

# SMA Connectorized Power Splitter/Combiner

## ZX10Q-2-13-S+

2 Way-90° 50Ω 675 to 1300 MHz

### Maximum Ratings

|                                                                                                              |                |
|--------------------------------------------------------------------------------------------------------------|----------------|
| Operating Temperature                                                                                        | -40°C to 85°C  |
| Storage Temperature                                                                                          | -55°C to 100°C |
| Power Input (as a splitter)                                                                                  | 15W* max.      |
| * Derate linearly to 7W at 100°C ambient.<br>Permanent damage may occur if any of these limits are exceeded. |                |

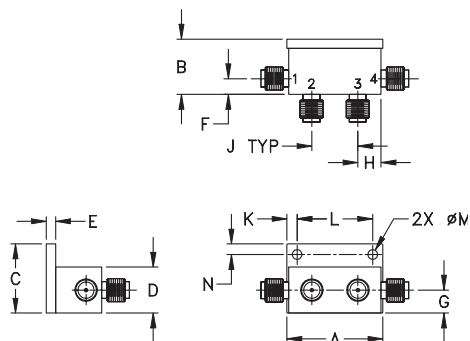
### Coaxial Connections

|                        |   |
|------------------------|---|
| INPUT PORT             | 1 |
| PORT 1 (+90°)          | 2 |
| PORT 2 (0°)            | 3 |
| 50 OHM TERM EXTERNAL** | 4 |



\*\* Recommended external termination  
Mini-Circuits Part. No. ANNE-50L

### Outline Drawing



### Outline Dimensions (inch mm)

| A     | B     | C     | D     | E    | F    | G     |
|-------|-------|-------|-------|------|------|-------|
| 1.04  | .60   | .75   | .50   | .10  | .17  | .25   |
| 26.42 | 15.24 | 19.05 | 12.70 | 2.54 | 4.32 | 6.35  |
| H     | J     | K     | L     | M    | N    | wt.   |
| .25   | .50   | .11   | .820  | .106 | .12  | grams |
| 6.35  | 12.70 | 2.79  | 20.83 | 2.69 | 3.05 | 21.0  |

### Features

- low insertion loss, 0.4 dB typ.
- very good phase unbalance
- small size
- low cost
- protected by U.S Patent 6,790,049

### Applications

- balanced amplifiers
- modulators
- GSM
- defense communication
- WiMax 700
- GPS civilian

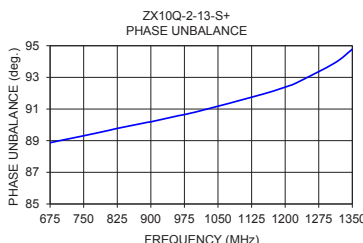
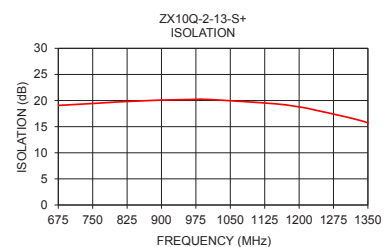
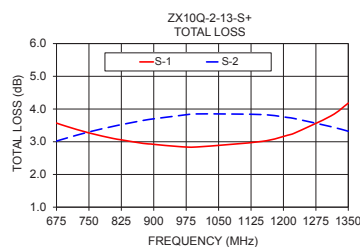
### Electrical Specifications (T<sub>AMB</sub>=25°C)

