

# Engineering Development Model

DC PASS

## Power Splitter/Combiner

2 Way-0°

ZFSC-ED14147/1

### Important Note

This model has been designed, built and tested in our engineering department. Performance data represents model capability.

At present it is a non-catalog model. On request, we can supply a final specification sheet, part number and price/delivery information.

Please click "Back", and then click "Contact Us" for Applications support.



CASE STYLE : F14

| ELECTRICAL SPECIFICATIONS 50Ω @ +25°C |            |      |      |            |
|---------------------------------------|------------|------|------|------------|
| Parameter                             |            | Min. | Typ. | Max. Units |
| Frequency                             |            | 50   |      | 500 MHz    |
| Isolation                             | 50-500 MHz |      | 29   | dB         |
| Insertion loss above 3 dB             | 50-500 MHz |      | 0.65 | dB         |
| Phase Unbalance                       | 50-500 MHz |      | 0.65 | Deg        |
| Amplitude Unbalance                   | 50-500 MHz |      | 0.15 | dB         |
| VSWR                                  | SUM Port   |      | 1.05 | (:1)       |
|                                       | OUT Ports  |      | 1.06 | (:1)       |
| DC Voltage                            |            |      | 12   | (V)        |
| DC Current                            |            |      |      | 500 (mA)   |

| MAXIMUM RATINGS       |                |
|-----------------------|----------------|
| Operating Temperature | -40°C to 85°C  |
| Storage Temperature   | -55°C to 100°C |

| COAXIAL CONNECTIONS   |                |
|-----------------------|----------------|
| SUM PORT <sup>1</sup> | S (DC Passing) |
| PORT 1 <sup>1</sup>   | 1 (DC Passing) |
| PORT 2                | 2 (DC Blocked) |

<sup>1</sup>Pass DC from Port 1 to Port S

### Functional Diagram



# 2 Way-0° Power Splitter/Combiner

ZFSC-ED14147/1

## Typical Performance Data

| FREQ.<br><br>(MHz) | TOTAL LOSS <sup>1</sup> |      | AMP.<br>UNBAL.<br><br>(dB) | ISOLATION<br><br>(dB) | PHASE<br>UNBAL.<br><br>(Deg.) | FREQ.<br><br>(MHz) | VSWR |      |      |
|--------------------|-------------------------|------|----------------------------|-----------------------|-------------------------------|--------------------|------|------|------|
|                    | (dB)                    |      |                            |                       |                               |                    | (:1) |      |      |
|                    | S-1                     | S-2  |                            |                       |                               |                    | S    | 1    | 2    |
| 50.0               | 3.40                    | 3.55 | 0.15                       | 29.69                 | 1.20                          | 50.0               | 1.03 | 1.04 | 1.13 |
| 60.0               | 3.40                    | 3.55 | 0.14                       | 29.74                 | 0.92                          | 60.0               | 1.02 | 1.03 | 1.12 |
| 70.0               | 3.41                    | 3.55 | 0.14                       | 29.71                 | 0.70                          | 70.0               | 1.01 | 1.03 | 1.11 |
| 80.0               | 3.41                    | 3.55 | 0.14                       | 29.64                 | 0.52                          | 80.0               | 1.01 | 1.02 | 1.10 |
| 90.0               | 3.42                    | 3.56 | 0.14                       | 29.56                 | 0.36                          | 90.0               | 1.01 | 1.02 | 1.10 |
| 100.0              | 3.43                    | 3.57 | 0.14                       | 29.47                 | 0.20                          | 100.0              | 1.01 | 1.02 | 1.09 |
| 110.0              | 3.44                    | 3.58 | 0.14                       | 29.36                 | 0.06                          | 110.0              | 1.01 | 1.01 | 1.09 |
| 120.0              | 3.45                    | 3.59 | 0.14                       | 29.25                 | 0.05                          | 120.0              | 1.02 | 1.01 | 1.08 |
| 130.0              | 3.45                    | 3.59 | 0.14                       | 29.13                 | 0.16                          | 130.0              | 1.02 | 1.01 | 1.07 |
| 140.0              | 3.45                    | 3.60 | 0.14                       | 29.00                 | 0.25                          | 140.0              | 1.03 | 1.01 | 1.07 |
| 150.0              | 3.46                    | 3.60 | 0.14                       | 28.89                 | 0.35                          | 150.0              | 1.03 | 1.01 | 1.06 |
| 160.0              | 3.46                    | 3.61 | 0.15                       | 28.80                 | 0.44                          | 160.0              | 1.03 | 1.01 | 1.06 |
| 170.0              | 3.46                    | 3.62 | 0.15                       | 28.75                 | 0.53                          | 170.0              | 1.04 | 1.02 | 1.05 |
| 180.0              | 3.46                    | 3.62 | 0.16                       | 28.74                 | 0.60                          | 180.0              | 1.04 | 1.02 | 1.05 |
| 190.0              | 3.46                    | 3.62 | 0.17                       | 28.77                 | 0.64                          | 190.0              | 1.05 | 1.02 | 1.04 |
| 200.0              | 3.45                    | 3.63 | 0.17                       | 28.85                 | 0.65                          | 200.0              | 1.05 | 1.03 | 1.04 |
| 210.0              | 3.45                    | 3.63 | 0.18                       | 28.97                 | 0.67                          | 210.0              | 1.06 | 1.03 | 1.04 |
| 220.0              | 3.46                    | 3.64 | 0.18                       | 29.14                 | 0.70                          | 220.0              | 1.06 | 1.04 | 1.03 |
| 230.0              | 3.47                    | 3.65 | 0.18                       | 29.35                 | 0.74                          | 230.0              | 1.06 | 1.04 | 1.03 |
| 240.0              | 3.47                    | 3.66 | 0.18                       | 29.59                 | 0.75                          | 240.0              | 1.07 | 1.04 | 1.03 |
| 250.0              | 3.48                    | 3.67 | 0.19                       | 29.81                 | 0.73                          | 250.0              | 1.07 | 1.05 | 1.03 |
| 300.0              | 3.59                    | 3.75 | 0.16                       | 30.49                 | 0.76                          | 300.0              | 1.08 | 1.06 | 1.04 |
| 350.0              | 3.73                    | 3.84 | 0.11                       | 30.02                 | 0.87                          | 350.0              | 1.09 | 1.08 | 1.06 |
| 400.0              | 3.86                    | 3.95 | 0.08                       | 29.12                 | 1.05                          | 400.0              | 1.11 | 1.10 | 1.10 |
| 500.0              | 4.16                    | 4.17 | 0.01                       | 27.13                 | 1.54                          | 500.0              | 1.18 | 1.16 | 1.20 |

