

Coaxial Power Splitter/Combiner

ZFSC-24-11

24 Way-0° 50Ω 1 to 200 MHz

Maximum Ratings

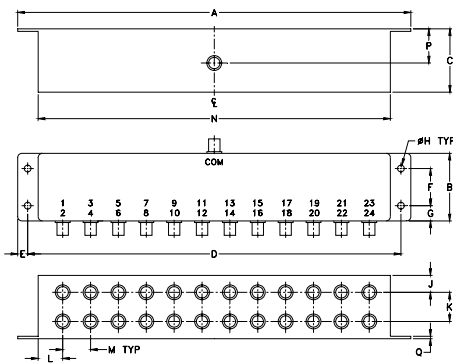
| | |
|-----------------------------|----------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature | -55°C to 100°C |
| Power Input (as a splitter) | 1W max. |
| Internal Dissipation | 0.87W max. |

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

Coaxial Connections

| | |
|----------------------|-----------------|
| SUM PORT | S (COM) |
| PORT 1,2,3,4.....,24 | 1,2,3,4.....,24 |

Outline Drawing



Outline Dimensions (inch/mm)

| A | B | C | D | E | F | G | H |
|--------|-------|-------|--------|--------|-------|------|-------|
| 9.31 | 1.60 | 1.50 | 8.84 | .24 | .88 | .36 | .160 |
| 236.47 | 40.64 | 38.10 | 224.54 | 6.10 | 22.35 | 9.14 | 4.06 |
| J | K | L | M | N | P | Q | wt. |
| .40 | .69 | .54 | .66 | 8.34 | .81 | .06 | grams |
| 10.16 | 17.53 | 13.72 | 16.76 | 211.84 | 20.57 | 1.52 | 490.0 |

Features

- rugged shielded case
- good isolation, 22 dB typ.

Applications

- HF/VHF
- test set-ups
- instrumentation



Generic photo used for illustration purposes only

BNC version shown

CASE STYLE: R31

| Connectors | Model |
|------------|--------------|
| BNC | ZFSC-24-11 |
| SMA | ZFSC-24-11-S |

Electrical Specifications

| FREQ. RANGE (MHz) | ISOLATION (dB) | | | | | | INSERTION LOSS (dB) ABOVE 13.8 dB | | | | | | AMPLITUDE UNBALANCE (dB) | | |
|-------------------|----------------|------|------|------|------|------|-----------------------------------|------|------|------|------|------|--------------------------|------|------|
| | L | | M | | U | | L | | M | | U | | L | M | U |
| | Typ. | Min. | Typ. | Min. | Typ. | Typ. | Typ. | Max. | Typ. | Max. | Typ. | Max. | Max. | Max. | Max. |
| 1-200 | 33 | 25 | 22 | 20 | 20 | 17 | 0.9 | 1.7 | 1.0 | 1.8 | 1.3 | 2.2 | 0.6 | 0.8 | 0.8 |

L = low range [f_L to $10 f_L$] M = mid range [$10 f_L$ to $f_U/2$] U = upper range [$f_U/2$ to f_U]

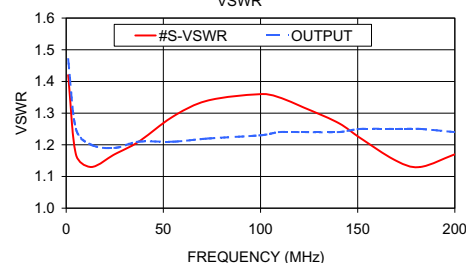
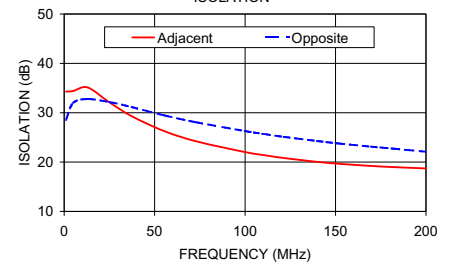
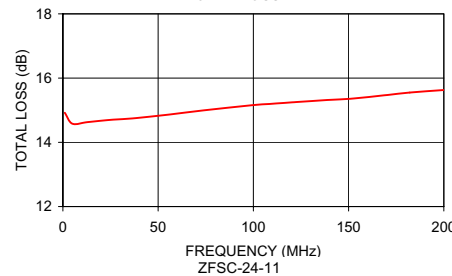
Typical Performance Data

