*Engineering Development Model*

# Power Splitter/Combiner Z99SC-ED11580

2 Way-0°

**CASE STYLE : 99-01-1062**

### 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.

| ELECTRICAL SPECIFICATIONS 50Ω @ +25°C | | | | | |
|---|---|---|---|---|---|
| **Parameter** | | **Min.** | **Typ.** | **Max.** | **Units** |
| **Frequency** | | 0.3 | | 85 | MHz |
| **Isolation** | **0.3 - 3 MHz** | | 31 | | dB |
| | **3 - 42.5 MHz** | | 41 | | dB |
| | **42.5 - 85 MHz** | | 32 | | dB |
| **Insertion Loss Above 3.0 dB *** | **0.3 - 3 MHz** | | 6.74 | | dB |
| | **3 - 42.5 MHz** | | 6.72 | | dB |
| | **42.5 - 85 MHz** | | 6.78 | | dB |
| **Phase Unbalance** | **0.3 - 3 MHz** | | 0.033 | | deg. |
| | **3 - 42.5 MHz** | | 0.075 | | deg. |
| | **42.5 - 85 MHz** | | 0.086 | | deg. |
| **VSWR** | **SUM Port** | | 1.03 | | (:1) |
| | **OUT Ports** | | 1.08 | | (:1) |