<sup>1</sup>Total Loss = Insertion Loss + 3dB Splitter Loss



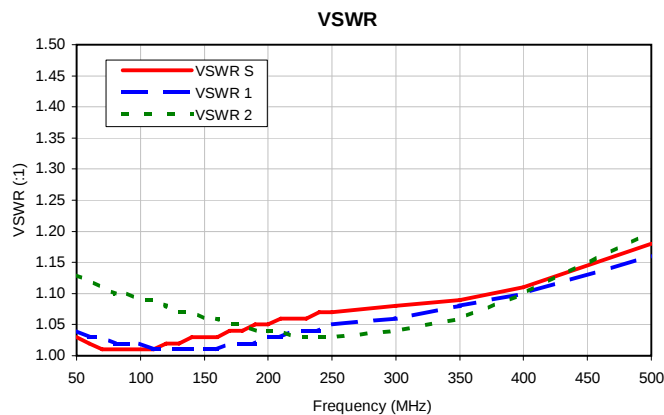
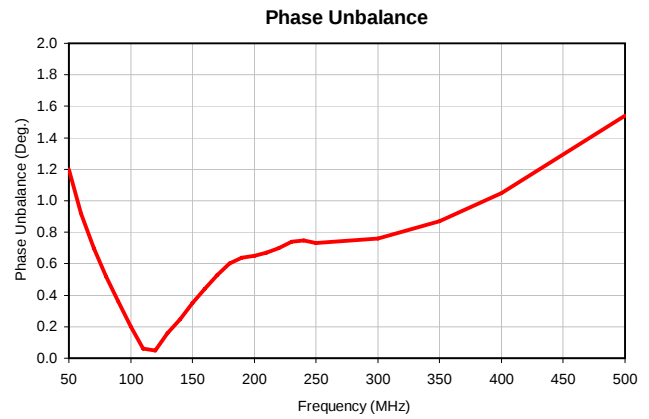
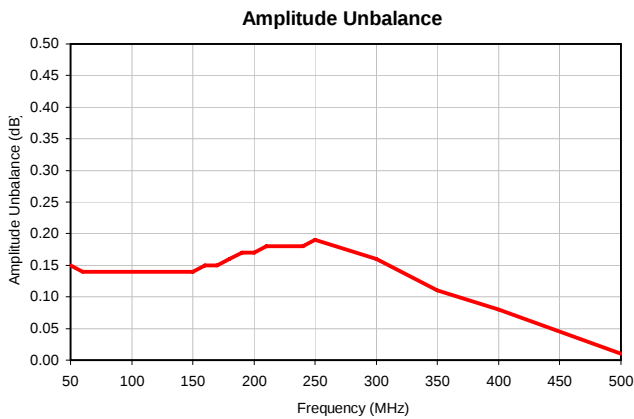
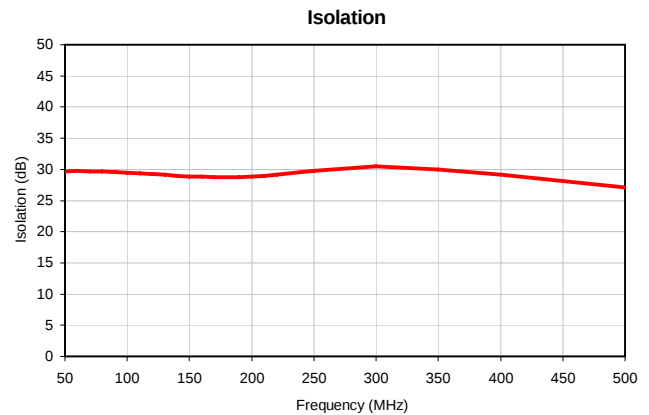
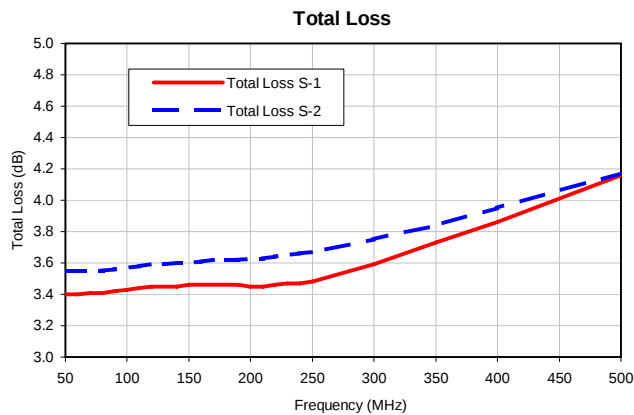
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 • Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site  
 The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: [www.minicircuits.com](http://www.minicircuits.com)



