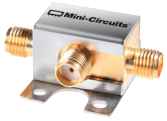
*Coaxial*

# Power Splitter/Combiner

## 2 Way-0° Resistive 50Ω DC to 10000 MHz

# ZX10R-14-S+



CASE STYLE: FL905

| Connectors | Model |
|---|---|
| **SMA** | ZX10R-14-S+ |

***+RoHS Compliant***

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

### Maximum Ratings

| | |
|---|---|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| Power Input (as a splitter) | 0.16W max. |
| Internal Dissipation | 0.08W max. |

Permanent damage may occur if any of these limits are exceeded.

### Coaxial Connections

| | |
|---|---|
| SUM PORT | 3 |
| PORT 1 | 1 |
| PORT 2 | 2 |

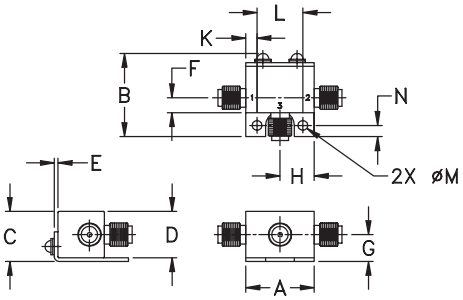
### Features

- very wideband, DC to 10000 MHz
- very good phase unbalance, 1 deg. typ.
- excellent amplitude unbalance, 0.02 dB typ.
- rugged shielded case

### Applications

- laboratory
- test set-ups

### Outline Drawing




### Outline Dimensions (inch / mm)

| A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|
| .74 | .90 | .54 | .50 | .04 | .16 | .29 |
| 18.80 | 22.86 | 13.72 | 12.70 | 1.02 | 4.06 | 7.37 |

| H | J | K | L | M | N | wt |
|---|---|---|---|---|---|---|
| .37 | -- | .122 | .496 | .106 | .122 | grams |
| 9.40 | -- | 3.10 | 12.60 | 2.69 | 3.10 | 20.0 |

### Electrical Specifications $T_{AMB}$=25°C

| FREQ. RANGE (MHz) | ISOLATION (dB) | | | INSERTION LOSS (dB) ABOVE 6.0 dB | | | | | | PHASE UNBALANCE (Degrees) | | | AMPLITUDE UNBALANCE (dB) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | L | M | U | L | | M | | U | | L | M | U | L | M | U |
| $f_L$-$f_U$ | Typ. | Typ. | Typ. | Typ. | Max. | Typ. | Max. | Typ. | Max. | Max. | Max. | Max. | Max. | Max. | Max. |
| DC-10000 | 6.0 | 6.0 | 6.0 | 0.1 | 0.2 | 0.5 | 1.0 | 1.5 | 1.8 | 1 | 3 | 6 | 0.1 | 0.2 | 0.3 |

L = low range [DC-1000 MHz] M = mid range [1000 MHz to $f_U$/2] U= upper range [$f_U$/2 to $f_U$]

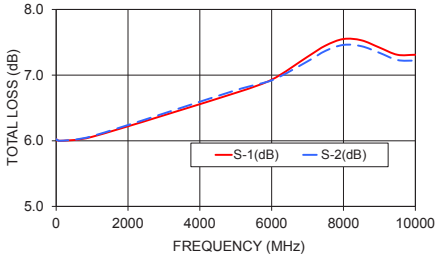
This is a resistive power divider to enable frequency coverage from dc to the highest rated frequency. Since resistive power divider do not provide a high degree of isolation (basically isolation equals the insertion loss between ports), an amplifier such as Mini-Circuits' ZFL series is recommended when high isolation is required. Matched power rating 0.16W, internal load dissipation 0.08W.

### Typical Performance Data

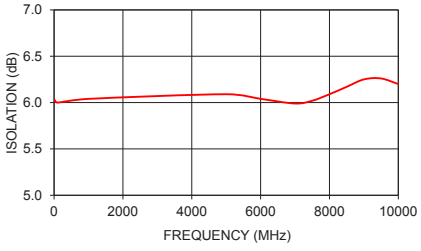
| Frequency (MHz) | Total Loss[1] (dB) | | Amplitude Unbalance (dB) | Isolation (dB) | Phase Unbalance (deg.) | VSWR S | VSWR 1 | VSWR 2 |
|---|---|---|---|---|---|---|---|---|
| | S-1 | S-2 | | | | | | |
| 0.03 | 6.03 | 6.02 | 0.01 | 6.04 | 0.09 | 1.00 | 1.00 | 1.00 |
| 0.10 | 6.01 | 6.01 | 0.00 | 6.02 | 0.01 | 1.00 | 1.00 | 1.00 |
| 1.00 | 6.00 | 6.01 | 0.01 | 6.01 | 0.00 | 1.00 | 1.00 | 1.00 |
| 10.00 | 6.02 | 6.02 | 0.00 | 6.03 | 0.14 | 1.02 | 1.02 | 1.02 |
| 100.00 | 6.00 | 6.00 | 0.00 | 6.00 | 0.06 | 1.00 | 1.00 | 1.01 |
| 1000.00 | 6.06 | 6.07 | 0.01 | 6.04 | 0.44 | 1.01 | 1.01 | 1.00 |
| 5000.00 | 6.73 | 6.77 | 0.04 | 6.09 | 1.20 | 1.22 | 1.17 | 1.16 |
| 6000.00 | 6.93 | 6.92 | 0.01 | 6.04 | 1.34 | 1.25 | 1.21 | 1.20 |
| 7000.00 | 7.28 | 7.21 | 0.06 | 5.99 | 1.78 | 1.26 | 1.19 | 1.21 |
| 7500.00 | 7.45 | 7.37 | 0.08 | 6.02 | 2.08 | 1.24 | 1.19 | 1.21 |
| 8000.00 | 7.55 | 7.46 | 0.09 | 6.09 | 2.39 | 1.22 | 1.20 | 1.22 |
| 8500.00 | 7.53 | 7.44 | 0.09 | 6.17 | 2.70 | 1.20 | 1.21 | 1.24 |
| 9000.00 | 7.42 | 7.34 | 0.08 | 6.25 | 2.91 | 1.19 | 1.21 | 1.24 |
| 9500.00 | 7.31 | 7.23 | 0.08 | 6.26 | 3.06 | 1.20 | 1.17 | 1.22 |
| 10000.00 | 7.31 | 7.22 | 0.09 | 6.20 | 3.18 | 1.23 | 1.12 | 1.17 |

1. Total Loss = Insertion Loss + 6dB splitter loss.

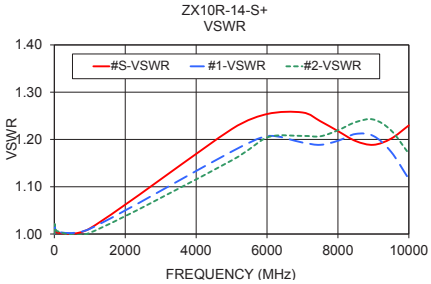
ZX10R-14-S+
TOTAL LOSS



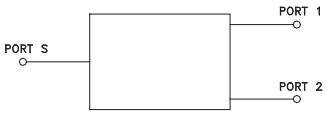

ZX10R-14-S+
ISOLATION




ZX10R-14-S+
VSWR




### electrical schematic




**Notes**

**A.** 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.
**B.** Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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