

## Power Splitter/Combiner

## ZFSC-ED13332

### 2 Way-0°

#### 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.



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CASE STYLE : 99-01-1349

| ELECTRICAL SPECIFICATIONS 50Ω @ +25°C |                |      |      |            |
|---------------------------------------|----------------|------|------|------------|
| Parameter                             |                | Min. | Typ. | Max. Units |
| Frequency                             |                | 300  |      | 6000 MHz   |
| Isolation                             | 300 - 6000 MHz |      | 26   | dB         |
| Insertion loss above 3 dB             | 300 - 6000 MHz |      | 0.35 | dB         |
| Phase Unbalance                       | 300 - 6000 MHz |      | 0.65 | Deg        |
| Amplitude Unbalance                   | 300 - 6000 MHz |      | 0.05 | dB         |
| VSWR                                  | SUM Port       |      | 1.20 | (:1)       |
|                                       | OUT Ports      |      | 1.15 | (:1)       |

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

| COAXIAL CONNECTIONS |   |
|---------------------|---|
| SUM PORT            | S |
| PORT 1              | 1 |
| PORT 2              | 2 |

#### Functional Diagram



# 2 Way-0° Power Splitter/Combiner

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## Typical Performance Data

| FREQ.<br>(MHz) | TOTAL LOSS <sup>1</sup><br>(dB) |      | AMP.<br>UNBAL.<br>(dB) | ISOLATION<br>(dB) | PHASE<br>UNBAL.<br>(Deg.) | FREQ.<br>(MHz) | VSWR<br>(:1) |      |      |
|----------------|---------------------------------|------|------------------------|-------------------|---------------------------|----------------|--------------|------|------|
|                | S-1                             | S-2  |                        |                   |                           |                | S            | 1    | 2    |
| 300.0          | 3.28                            | 3.27 | 0.01                   | 14.58             | 0.18                      | 300.0          | 1.53         | 1.06 | 1.07 |
| 400.0          | 3.17                            | 3.16 | 0.01                   | 20.75             | 0.13                      | 400.0          | 1.32         | 1.10 | 1.11 |
| 500.0          | 3.12                            | 3.12 | 0.00                   | 39.01             | 0.15                      | 500.0          | 1.15         | 1.12 | 1.13 |
| 600.0          | 3.12                            | 3.11 | 0.00                   | 26.12             | 0.14                      | 600.0          | 1.06         | 1.10 | 1.10 |
| 700.0          | 3.14                            | 3.13 | 0.01                   | 21.54             | 0.08                      | 700.0          | 1.11         | 1.06 | 1.05 |
| 800.0          | 3.15                            | 3.15 | 0.00                   | 20.82             | 0.11                      | 800.0          | 1.15         | 1.07 | 1.07 |
| 900.0          | 3.15                            | 3.16 | 0.01                   | 23.01             | 0.14                      | 900.0          | 1.17         | 1.13 | 1.13 |
| 1000.0         | 3.14                            | 3.15 | 0.01                   | 29.24             | 0.15                      | 1000.0         | 1.15         | 1.17 | 1.16 |
| 1100.0         | 3.14                            | 3.14 | 0.00                   | 29.16             | 0.09                      | 1100.0         | 1.09         | 1.16 | 1.15 |
| 1200.0         | 3.16                            | 3.16 | 0.00                   | 23.07             | 0.07                      | 1200.0         | 1.12         | 1.11 | 1.10 |
| 1300.0         | 3.19                            | 3.19 | 0.01                   | 20.42             | 0.17                      | 1300.0         | 1.21         | 1.04 | 1.03 |
| 1400.0         | 3.20                            | 3.22 | 0.02                   | 20.16             | 0.18                      | 1400.0         | 1.24         | 1.03 | 1.03 |
