | M    |      | U    |      | L                       |      | M    |      | U    |      |                                           | Current     |  |
| $f_L$ - $f_U$      |        | $\bar{X}$               | $\sigma$ | Min. | Typ.           | Min. | Typ.                    | Min. | Typ. | Min. | Typ. | Min. | Typ.                    | Min. | Typ. | Min. | Typ. | Typ. | Volt                                      | (mA)        |  |
| 10-500             | DC-500 | 5.53                    | 0.11     | 2    | 5              | 2    | 65                      | 45   | 55   | 40   | 47   | 35   | 40                      | 30   | 30   | 20   | 25   | 17   | -10                                       | 12 35       |  |

Up to -10 dBm RF

L = low range [ $f_L$  to  $10 f_L$ ]  
m = mid band [ $2f_L$  to  $f_U/2$ ]

M = mid range [ $10 f_L$  to  $f_U/2$ ] U = upper range [ $f_U/2$  to  $f_U$ ]

#### Outline Drawing



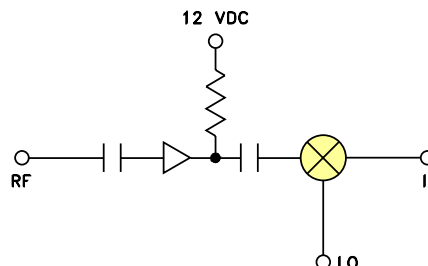
#### Outline Dimensions (inch)

| A     | B     | C    | D     | E     | F     |
|-------|-------|------|-------|-------|-------|
| .770  | .800  | .385 | .400  | .370  | .400  |
| 19.56 | 20.32 | 9.78 | 10.16 | 9.40  | 10.16 |
| G     | H     | J    | K     | wt    |       |
| .200  | .20   | .14  | .031  | grams |       |
| 5.08  | 5.08  | 3.56 | 0.79  | 5.2   |       |

#### Typical Performance Data

| Frequency<br>(MHz) |        | Conversion<br>Gain<br>(dB) | Isolation<br>L-R<br>(dB) | Isolation<br>L-I<br>(dB) | VSWR<br>RF Port<br>(:1) | VSWR<br>LO Port<br>(:1) |
|--------------------|--------|----------------------------|--------------------------|--------------------------|-------------------------|-------------------------|
| RF                 | LO     | LO<br>+7dBm                | LO<br>+7dBm              | LO<br>+7dBm              | LO<br>+7dBm             | LO<br>+7dBm             |
| 10.00              | 40.00  | 5.61                       | 77.62                    | 57.99                    | 1.56                    | 2.78                    |
| 20.00              | 50.00  | 5.49                       | 72.32                    | 52.25                    | 1.44                    | 2.84                    |
| 50.00              | 80.00  | 5.36                       | 66.36                    | 45.67                    | 1.39                    | 2.73                    |
| 53.24              | 83.24  | 5.37                       | 65.76                    | 45.21                    | 1.39                    | 2.69                    |
| 96.47              | 66.47  | 5.30                       | 60.66                    | 40.46                    | 1.39                    | 2.67                    |
| 100.00             | 70.00  | 5.32                       | 60.05                    | 40.13                    | 1.39                    | 2.68                    |
| 139.71             | 109.71 | 5.35                       | 57.13                    | 37.51                    | 1.40                    | 2.63                    |
| 182.94             | 152.94 | 5.31                       | 55.10                    | 35.92                    | 1.41                    | 2.57                    |
| 200.00             | 170.00 | 5.34                       | 54.43                    | 35.12                    | 1.42                    | 2.62                    |
| 226.18             | 196.18 | 5.30                       | 53.30                    | 34.24                    | 1.44                    | 2.69                    |
| 240.59             | 210.59 | 5.28                       | 52.81                    | 33.69                    | 1.45                    | 2.67                    |
| 250.00             | 220.00 | 5.29                       | 52.43                    | 33.48                    | 1.45                    | 2.65                    |
| 269.41             | 239.41 | 5.27                       | 51.67                    | 33.07                    | 1.46                    | 2.60                    |
| 312.65             | 282.65 | 5.22                       | 50.11                    | 31.62                    | 1.51                    | 2.64                    |
| 355.88             | 325.88 | 5.17                       | 48.93                    | 30.30                    | 1.55                    | 2.70                    |
| 399.12             | 369.12 | 5.12                       | 47.95                    | 29.10                    | 1.60                    | 2.68                    |
| 442.35             | 412.35 | 5.02                       | 46.61                    | 27.98                    | 1.66                    | 2.71                    |
| 471.18             | 441.18 | 4.99                       | 46.28                    | 27.35                    | 1.70                    | 2.75                    |
| 485.59             | 455.59 | 4.94                       | 46.20                    | 27.50                    | 1.72                    | 2.77                    |
| 500.00             | 470.00 | 4.93                       | 45.76                    | 26.91                    | 1.73                    | 2.77                    |