| Freq. (MHz) | Total Loss ¹ (dB) | Amplitude Unbalance (dB) | Isolation (dB) | | VSWR S | VSWR OUTPUT |
|-------------|------------------------------|--------------------------|----------------|----------|--------|-------------|
| | | | Adjacent | Opposite | | |
| | | | S-1 | | | |
| 1.00 | 14.92 | 0.03 | 34.27 | 28.56 | 1.42 | 1.47 |
| 5.00 | 14.58 | 0.01 | 34.41 | 31.97 | 1.17 | 1.25 |
| 12.90 | 14.63 | 0.02 | 35.13 | 32.76 | 1.13 | 1.20 |
| 24.90 | 14.70 | 0.03 | 32.14 | 32.17 | 1.17 | 1.19 |
| 37.30 | 14.75 | 0.04 | 29.30 | 31.14 | 1.21 | 1.21 |
| 55.20 | 14.86 | 0.03 | 26.29 | 29.48 | 1.29 | 1.21 |
| 73.10 | 14.99 | 0.03 | 24.20 | 28.05 | 1.34 | 1.22 |
| 100.00 | 15.16 | 0.04 | 22.02 | 26.27 | 1.36 | 1.23 |
| 109.50 | 15.20 | 0.04 | 21.45 | 25.74 | 1.35 | 1.24 |
| 121.40 | 15.25 | 0.05 | 20.83 | 25.11 | 1.32 | 1.24 |
| 139.80 | 15.32 | 0.05 | 20.05 | 24.27 | 1.27 | 1.24 |
| 151.70 | 15.36 | 0.07 | 19.66 | 23.77 | 1.22 | 1.25 |
| 169.70 | 15.47 | 0.07 | 19.22 | 23.12 | 1.15 | 1.25 |
| 182.10 | 15.55 | 0.08 | 18.98 | 22.71 | 1.13 | 1.25 |
| 200.00 | 15.63 | 0.09 | 18.71 | 22.10 | 1.17 | 1.24 |

ZFSC-24-11
TOTAL LOSS

1. Total Loss = Insertion Loss + 13.8dB splitter loss.

ZFSC-24-11
ISOLATION



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.
- 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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24 Way-0° Power Splitter/Combiner

