

Coaxial

# High Power Combiner

ZA3CS-400-3W

3 Way-0° 50Ω 2 to 400 MHz

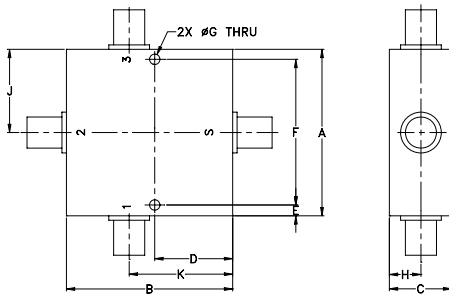
## Maximum Ratings

|                                                                 |                |
|-----------------------------------------------------------------|----------------|
| Operating Temperature                                           | -55°C to 90°C  |
| Storage Temperature                                             | -55°C to 100°C |
| 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 |

## Outline Drawing



## Outline Dimensions (inch/mm)

| A     | B     | C     | D     | E    | F     | G    | H    | J     | K     | wt    |
|-------|-------|-------|-------|------|-------|------|------|-------|-------|-------|
| 2.00  | 2.00  | .75   | .938  | .13  | 1.750 | .125 | .38  | 1.00  | 1.25  | grams |
| 50.80 | 50.80 | 19.05 | 23.83 | 3.30 | 44.45 | 3.18 | 9.65 | 25.40 | 31.75 | 200.0 |

## Features

- wideband, 2 to 400 MHz
- low insertion loss, 0.5 dB typ.
- good isolation, 25 dB typ.
- very low amplitude, 0.15 dB typ. and phase unbalance, 0.2 deg. typ.

## Applications

- VHF/UHF
- communication receivers & transmitters



SMA version shown

CASE STYLE: CC51

Connectors Model  
SMA ZA3CS-400-3W-S

## High Power Combiner Electrical Specifications

| FREQ. RANGE (MHz) | ISOLATION (dB) |      | INSERTION LOSS (dB) ABOVE 4.8 dB |      | PHASE UNBALANCE (Degrees) |      | AMPLITUDE UNBALANCE (dB) |      | POWER INPUT <sup>1</sup> (W)  |                  |
|-------------------|----------------|------|----------------------------------|------|---------------------------|------|--------------------------|------|-------------------------------|------------------|
| $f_L$ - $f_U$     | Typ.           | Min. | Typ.                             | Max. | Typ.                      | Max. | Typ.                     | Max. | as combiner <sup>2</sup> Max. | as splitter Max. |
| 2-400             | 25             | 17   | 0.5                              | 1.2  | 0.2                       | 3.0  | 0.15                     | 0.5  | 3                             | 10               |

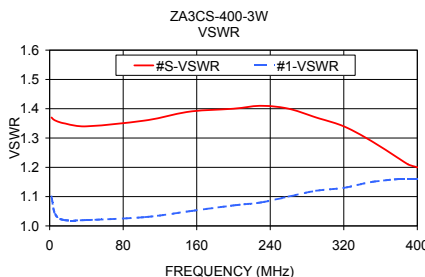
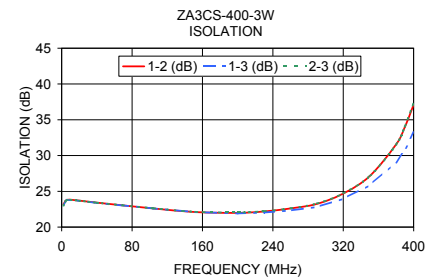
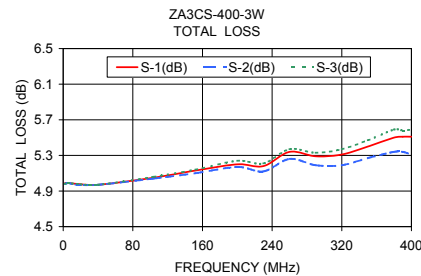
1. Over -55°C to +55°C. Derate linearly to 20% of rating at 90°C

2. 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 <sup>1</sup> (dB) |      |      | Amp. Unbal. (dB) | Isolation (dB) |       |       | Phase Unbal. (deg.) | VSWR S | VSWR 1 | VSWR 2 | VSWR 3 |
|-------------|------------------------------|------|------|------------------|----------------|-------|-------|---------------------|--------|--------|--------|--------|
|             | S-1                          | S-2  | S-3  |                  | 1-2            | 1-3   | 2-3   |                     |        |        |        |        |
| 2.00        | 4.99                         | 4.98 | 4.98 | 0.01             | 23.18          | 23.18 | 23.02 | 0.06                | 1.37   | 1.10   | 1.10   | 1.11   |
| 6.00        | 4.99                         | 4.99 | 4.99 | 0.00             | 23.80          | 23.80 | 23.77 | 0.11                | 1.36   | 1.04   | 1.04   | 1.04   |
| 16.00       | 4.98                         | 4.97 | 4.98 | 0.01             | 23.75          | 23.73 | 23.74 | 0.05                | 1.35   | 1.02   | 1.02   | 1.02   |
| 40.00       | 4.97                         | 4.97 | 4.97 | 0.01             | 23.42          | 23.38 | 23.41 | 0.19                | 1.34   | 1.02   | 1.01   | 1.01   |
| 104.00      | 5.05                         | 5.04 | 5.06 | 0.02             | 22.61          | 22.61 | 22.63 | 0.50                | 1.36   | 1.03   | 1.03   | 1.03   |
| 152.00      | 5.13                         | 5.10 | 5.14 | 0.05             | 22.10          | 22.09 | 22.13 | 0.72                | 1.39   | 1.05   | 1.05   | 1.05   |
| 200.00      | 5.20                         | 5.17 | 5.24 | 0.07             | 21.99          | 21.91 | 22.04 | 0.85                | 1.40   | 1.07   | 1.08   | 1.08   |
| 230.00      | 5.18                         | 5.12 | 5.21 | 0.09             | 22.19          | 22.03 | 22.22 | 0.98                | 1.41   | 1.08   | 1.10   | 1.10   |
| 260.00      | 5.34                         | 5.26 | 5.37 | 0.11             | 22.61          | 22.32 | 22.62 | 1.18                | 1.40   | 1.10   | 1.12   | 1.12   |
| 290.00      | 5.29                         | 5.19 | 5.33 | 0.14             | 23.24          | 22.81 | 23.29 | 1.13                | 1.37   | 1.12   | 1.14   | 1.14   |
| 320.00      | 5.31                         | 5.19 | 5.37 | 0.18             | 24.69          | 23.95 | 24.71 | 1.21                | 1.34   | 1.13   | 1.17   | 1.16   |
| 350.00      | 5.40                         | 5.27 | 5.47 | 0.20             | 27.12          | 25.85 | 27.11 | 1.31                | 1.29   | 1.15   | 1.19   | 1.17   |
| 380.00      | 5.50                         | 5.34 | 5.59 | 0.25             | 31.55          | 29.07 | 31.52 | 1.52                | 1.23   | 1.16   | 1.21   | 1.19   |
| 390.00      | 5.51                         | 5.34 | 5.58 | 0.24             | 34.00          | 30.80 | 34.05 | 1.50                | 1.21   | 1.16   | 1.22   | 1.19   |
| 400.00      | 5.51                         | 5.31 | 5.59 | 0.28             | 37.10          | 33.25 | 37.43 | 1.53                | 1.20   | 1.16   | 1.23   | 1.20   |

1. Total Loss = Insertion Loss + 4.8dB splitter loss.



## 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.  
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Page 1 of 1