

DC Pass High Power Combiner

ZB4CS-700-10W

4 Way-0° 50Ω 400 to 700 MHz

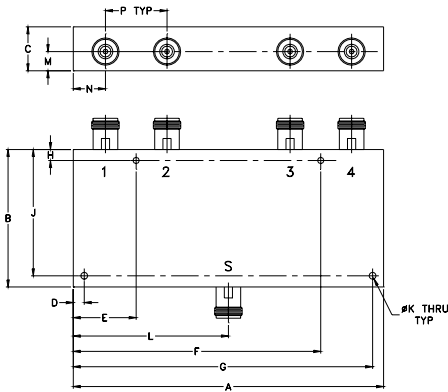
Maximum Ratings

| | |
|---|-----------------------------|
| Operating Temperature | -55°C to 90°C |
| Storage Temperature | -55°C to 100°C |
| Internal Dissipation | 8W max. |
| DC Current | 600 A (150mA for each port) |
| Permanent damage may occur if any of these limits are exceeded. | |

Coaxial Connections

| | |
|----------|---|
| SUM PORT | S |
| PORT 1 | 1 |
| PORT 2 | 2 |
| PORT 3 | 3 |
| PORT 4 | 4 |

Outline Drawing



Outline Dimensions (inch/mm)

| A | B | C | D | E | F | G | H |
|--------|-------|-------|-------|-------|--------|--------|------|
| 7.06 | 3.13 | 1.00 | .250 | 1.430 | 5.630 | 6.810 | .250 |
| 179.32 | 79.50 | 25.40 | 6.35 | 36.32 | 143.00 | 172.97 | 6.35 |
| J | K | L | M | N | P | wt | |
| 2.875 | .156 | 3.53 | .44 | .73 | 1.40 | grams | |
| 73.03 | 3.96 | 89.66 | 11.18 | 18.54 | 35.56 | 810 | |

Features

- high power, up to 10W input power
- low insertion loss, 0.35 dB typ.
- good isolation, 25 dB typ.
- good sum-port VSWR, 1.14 typ.
- good VSWR at ports 1-4, 1.10 typ.

Applications

- UHF-TV/DTV
- communication receivers & transmitters

High Power Combiner Electrical Specifications

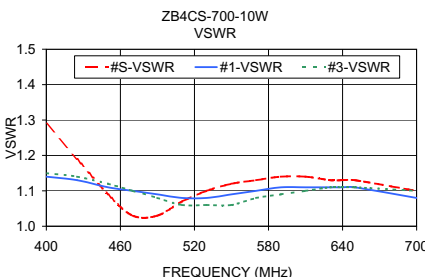
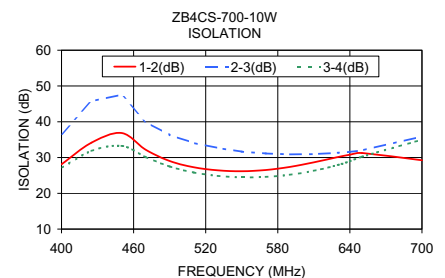
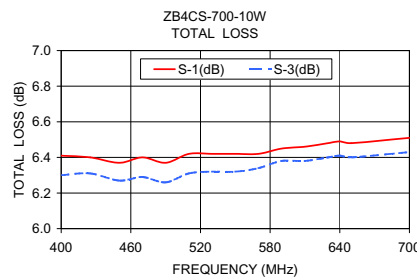
| FREQ. RANGE (MHz) | ISOLATION (dB) | | INSERTION LOSS (dB) ABOVE 6.0 dB | | PHASE UNBALANCE (Degrees) | | AMPLITUDE UNBALANCE (dB) | | POWER INPUT ¹ (W) | |
|--------------------------------|----------------|------|----------------------------------|------|---------------------------|------|--------------------------|------|-------------------------------|------------------|
| | Typ. | Min. | Typ. | Max. | Typ. | Max. | Typ. | Max. | as combiner ² Max. | as splitter Max. |
| f _L -f _U | | | | | | | | | | |
| 400-700 | 25 | 20 | 0.35 | 0.8 | 0.6 | 4.0 | 0.1 | 0.3 | 10 | 20 |

- Over -55°C to +55°C. Derate linearly to 20% of rating at 90°C
- As a combiner of non-coherent signals, max. power per port is power rating divided by number of ports.