#### Electrical Schematic



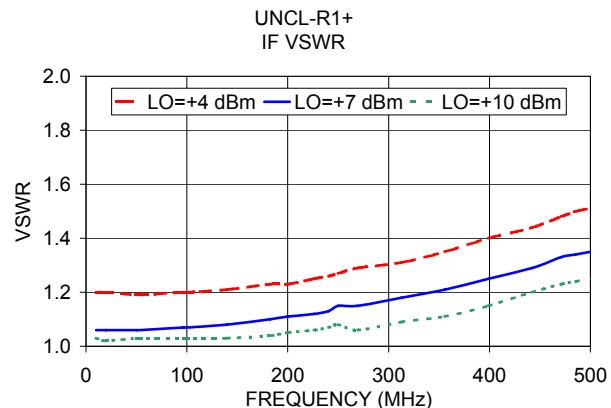
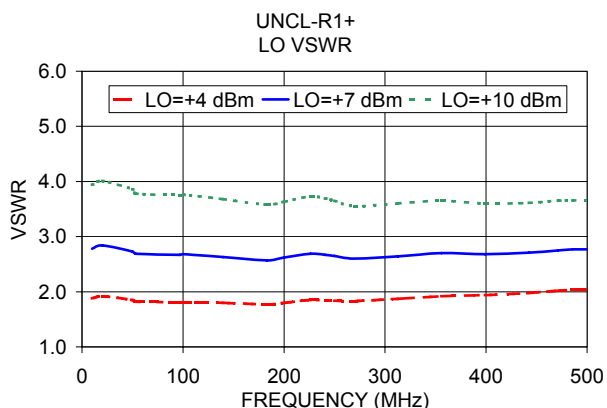
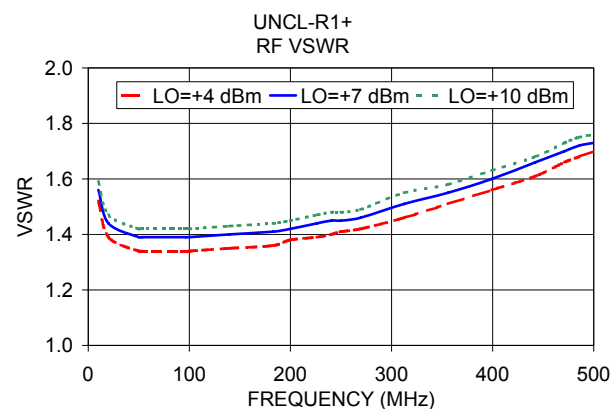
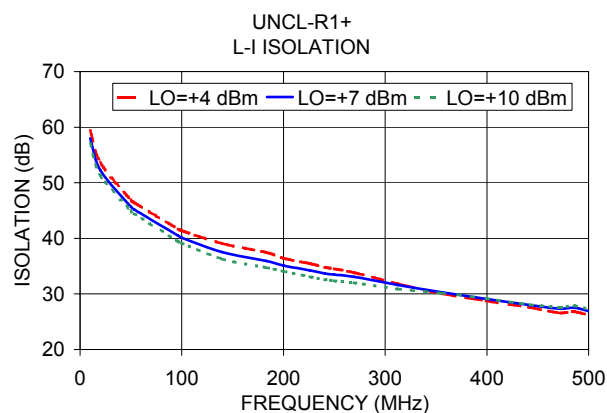
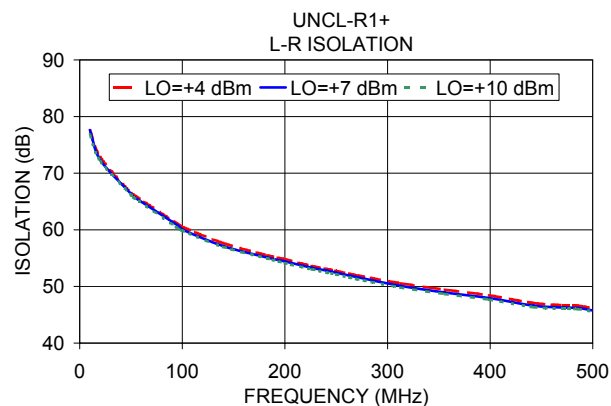
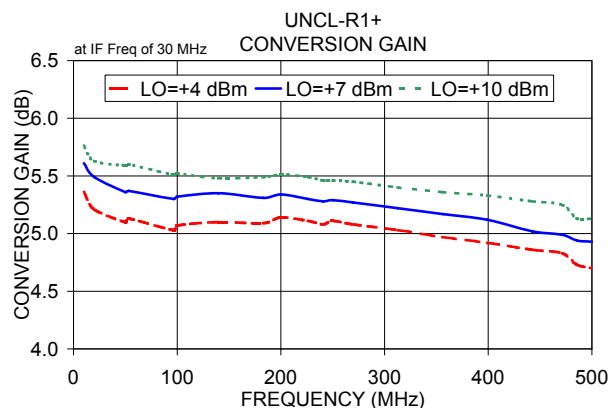
#### Notes

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