

DC Pass Bi-Directional Coupler

ZABDC20-322H+

50Ω Up to 50W 1700 to 3200 MHz



CASE STYLE: DD477-1

Connectors Model
SMA ZABDC20-322H-S+

+RoHS Compliant

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

Maximum Ratings

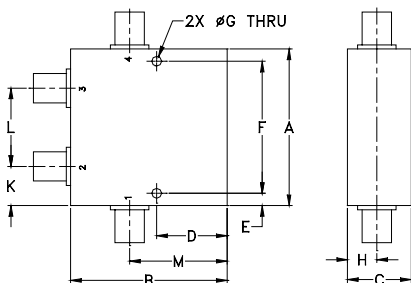
| | |
|-----------------------|----------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature | -55°C to 100°C |
| DC Current | 2.0 A |

* Case temperature is defined as temperature on ground leads. Permanent damage may occur if any of these limits are exceeded.

Coaxial Connections

| | |
|-------------------|---|
| INPUT | 1 |
| OUTPUT | 4 |
| COUPLED (forward) | 2 |
| COUPLED (reverse) | 3 |

Outline Drawing



Outline Dimensions (inch/mm)

| A | B | C | D | E | F | G |
|-------|-------|-------|-------|-------|-------|------|
| 2.00 | 2.00 | .88 | .90 | .156 | 1.688 | .125 |
| 50.80 | 50.80 | 22.35 | 22.86 | 3.96 | 42.88 | 3.18 |
| H | J | K | L | M | wt | |
| .38 | --- | .50 | 1.00 | 1.25 | grams | |
| 9.65 | --- | 12.70 | 25.40 | 31.75 | 225 | |

Features

- excellent mainline loss, 0.25 dB typ.
- excellent directivity, 25 dB typ.
- high power, up to 50W
- rugged shielded case
- DC current through input to output 2.0A Max. at 50 watt RF input power

Applications

- PCS/DCS/UMTS
- power leveling & monitoring
- VSWR measurement

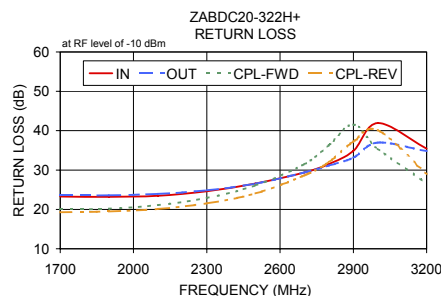
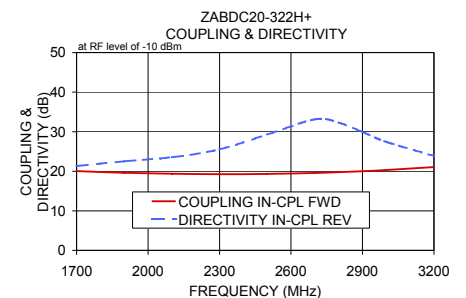
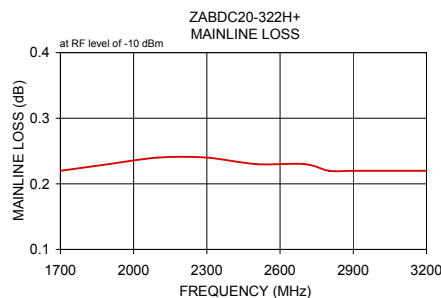
Bi-Directional Coupler Electrical Specifications

| FREQ. (MHz) | COUPLING (dB) | | MAINLINE LOSS ¹ (dB) | | DIRECTIVITY (dB) | | VSWR (:1) | POWER INPUT (W) |
|---------------|---------------|----------|---------------------------------|------|------------------|------|-----------|-----------------|
| | Nom. | Flatness | Typ. | Max. | Typ. | Min. | | |
| f_L - f_U | | | | | | | | |
| 1700-3200 | 20.5±1.0 | ±1.3 | 0.25 | 0.35 | 21 | 13 | 1.10 | 50 |
| 1700-2500 | 20.0±1.0 | ±0.5 | 0.25 | 0.35 | 20 | 14 | 1.10 | 50 |
| 2500-3200 | 20.5±1.0 | ±1.2 | 0.25 | 0.35 | 25 | 13 | 1.10 | 50 |

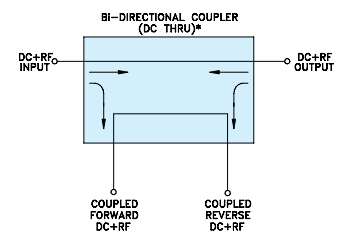
1. Mainline loss includes theoretical power loss at coupled port.

Typical Performance Data

| Frequency (MHz) | Mainline Loss (dB) | | Coupling (dB) | | Directivity (dB) | | Return Loss (dB) | | |
|-----------------|--------------------|------------|---------------|-------------|------------------|------------|------------------|-------|---------|
| | In-Out | In-Cpl Fwd | In-Cpl Rev | Out-Cpl Rev | In-Cpl Fwd | In-Cpl Rev | In | Out | Cpl Fwd |
| 1700.00 | 0.22 | 20.05 | 20.04 | 19.91 | 21.29 | 23.26 | 23.56 | 19.99 | 19.30 |
| 1900.00 | 0.23 | 19.62 | 19.63 | 20.77 | 22.51 | 23.18 | 23.59 | 20.19 | 19.49 |
| 2100.00 | 0.24 | 19.36 | 19.38 | 21.40 | 23.56 | 23.46 | 23.96 | 21.09 | 20.11 |
| 2300.00 | 0.24 | 19.26 | 19.29 | 23.05 | 25.54 | 24.61 | 24.85 | 22.90 | 21.55 |
| 2500.00 | 0.23 | 19.33 | 19.35 | 26.72 | 29.28 | 26.57 | 26.55 | 26.12 | 24.07 |
| 2700.00 | 0.23 | 19.57 | 19.59 | 33.66 | 33.12 | 29.40 | 29.40 | 31.50 | 28.65 |
| 2800.00 | 0.22 | 19.76 | 19.79 | 39.70 | 32.31 | 31.54 | 31.12 | 36.29 | 31.98 |
| 2900.00 | 0.22 | 20.01 | 20.04 | 40.52 | 29.94 | 34.90 | 33.15 | 41.55 | 37.25 |
| 3000.00 | 0.22 | 20.31 | 20.34 | 35.13 | 27.45 | 41.94 | 36.96 | 35.41 | 40.12 |
| 3200.00 | 0.22 | 21.08 | 21.09 | 27.62 | 23.91 | 35.44 | 34.81 | 26.71 | 28.95 |



Electrical Schematic



* ELECTRICAL SCHEMATIC IS FOR BI-DIRECTIONAL COUPLER WITHOUT INTERNAL TRANSFORMERS AND RESISTORS.

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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