| FREQ.<br>RANGE<br>(MHz) | ISOLATION<br>(dB) |      | INSERTION LOSS (dB)<br>Avg. of Coupled Outputs<br>ABOVE 3 dB |      | PHASE<br>UNBALANCE<br>(Degrees) |      | AMPLITUDE<br>UNBALANCE<br>(dB) |      |
|-------------------------|-------------------|------|--------------------------------------------------------------|------|---------------------------------|------|--------------------------------|------|
|                         | Typ.              | Min. | Typ.                                                         | Max. | Typ.                            | Max. | Typ.                           | Max. |
| 675-1300                | 20                | 13   | 0.4                                                          | 0.9  | 1.0                             | 8.0  | 1.0                            | 1.3  |
| 675-820                 | 19                | 15   | 0.3                                                          | 0.5  | 1.0                             | 4.0  | 0.7                            | 1.0  |
| 820-900                 | 19                | 16   | 0.3                                                          | 0.5  | 0.5                             | 3.0  | 0.6                            | 1.0  |
| 900-1000                | 19                | 16   | 0.4                                                          | 0.6  | 1.0                             | 3.0  | 0.8                            | 1.2  |
| 1000-1200               | 17                | 14   | 0.4                                                          | 0.6  | 3.0                             | 5.0  | 0.8                            | 1.2  |
| 1200-1300               | 15                | 13   | 0.5                                                          | 0.8  | 5.0                             | 7.0  | 0.5                            | 0.9  |

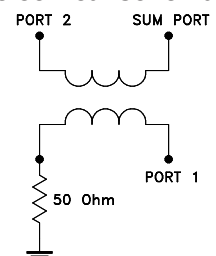
### Typical Performance Data

| Frequency<br>(MHz) | Total Loss <sup>1</sup><br>(dB) |      | Amplitude<br>Unbalance<br>(dB) | Isolation<br>(dB) | Phase<br>Unbalance<br>(deg.) | VSWR<br>S | VSWR<br>1 | VSWR<br>2 |
|--------------------|---------------------------------|------|--------------------------------|-------------------|------------------------------|-----------|-----------|-----------|
|                    | S-1                             | S-2  |                                |                   |                              |           |           |           |
| 675.00             | 3.57                            | 3.02 | 0.55                           | 19.07             | 88.87                        | 1.27      | 1.22      | 1.26      |
| 698.00             | 3.47                            | 3.11 | 0.36                           | 19.18             | 89.01                        | 1.27      | 1.21      | 1.26      |
| 750.00             | 3.27                            | 3.30 | 0.02                           | 19.44             | 89.31                        | 1.26      | 1.18      | 1.24      |
| 806.00             | 3.10                            | 3.47 | 0.37                           | 19.74             | 89.65                        | 1.25      | 1.15      | 1.22      |
| 824.00             | 3.06                            | 3.52 | 0.46                           | 19.81             | 89.77                        | 1.25      | 1.15      | 1.22      |
| 875.00             | 2.95                            | 3.65 | 0.69                           | 20.01             | 90.06                        | 1.25      | 1.13      | 1.21      |
| 894.00             | 2.93                            | 3.69 | 0.76                           | 20.08             | 90.17                        | 1.25      | 1.12      | 1.20      |
| 900.00             | 2.92                            | 3.70 | 0.78                           | 20.09             | 90.19                        | 1.25      | 1.12      | 1.20      |
| 960.00             | 2.85                            | 3.80 | 0.95                           | 20.20             | 90.57                        | 1.27      | 1.11      | 1.19      |
| 1000.00            | 2.84                            | 3.85 | 1.01                           | 20.22             | 90.81                        | 1.28      | 1.11      | 1.18      |
| 1150.00            | 3.01                            | 3.83 | 0.82                           | 19.36             | 91.94                        | 1.36      | 1.17      | 1.18      |
| 1210.00            | 3.20                            | 3.74 | 0.54                           | 18.64             | 92.48                        | 1.42      | 1.21      | 1.19      |
| 1225.00            | 3.26                            | 3.71 | 0.44                           | 18.37             | 92.65                        | 1.44      | 1.22      | 1.19      |
| 1310.00            | 3.79                            | 3.46 | 0.32                           | 16.71             | 93.90                        | 1.56      | 1.30      | 1.23      |

1. Total Loss = Insertion Loss + 3dB splitter loss.



### electrical schematic



### 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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