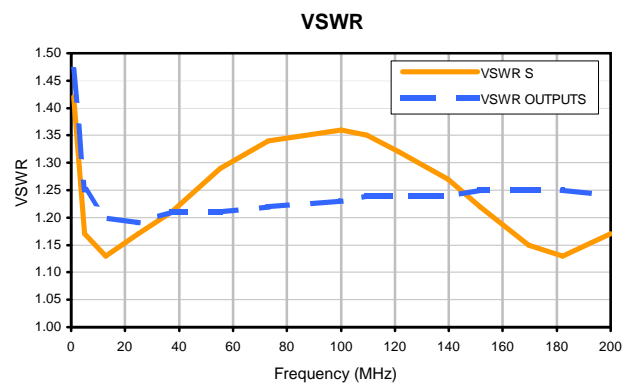
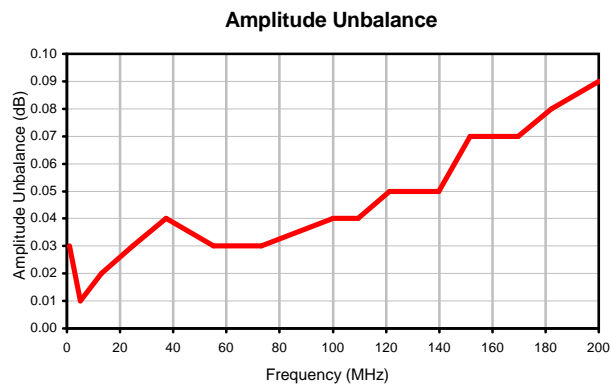
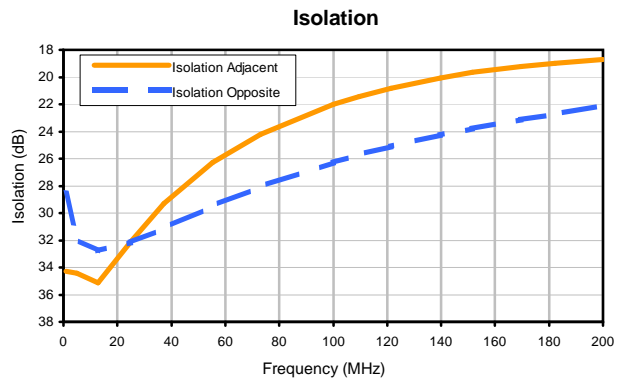
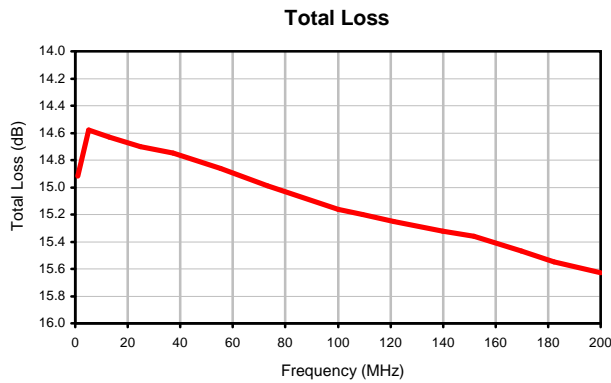
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Typical Performance Data