| 1500.0         | 3.17                            | 3.21 | 0.04                   | 22.19             | 0.16                      | 1500.0         | 1.21         | 1.08 | 1.08 |
| 1600.0         | 3.16                            | 3.20 | 0.04                   | 28.48             | 0.06                      | 1600.0         | 1.14         | 1.11 | 1.11 |
| 1700.0         | 3.19                            | 3.22 | 0.02                   | 40.14             | 0.10                      | 1700.0         | 1.13         | 1.12 | 1.12 |
| 1800.0         | 3.21                            | 3.24 | 0.03                   | 25.95             | 0.02                      | 1800.0         | 1.21         | 1.12 | 1.12 |
| 1900.0         | 3.27                            | 3.30 | 0.03                   | 21.95             | 0.03                      | 1900.0         | 1.28         | 1.10 | 1.11 |
| 2000.0         | 3.27                            | 3.30 | 0.03                   | 21.13             | 0.08                      | 2000.0         | 1.28         | 1.06 | 1.07 |
| 2100.0         | 3.25                            | 3.27 | 0.03                   | 22.68             | 0.08                      | 2100.0         | 1.19         | 1.02 | 1.01 |
| 2200.0         | 3.23                            | 3.24 | 0.02                   | 26.56             | 0.17                      | 2200.0         | 1.04         | 1.07 | 1.07 |
| 2300.0         | 3.24                            | 3.24 | 0.01                   | 27.25             | 0.30                      | 2300.0         | 1.10         | 1.12 | 1.13 |
| 2400.0         | 3.29                            | 3.29 | 0.01                   | 23.51             | 0.32                      | 2400.0         | 1.17         | 1.13 | 1.14 |
| 2500.0         | 3.28                            | 3.29 | 0.01                   | 21.04             | 0.40                      | 2500.0         | 1.15         | 1.09 | 1.11 |
| 2600.0         | 3.28                            | 3.29 | 0.01                   | 20.56             | 0.43                      | 2600.0         | 1.10         | 1.08 | 1.09 |
| 2700.0         | 3.28                            | 3.31 | 0.02                   | 22.15             | 0.57                      | 2700.0         | 1.16         | 1.17 | 1.18 |
| 2800.0         | 3.33                            | 3.35 | 0.02                   | 26.67             | 0.56                      | 2800.0         | 1.29         | 1.27 | 1.28 |
| 2900.0         | 3.38                            | 3.39 | 0.01                   | 42.72             | 0.41                      | 2900.0         | 1.36         | 1.32 | 1.34 |
| 3000.0         | 3.38                            | 3.40 | 0.01                   | 31.58             | 0.35                      | 3000.0         | 1.34         | 1.30 | 1.32 |
| 3100.0         | 3.35                            | 3.37 | 0.02                   | 26.38             | 0.37                      | 3100.0         | 1.22         | 1.23 | 1.25 |
| 3200.0         | 3.33                            | 3.35 | 0.02                   | 25.48             | 0.56                      | 3200.0         | 1.09         | 1.17 | 1.20 |
| 3300.0         | 3.33                            | 3.36 | 0.04                   | 27.00             | 0.76                      | 3300.0         | 1.10         | 1.18 | 1.21 |
| 3400.0         | 3.35                            | 3.38 | 0.04                   | 31.31             | 0.94                      | 3400.0         | 1.19         | 1.21 | 1.25 |
| 3500.0         | 3.35                            | 3.38 | 0.03                   | 30.97             | 0.84                      | 3500.0         | 1.20         | 1.20 | 1.24 |
| 3600.0         | 3.34                            | 3.37 | 0.03                   | 26.73             | 0.74                      | 3600.0         | 1.13         | 1.15 | 1.18 |
| 3700.0         | 3.35                            | 3.37 | 0.03                   | 24.90             | 0.78                      | 3700.0         | 1.07         | 1.08 | 1.12 |
