



COAXIAL

# Power Splitter/Combiner

ZX10-2-20-S+

Mini-Circuits

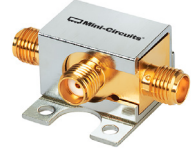
2 Way-0° 50Ω 200 to 2000 MHz

## FEATURES

- Low insertion loss, 0.8 dB typ.
- Excellent amplitude unbalance
- Very good phase unbalance
- Small size
- Low cost
- Protected under U.S. Patent 6,790,049 & 6,963,255

## APPLICATIONS

- PCN/PCS
- Cellular/GSM
- VHF/UHF receivers/transmitters



Generic photo used for illustration purposes only

|            |              |
|------------|--------------|
| Model No.  | ZX10-2-20-S+ |
| Case Style | FL905        |
| Connectors | SMA-Female   |

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

## ELECTRICAL SPECIFICATIONS AT 25°C

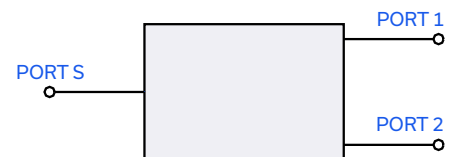
| Parameter                 | Frequency (MHz) | Min. | Typ. | Max. | Units  |
|---------------------------|-----------------|------|------|------|--------|
| Frequency Range           |                 | 200  |      | 2000 | MHz    |
| Insertion Loss Above 3 dB | 200-2000        | —    | 0.8  | 2.2  | dB     |
|                           | 800-1000        | —    | 0.5  | 1.0  |        |
|                           | 500-1500        | —    | 0.5  | 1.5  |        |
|                           | 1500-2000       | —    | 1.6  | 2.2  |        |
| Isolation                 | 200-2000        | 15.0 | 20   | —    | dB     |
|                           | 800-1000        | 16.0 | 22   | —    |        |
|                           | 500-1500        | 15.0 | 22   | —    |        |
|                           | 1500-2000       | 15.0 | 20   | —    |        |
| Phase Unbalance           | 200-2000        | —    | —    | 9.0  | Degree |
|                           | 800-1000        | —    | —    | 3.0  |        |
|                           | 500-1500        | —    | —    | 5.0  |        |
|                           | 1500-2000       | —    | —    | 9.0  |        |
| Amplitude Unbalance       | 200-2000        | —    | 0.4  | 0.6  | dB     |
|                           | 800-1000        | —    | 0.3  | 0.4  |        |
|                           | 500-1500        | —    | 0.4  | 0.6  |        |
|                           | 1500-2000       | —    | 0.4  | 0.6  |        |

## MAXIMUM RATINGS

|                                      |                |
|--------------------------------------|----------------|
| Operating Temperature                | -40°C to 85°C  |
| Storage Temperature                  | -55°C to 100°C |
| Power Input (as a splitter)          | 0.5W max.      |
| Internal Dissipation (as a combiner) | 0.125W max.    |

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

## ELECTRICAL SCHEMATIC



REV. L  
 ECO-016902  
 ZX10-2-20-S+  
 WP/CP/AM  
 230221





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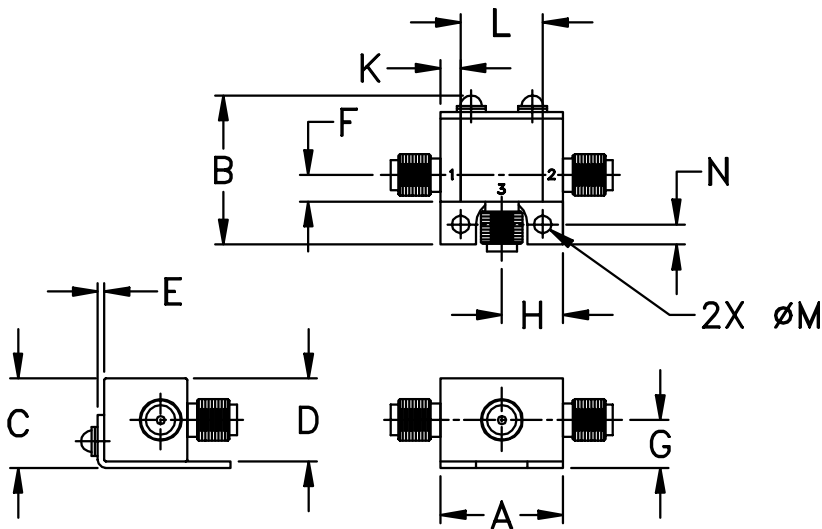
ZX10-2-20-S+