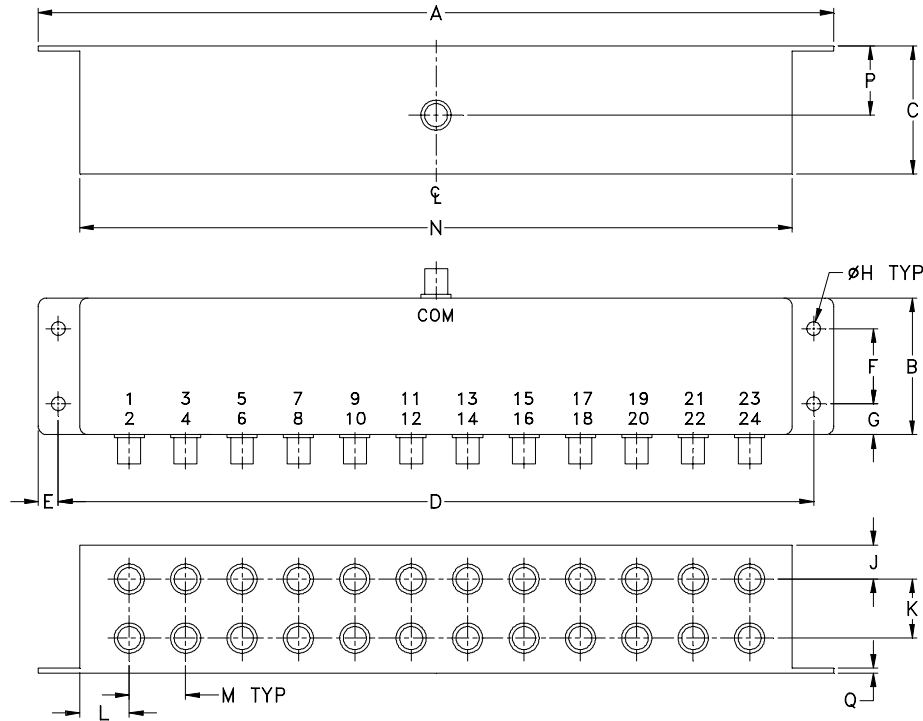
| FREQ. (MHz) | TOTAL LOSS ¹ (dB) | AMP. UNBAL. (dB) | ISOLATION (dB) | | FREQ. (MHz) | VSWR (:1) | |
|----------------|---------------------------------|------------------------|-------------------|----------|----------------|--------------|---------|
| | | | Adjacent | Opposite | | S | OUTPUTS |
| 1.0 | 14.92 | 0.03 | 34.27 | 28.56 | 1.0 | 1.42 | 1.47 |
| 5.0 | 14.58 | 0.01 | 34.41 | 31.97 | 5.0 | 1.17 | 1.25 |
| 12.9 | 14.63 | 0.02 | 35.13 | 32.76 | 12.9 | 1.13 | 1.20 |
| 24.9 | 14.70 | 0.03 | 32.14 | 32.17 | 24.9 | 1.17 | 1.19 |
| 37.3 | 14.75 | 0.04 | 29.30 | 31.14 | 37.3 | 1.21 | 1.21 |
| 55.2 | 14.86 | 0.03 | 26.29 | 29.48 | 55.2 | 1.29 | 1.21 |
| 73.1 | 14.99 | 0.03 | 24.20 | 28.05 | 73.1 | 1.34 | 1.22 |
| 100.0 | 15.16 | 0.04 | 22.02 | 26.27 | 100.0 | 1.36 | 1.23 |
| 109.5 | 15.20 | 0.04 | 21.45 | 25.74 | 109.5 | 1.35 | 1.24 |
| 121.4 | 15.25 | 0.05 | 20.83 | 25.11 | 121.4 | 1.32 | 1.24 |
| 139.8 | 15.32 | 0.05 | 20.05 | 24.27 | 139.8 | 1.27 | 1.24 |
| 151.7 | 15.36 | 0.07 | 19.66 | 23.77 | 151.7 | 1.22 | 1.25 |
| 169.7 | 15.47 | 0.07 | 19.22 | 23.12 | 169.7 | 1.15 | 1.25 |
| 182.1 | 15.55 | 0.08 | 18.98 | 22.71 | 182.1 | 1.13 | 1.25 |
| 200.0 | 15.63 | 0.09 | 18.71 | 22.10 | 200.0 | 1.17 | 1.24 |

¹ Total Loss = Insertion Loss+ 13.8dB Splitter Loss

Typical Performance Curves



Outline Dimensions



| CASE# | A | B | C | D | E | F | G | H | J | K | L | M | N |
|-------|------------------|-----------------|-----------------|------------------|---------------|----------------|---------------|----------------|----------------|----------------|----------------|----------------|------------------|
| R31 | 9.31 (236.47) | 1.60 (40.64) | 1.50 (38.10) | 8.84 (224.54) | .24 (6.10) | .88 (22.35) | .36 (9.14) | .160 (4.06) | .40 (10.16) | .69 (17.53) | .54 (13.72) | .66 (16.76) | 8.34 (211.84) |

| CASE# | P | Q | WT. GRAMS |
|-------|----------------|---------------|-----------|
| R31 | .81 (20.57) | .06 (1.53) | 490.0 |

Dimensions are in inches (mm). Tolerances: 2 Pl. $\pm .03$; 3 Pl. $\pm .015$

Notes:

- Case material: Aluminum alloy.
- Case finish:
For RoHS Case Styles: Clear chemical conversion coating, non-chrome or trivalent chrome based.



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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 Ambient Environment | Individual Model Data Sheet |
| Storage Temperature | -55° to 100° C Ambient Environment | Individual Model Data Sheet |
| Barometric Pressure | 100,000 Feet | MIL-STD-202, Method 105, Condition D |
| Humidity | 90% RH, 65°C 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 |