| 3800.0         | 3.37                            | 3.39 | 0.03                   | 24.32             | 0.90                      | 3800.0         | 1.11         | 1.03 | 1.08 |
| 3900.0         | 3.37                            | 3.41 | 0.04                   | 25.64             | 0.99                      | 3900.0         | 1.14         | 1.03 | 1.09 |
| 4000.0         | 3.37                            | 3.40 | 0.03                   | 28.08             | 1.12                      | 4000.0         | 1.13         | 1.02 | 1.08 |
| 4100.0         | 3.38                            | 3.40 | 0.03                   | 30.48             | 1.16                      | 4100.0         | 1.09         | 1.01 | 1.05 |
| 4200.0         | 3.40                            | 3.42 | 0.03                   | 32.79             | 1.06                      | 4200.0         | 1.04         | 1.03 | 1.04 |
| 4300.0         | 3.41                            | 3.43 | 0.02                   | 37.20             | 1.03                      | 4300.0         | 1.10         | 1.06 | 1.02 |
| 4400.0         | 3.40                            | 3.43 | 0.03                   | 33.92             | 0.92                      | 4400.0         | 1.14         | 1.09 | 1.02 |
| 4500.0         | 3.43                            | 3.46 | 0.04                   | 29.97             | 1.03                      | 4500.0         | 1.22         | 1.12 | 1.05 |
| 4600.0         | 3.44                            | 3.47 | 0.04                   | 28.23             | 1.11                      | 4600.0         | 1.23         | 1.13 | 1.07 |
| 4700.0         | 3.42                            | 3.45 | 0.03                   | 28.75             | 1.09                      | 4700.0         | 1.15         | 1.11 | 1.07 |
| 4800.0         | 3.42                            | 3.46 | 0.04                   | 33.55             | 1.04                      | 4800.0         | 1.08         | 1.06 | 1.03 |
| 4900.0         | 3.48                            | 3.52 | 0.04                   | 33.97             | 1.04                      | 4900.0         | 1.17         | 1.11 | 1.05 |
| 5000.0         | 3.57                            | 3.60 | 0.03                   | 25.06             | 1.04                      | 5000.0         | 1.34         | 1.21 | 1.14 |
| 5100.0         | 3.64                            | 3.67 | 0.03                   | 21.73             | 0.98                      | 5100.0         | 1.47         | 1.26 | 1.18 |
| 5200.0         | 3.60                            | 3.62 | 0.02                   | 20.50             | 1.03                      | 5200.0         | 1.44         | 1.24 | 1.17 |
| 5300.0         | 3.51                            | 3.55 | 0.04                   | 21.69             | 1.14                      | 5300.0         | 1.25         | 1.14 | 1.10 |
| 5400.0         | 3.46                            | 3.51 | 0.05                   | 27.20             | 1.30                      | 5400.0         | 1.04         | 1.04 | 1.01 |
| 5500.0         | 3.48                            | 3.55 | 0.06                   | 38.00             | 1.23                      | 5500.0         | 1.16         | 1.10 | 1.09 |
| 5600.0         | 3.57                            | 3.63 | 0.06                   | 22.53             | 1.26                      | 5600.0         | 1.37         | 1.15 | 1.13 |
| 5700.0         | 3.59                            | 3.67 | 0.08                   | 18.22             | 1.42                      | 5700.0         | 1.40         | 1.10 | 1.08 |
| 5800.0         | 3.54                            | 3.63 | 0.09                   | 16.74             | 1.68                      | 5800.0         | 1.30         | 1.02 | 1.04 |
| 5900.0         | 3.51                            | 3.64 | 0.13                   | 16.76             | 1.66                      | 5900.0         | 1.09         | 1.17 | 1.18 |
| 6000.0         | 3.47                            | 3.58 | 0.12                   | 16.39             | 1.64                      | 6000.0         | 1.10         | 1.32 | 1.32 |