Mini-Circuits

## COAXIAL CONNECTIONS

|          |     |
|----------|-----|
| Sum Port | 3   |
| Port 1-2 | 1-2 |

## 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  |

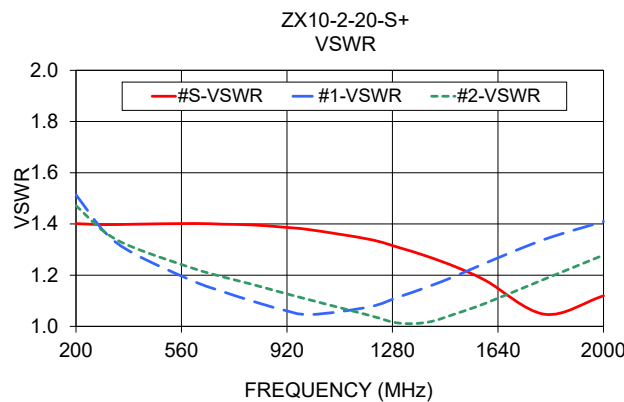
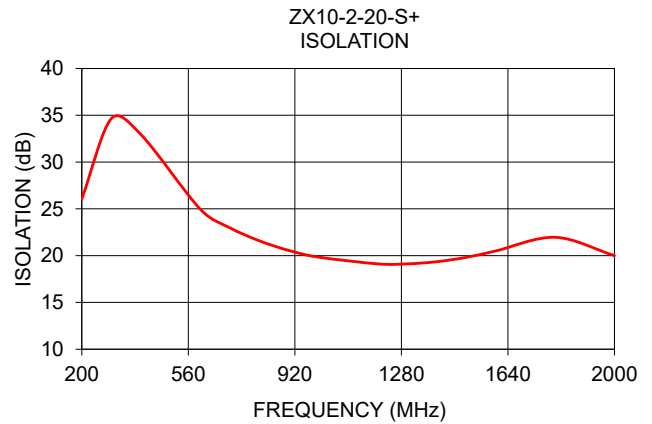
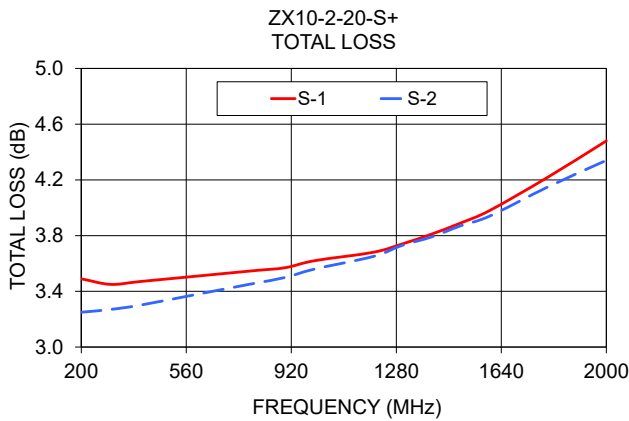




### TYPICAL PERFORMANCE DATA

| Freq. (MHz) | Insertion Loss <sup>1</sup> (dB) |      | Ampl. Unbal. (dB) | Isolation (dB) | Phase Unbal. (deg.) | VSWR S | VSWR 1 | VSWR 2 |
|-------------|----------------------------------|------|-------------------|----------------|---------------------|--------|--------|--------|
|             | S-1                              | S-2  |                   |                |                     |        |        |        |
| 200.00      | 3.49                             | 3.25 | 0.25              | 26.07          | 1.50                | 1.40   | 1.51   | 1.47   |
| 300.00      | 3.45                             | 3.27 | 0.19              | 34.65          | 0.82                | 1.40   | 1.37   | 1.37   |
| 400.00      | 3.47                             | 3.30 | 0.17              | 32.93          | 0.41                | 1.40   | 1.28   | 1.31   |
| 600.00      | 3.51                             | 3.38 | 0.14              | 24.97          | 0.06                | 1.40   | 1.18   | 1.23   |
| 700.00      | 3.53                             | 3.42 | 0.11              | 22.98          | 0.20                | 1.40   | 1.14   | 1.19   |
| 800.00      | 3.55                             | 3.46 | 0.10              | 21.58          | 0.31                | 1.40   | 1.10   | 1.16   |
| 900.00      | 3.57                             | 3.50 | 0.07              | 20.55          | 0.37                | 1.39   | 1.07   | 1.13   |
| 1000.00     | 3.62                             | 3.56 | 0.06              | 19.84          | 0.41                | 1.38   | 1.05   | 1.10   |
| 1200.00     | 3.68                             | 3.65 | 0.03              | 19.12          | 0.51                | 1.34   | 1.08   | 1.04   |
| 1300.00     | 3.74                             | 3.73 | 0.01              | 19.12          | 0.56                | 1.31   | 1.11   | 1.01   |
| 1400.00     | 3.81                             | 3.79 | 0.01              | 19.35          | 0.38                | 1.27   | 1.15   | 1.02   |
| 1500.00     | 3.89                             | 3.87 | 0.02              | 19.82          | 0.11                | 1.23   | 1.20   | 1.05   |
| 1600.00     | 3.98                             | 3.94 | 0.02              | 20.51          | 0.14                | 1.18   | 1.25   | 1.09   |
| 1800.00     | 4.22                             | 4.15 | 0.07              | 21.96          | 0.89                | 1.05   | 1.34   | 1.19   |
| 2000.00     | 4.48                             | 4.34 | 0.14              | 20.00          | 2.24                | 1.12   | 1.41   | 1.28   |

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



- 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.
  - C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard. Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at [www.minicircuits.com/terms/viewterm.html](http://www.minicircuits.com/terms/viewterm.html)