

Coaxial Directional Coupler

ZFDC-10-5+

50Ω

1 to 2000 MHz

Maximum Ratings

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

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

Coaxial Connections

| | |
|---------|---|
| INPUT | 1 |
| OUTPUT | 2 |
| COUPLED | 3 |

Features

- very wideband, 1 to 2000 MHz
- excellent directivity, 30 dB typ.
- rugged shielded case

Applications

- cellular
- instrumentation
- communication receivers & transmitters
- GPS



Generic photo used for illustration purposes only

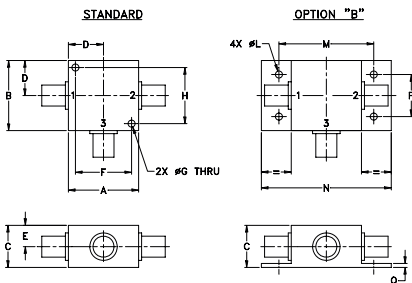
CASE STYLE: K18

| Connectors | Model |
|----------------------|--------------|
| BNC | ZFDC-10-5+ |
| SMA | ZFDC-10-5-S+ |
| N-TYPE | ZFDC-10-5-N+ |
| BRACKET (OPTION "B") | |

+RoHS Compliant

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

Outline Drawing



Outline Dimensions (inch/mm)

| A | B | C | D | E | F | G | H |
|-------|-------|-------|-------|------|-------|------|-------|
| 1.25 | 1.25 | .75 | .63 | .38 | 1.00 | .125 | 1.000 |
| 31.75 | 31.75 | 19.05 | 16.00 | 9.65 | 25.40 | 3.18 | 25.40 |

| J | K | L | M | N | P | Q | wt |
|----|----|------|-------|-------|-------|------|-------|
| -- | -- | .125 | 1.688 | 2.18 | .75 | .07 | grams |
| -- | -- | 3.18 | 42.88 | 55.37 | 19.05 | 1.78 | 70.0 |

Directional Coupler Electrical Specifications

| FREQ. RANGE (MHz) | COUPLING (dB) | | MAINLINE LOSS ¹ (dB) | | | | | | DIRECTIVITY (dB) | | | | | | VSWR (:1) | POWER INPUT (W) | |
|-------------------|---------------|----------|---------------------------------|------|------|------|------|------|------------------|------|------|------|------|------|-----------|-----------------|-----|
| | | | L | | M | | U | | L | | M | | U | | | | |
| | Nom. | Flatness | Typ. | Max. | Typ. | Max. | Typ. | Max. | Typ. | Min. | Typ. | Min. | Typ. | Min. | Typ. | L | MU |
| 1-2000 | 10.8±0.5 | ±0.5 | 1.2 | 1.9 | 1.2 | 1.8 | 1.8 | 2.5 | 38 | 25 | 30 | 18 | 22 | 18 | 1.3 | 0.5 | 0.5 |

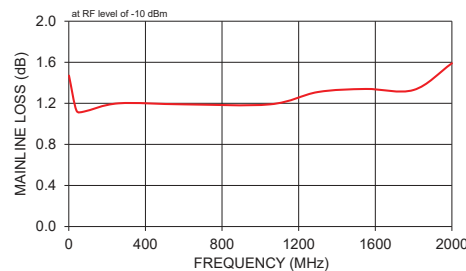
L = low range [f_L to $10 f_L$] M = mid range [$10 f_L$ to $f_U/2$] U = upper range [$f_U/2$ to f_U]

1. Mainline loss includes theoretical power loss at coupled port.

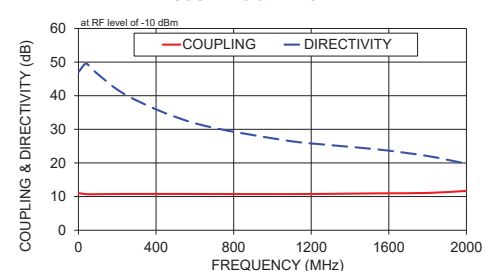
Typical Performance Data

| Frequency (MHz) | Mainline Loss (dB) In-Out | Coupling (dB) In-Cpl | Directivity (dB) | Return Loss (dB) | | |
|-----------------|---------------------------|----------------------|------------------|------------------|-------|-------|
| | | | | In | Out | Cpl |
| 1.00 | 1.47 | 11.03 | 47.08 | 14.55 | 18.01 | 18.03 |
| 40.00 | 1.13 | 10.71 | 49.57 | 18.26 | 30.69 | 31.26 |
| 80.00 | 1.12 | 10.70 | 47.38 | 18.32 | 30.20 | 30.46 |
| 260.00 | 1.20 | 10.78 | 39.74 | 18.61 | 27.02 | 25.80 |
| 600.00 | 1.19 | 10.77 | 31.82 | 18.79 | 22.14 | 19.98 |
| 1050.00 | 1.19 | 10.73 | 26.87 | 18.84 | 19.38 | 15.98 |
| 1300.00 | 1.31 | 10.81 | 25.29 | 18.83 | 18.76 | 14.75 |
| 1550.00 | 1.34 | 10.96 | 23.98 | 18.70 | 17.75 | 13.90 |
| 1800.00 | 1.33 | 11.08 | 22.06 | 17.99 | 15.32 | 13.15 |
| 2000.00 | 1.59 | 11.68 | 19.78 | 16.91 | 12.53 | 12.52 |

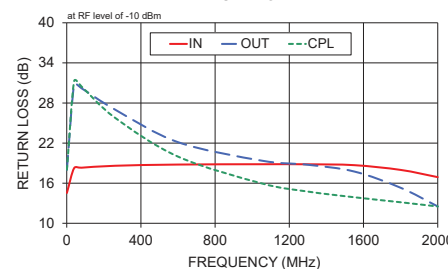
ZFDC-10-5-S+ MAINLINE LOSS



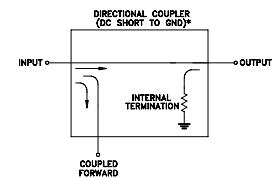
ZFDC-10-5-S+ COUPLING & DIRECTIVITY



ZFDC-10-5-S+ RETURN LOSS



Electrical Schematic



* ELECTRICAL SCHEMATIC IS FOR DIRECTIONAL COUPLER WITH INTERNAL TERMINATION THAT ROUTES DC FROM RF PORTS TO GROUND.

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.
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