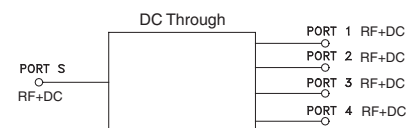
Typical Performance Data

| Freq. (MHz) | Total Loss ¹ (dB) | | | | Amp. Unbal. (dB) | Isolation (dB) | | | Phase Unbal. (deg.) | VSWR S | VSWR 1 | VSWR 2 | VSWR 3 | VSWR 4 |
|-------------|------------------------------|------|------|------|------------------|----------------|-------|-------|---------------------|--------|--------|--------|--------|--------|
| | S-1 | S-2 | S-3 | S-4 | | 1-2 | 2-3 | 3-4 | | | | | | |
| 400.00 | 6.41 | 6.26 | 6.30 | 6.34 | 0.15 | 28.12 | 36.59 | 27.11 | 0.21 | 1.29 | 1.14 | 1.15 | 1.15 | 1.16 |
| 425.00 | 6.40 | 6.27 | 6.31 | 6.35 | 0.14 | 34.17 | 45.74 | 31.85 | 0.10 | 1.19 | 1.13 | 1.14 | 1.14 | 1.15 |
| 450.00 | 6.37 | 6.25 | 6.27 | 6.30 | 0.12 | 36.86 | 47.56 | 33.26 | 0.11 | 1.09 | 1.11 | 1.13 | 1.12 | 1.13 |
| 470.00 | 6.40 | 6.26 | 6.29 | 6.31 | 0.14 | 32.20 | 39.98 | 30.16 | 0.23 | 1.03 | 1.10 | 1.11 | 1.10 | 1.11 |
| 490.00 | 6.37 | 6.24 | 6.26 | 6.29 | 0.14 | 29.04 | 36.31 | 27.51 | 0.30 | 1.03 | 1.09 | 1.10 | 1.08 | 1.09 |
| 510.00 | 6.42 | 6.29 | 6.31 | 6.33 | 0.13 | 27.29 | 34.09 | 25.82 | 0.31 | 1.07 | 1.08 | 1.09 | 1.06 | 1.07 |
| 530.00 | 6.42 | 6.31 | 6.32 | 6.34 | 0.11 | 26.42 | 32.68 | 24.87 | 0.40 | 1.10 | 1.08 | 1.10 | 1.06 | 1.07 |
| 550.00 | 6.42 | 6.29 | 6.32 | 6.33 | 0.13 | 26.18 | 31.64 | 24.46 | 0.52 | 1.12 | 1.09 | 1.11 | 1.06 | 1.07 |
| 570.00 | 6.42 | 6.30 | 6.34 | 6.34 | 0.12 | 26.52 | 31.14 | 24.60 | 0.43 | 1.13 | 1.10 | 1.12 | 1.08 | 1.08 |
| 590.00 | 6.45 | 6.33 | 6.38 | 6.38 | 0.13 | 27.38 | 30.88 | 25.19 | 0.36 | 1.14 | 1.11 | 1.13 | 1.09 | 1.09 |
| 610.00 | 6.46 | 6.36 | 6.38 | 6.40 | 0.10 | 28.66 | 30.96 | 26.30 | 0.50 | 1.14 | 1.11 | 1.14 | 1.10 | 1.10 |
| 630.00 | 6.48 | 6.36 | 6.40 | 6.41 | 0.11 | 30.13 | 31.33 | 27.92 | 0.50 | 1.13 | 1.11 | 1.14 | 1.11 | 1.11 |
| 640.00 | 6.49 | 6.38 | 6.41 | 6.40 | 0.11 | 30.79 | 31.58 | 28.98 | 0.43 | 1.13 | 1.11 | 1.13 | 1.11 | 1.11 |
| 650.00 | 6.48 | 6.37 | 6.40 | 6.40 | 0.11 | 31.26 | 31.99 | 30.22 | 0.36 | 1.13 | 1.11 | 1.13 | 1.11 | 1.11 |
| 700.00 | 6.51 | 6.40 | 6.43 | 6.42 | 0.11 | 29.24 | 35.91 | 35.01 | 0.41 | 1.10 | 1.08 | 1.10 | 1.10 | 1.10 |

1. Total Loss = Insertion Loss + 6dB 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.
- 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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Generic photo used for illustration purposes only

CASE STYLE: Z689

| Connectors | Model |
|------------|-----------------|
| N-TYPE | ZB4CS-700-10W-N |