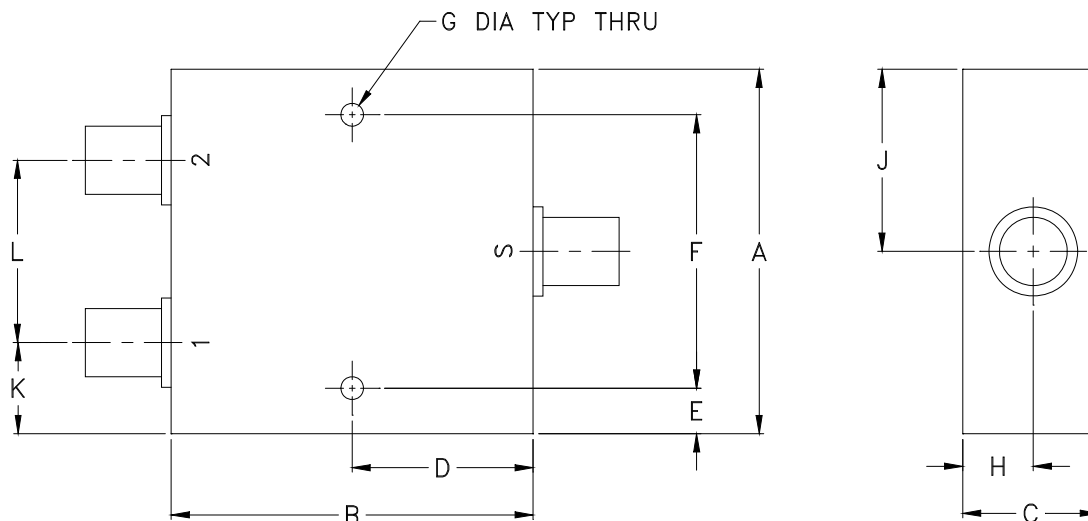
REV. X1  
 ZFSC-ED14147/1  
 8/12/2010  
 Page 1 of 1

IF/RF MICROWAVE COMPONENTS

## Typical Performance Curves



## Outline Dimensions



| CASE # | A               | B               | C              | D               | E             | F                | G              | H             | J               | K              | L               | WT. GRAM |
|--------|-----------------|-----------------|----------------|-----------------|---------------|------------------|----------------|---------------|-----------------|----------------|-----------------|----------|
| F14    | 2.00<br>(50.80) | 2.00<br>(50.80) | .75<br>(19.05) | 1.00<br>(25.40) | .25<br>(6.35) | 1.500<br>(38.10) | .125<br>(3.18) | .39<br>(9.91) | 1.00<br>(25.40) | .50<br>(12.70) | 1.00<br>(25.40) | 170.0    |

Dimensions are in inches (mm). Tolerances: 2Pl.  $\pm .03$ ; 3Pl.  $\pm .015$

### Notes:

- Case material: Aluminum alloy.
- Case finish:  
For RoHS Case Styles: Clear chemical conversion coating, non-chrome or trivalent chrome based.
- Refer to the individual model data sheet for the type of connectors available.



INTERNET <http://www.minicircuits.com>

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010

Mini-Circuits ISO 9001 & ISO 14001 Certified



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                                                                           | Individual Model Data Sheet          |
| Storage Temperature        | -55° to 100° C<br>Ambient Environment                                                  | Individual Model Data Sheet          |
| Barometric Pressure        | 100,000 Feet                                                                           | MIL-STD-202, Method 105, Condition D |
| Humidity                   | 90% RH, 65°C<br>Units may require bake-out after humidity to restore full performance. | MIL-STD-202, Method 103              |
| Thermal Shock              | -65° to 125°C, 5 cycles                                                                | MIL-STD-202, Method 107, Condition B |
| Vibration (High Frequency) | 20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)    | MIL-STD-202, Method 204, Condition D |
| Mechanical Shock           | 100g, 6ms sawtooth, 3 shocks each direction 3 axes (total 18)                          | MIL-STD-202, Method 213, Condition I |