**Note:** * Insertion Loss includes 6.5dB three resistor attenuator

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

| PIN CONNECTIONS | |
|---|---|
| **SUM PORT** | S |
| **PORT 1** | 1 |
| **PORT 2** | 2 |

## Functional Diagram

# 2 Way-0° Power Splitter/Combiner Z99SC-ED11580

*Typical Performance Data*

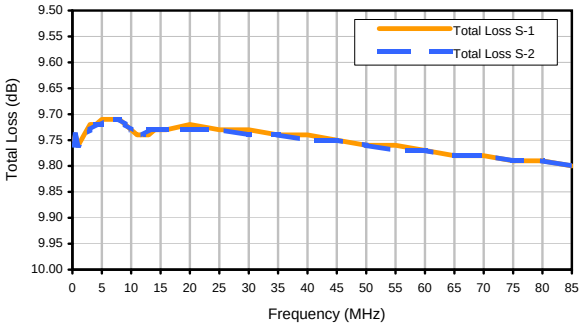
| FREQ. (MHz) | TOTAL LOSS[1] (dB) S-1 | TOTAL LOSS[1] (dB) S-2 | AMP. UNBAL. (dB) | ISOLATION (dB) 1-2 | PHASE UNBAL. (deg.) | FREQ. (MHz) | VSWR (:1) S | VSWR (:1) 1 | VSWR (:1) 2 |
|---|---|---|---|---|---|---|---|---|---|
| 0.3 | 9.75 | 9.76 | 0.01 | 23.25 | 0.04 | 0.3 | 1.05 | 1.37 | 1.37 |
| 0.5 | 9.74 | 9.74 | 0.00 | 27.17 | 0.05 | 0.5 | 1.04 | 1.23 | 1.23 |
| 1.0 | 9.76 | 9.76 | 0.00 | 31.57 | 0.01 | 1.0 | 1.03 | 1.14 | 1.14 |
| 2.0 | 9.74 | 9.74 | 0.00 | 35.20 | 0.00 | 2.0 | 1.03 | 1.10 | 1.10 |
| 3.0 | 9.72 | 9.73 | 0.01 | 37.62 | 0.00 | 3.0 | 1.03 | 1.09 | 1.09 |
| 4.0 | 9.72 | 9.72 | 0.00 | 39.44 | 0.00 | 4.0 | 1.03 | 1.08 | 1.08 |
| 5.0 | 9.71 | 9.72 | 0.01 | 40.86 | 0.00 | 5.0 | 1.03 | 1.07 | 1.07 |
| 6.0 | 9.71 | 9.71 | 0.00 | 41.78 | 0.01 | 6.0 | 1.03 | 1.07 | 1.07 |
| 7.0 | 9.71 | 9.71 | 0.00 | 42.41 | 0.00 | 7.0 | 1.03 | 1.06 | 1.06 |
| 8.0 | 9.71 | 9.71 | 0.00 | 42.77 | 0.01 | 8.0 | 1.03 | 1.06 | 1.06 |
| 9.0 | 9.72 | 9.72 | 0.00 | 42.92 | 0.03 | 9.0 | 1.03 | 1.06 | 1.06 |
| 10.0 | 9.73 | 9.73 | 0.00 | 42.92 | 0.05 | 10.0 | 1.03 | 1.06 | 1.06 |
| 11.0 | 9.74 | 9.74 | 0.00 | 42.85 | 0.09 | 11.0 | 1.03 | 1.06 | 1.06 |
| 12.0 | 9.74 | 9.74 | 0.00 | 42.66 | 0.10 | 12.0 | 1.03 | 1.06 | 1.06 |
| 13.0 | 9.74 | 9.73 | 0.01 | 42.41 | 0.10 | 13.0 | 1.03 | 1.06 | 1.06 |
| 14.0 | 9.73 | 9.73 | 0.00 | 42.13 | 0.10 | 14.0 | 1.03 | 1.06 | 1.06 |
| 15.0 | 9.73 | 9.73 | 0.00 | 41.85 | 0.09 | 15.0 | 1.03 | 1.06 | 1.06 |
| 15.1 | 9.73 | 9.73 | 0.00 | 41.80 | 0.09 | 15.1 | 1.03 | 1.06 | 1.06 |
| 15.2 | 9.73 | 9.73 | 0.00 | 41.79 | 0.09 | 15.2 | 1.03 | 1.06 | 1.06 |
| 15.3 | 9.73 | 9.73 | 0.00 | 41.73 | 0.08 | 15.3 | 1.03 | 1.06 | 1.06 |
| 15.4 | 9.73 | 9.73 | 0.00 | 41.72 | 0.09 | 15.4 | 1.03 | 1.06 | 1.06 |
| 15.5 | 9.73 | 9.73 | 0.00 | 41.69 | 0.09 | 15.5 | 1.03 | 1.06 | 1.06 |
| 15.6 | 9.73 | 9.73 | 0.00 | 41.68 | 0.09 | 15.6 | 1.03 | 1.06 | 1.06 |
| 15.7 | 9.73 | 9.73 | 0.00 | 41.63 | 0.08 | 15.7 | 1.03 | 1.06 | 1.06 |
| 15.8 | 9.73 | 9.73 | 0.00 | 41.60 | 0.08 | 15.8 | 1.03 | 1.06 | 1.06 |
| 15.9 | 9.73 | 9.73 | 0.00 | 41.56 | 0.08 | 15.9 | 1.03 | 1.06 | 1.06 |
| 16.0 | 9.73 | 9.73 | 0.00 | 41.54 | 0.08 | 16.0 | 1.03 | 1.06 | 1.06 |
| 20.0 | 9.72 | 9.73 | 0.01 | 40.31 | 0.07 | 20.0 | 1.03 | 1.06 | 1.06 |
| 25.0 | 9.73 | 9.73 | 0.00 | 38.89 | 0.07 | 25.0 | 1.03 | 1.06 | 1.06 |
| 30.0 | 9.73 | 9.74 | 0.01 | 37.67 | 0.07 | 30.0 | 1.03 | 1.06 | 1.06 |
| 35.0 | 9.74 | 9.74 | 0.00 | 36.59 | 0.08 | 35.0 | 1.03 | 1.06 | 1.06 |
| 40.0 | 9.74 | 9.75 | 0.01 | 35.65 | 0.09 | 40.0 | 1.03 | 1.06 | 1.06 |
| 45.0 | 9.75 | 9.75 | 0.00 | 34.83 | 0.08 | 45.0 | 1.02 | 1.06 | 1.06 |
| 50.0 | 9.76 | 9.76 | 0.00 | 34.07 | 0.07 | 50.0 | 1.02 | 1.06 | 1.06 |
| 55.0 | 9.76 | 9.77 | 0.01 | 33.36 | 0.08 | 55.0 | 1.02 | 1.06 | 1.06 |
| 60.0 | 9.77 | 9.77 | 0.00 | 32.73 | 0.08 | 60.0 | 1.02 | 1.06 | 1.06 |
| 65.0 | 9.78 | 9.78 | 0.00 | 32.14 | 0.08 | 65.0 | 1.02 | 1.06 | 1.06 |
| 70.0 | 9.78 | 9.78 | 0.00 | 31.60 | 0.09 | 70.0 | 1.02 | 1.06 | 1.06 |
| 75.0 | 9.79 | 9.79 | 0.00 | 31.09 | 0.09 | 75.0 | 1.03 | 1.06 | 1.06 |
| 80.0 | 9.79 | 9.79 | 0.00 | 30.60 | 0.10 | 80.0 | 1.03 | 1.06 | 1.06 |
| 85.0 | 9.80 | 9.80 | 0.00 | 30.14 | 0.10 | 85.0 | 1.03 | 1.06 | 1.06 |