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

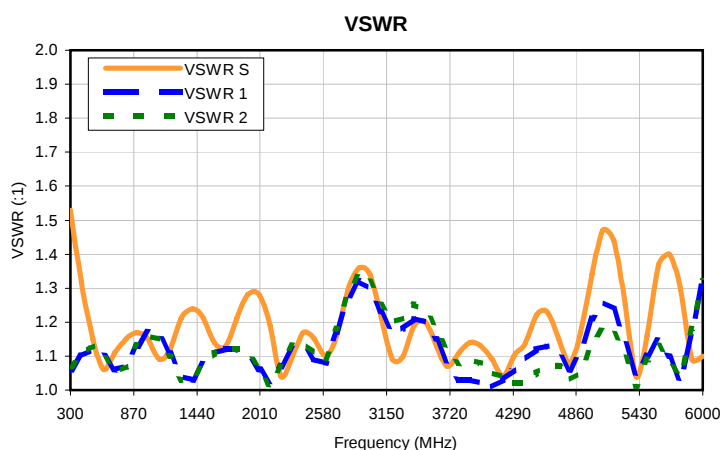
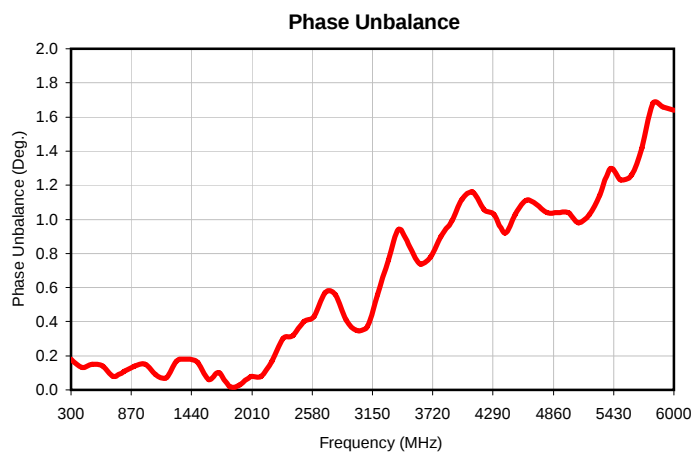
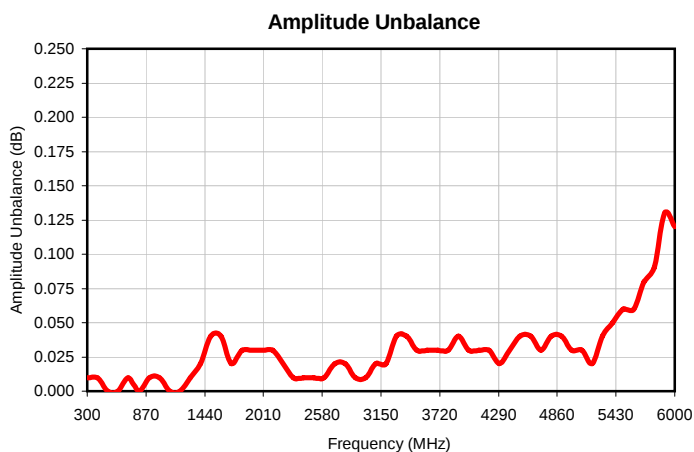
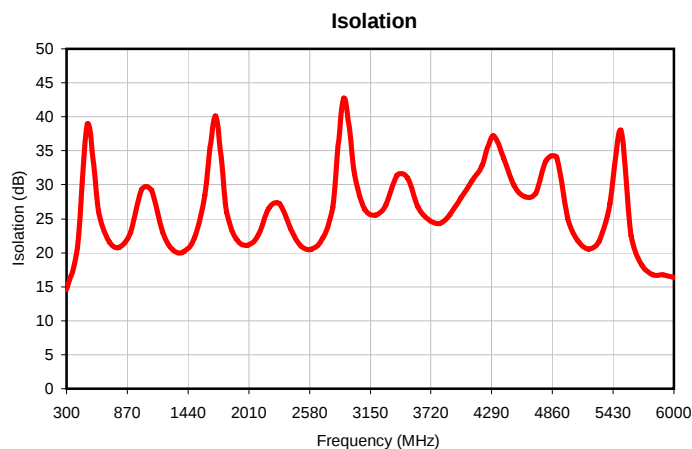
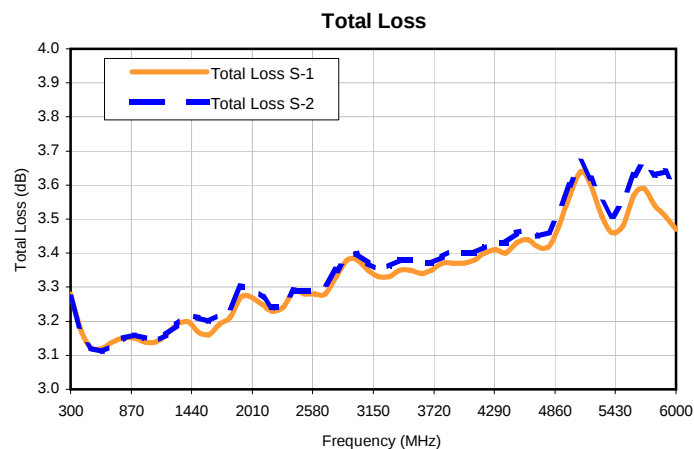


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IF/RF MICROWAVE COMPONENTS

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## Typical Performance Curves





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      | -55° to 100°C<br>Ambient Environment                                                   | 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 |