[1]Total Loss = Insertion Loss + 3dB Splitter Loss

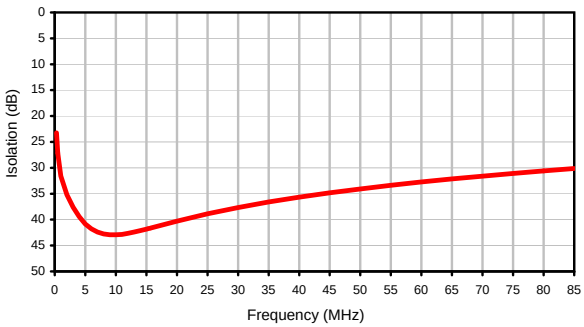
# 2 Way-0° Power Splitter/Combiner Z99SC-ED11580

*Typical Performance Curves*

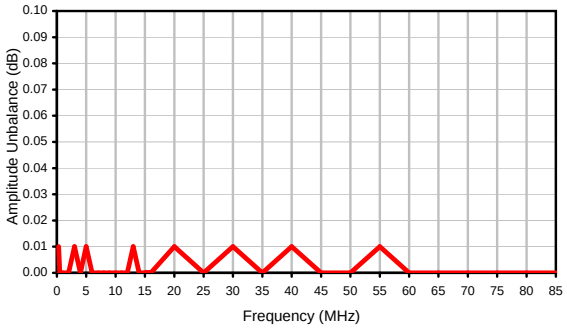
**Total Loss**



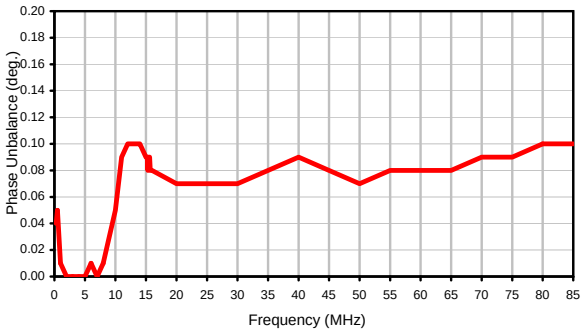

**Isolation**



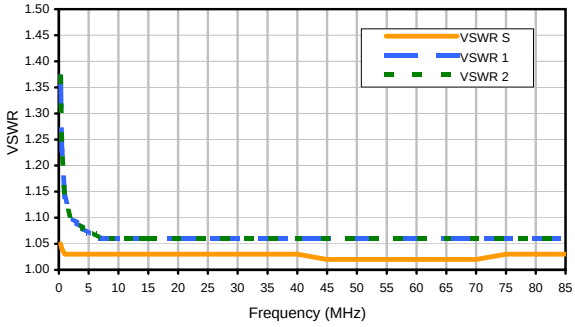

**Amplitude Unbalance**




**Phase Unbalance**




**VSWR**



Mini-Circuits

# Environmental Specifications ENV28

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 |