

# DC Pass Bi-Directional Coupler

75Ω Up to 100W 700 to 2500 MHz

## Maximum Ratings

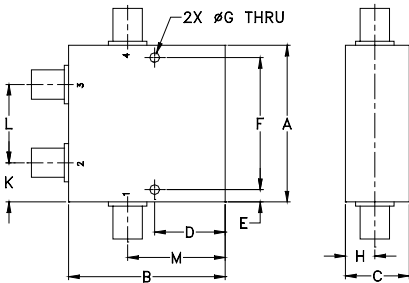
|                       |                |
|-----------------------|----------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature   | -55°C to 100°C |
| DC Current            | 2.0 A          |

\* 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)

| 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, 0.15 dB typ.
- excellent directivity, 25 dB typ.
- high power, up to 100W
- rugged shielded case
- DC current through input to output 2.0A Max. at 50 watt RF input power

## Applications

- cable tv
- power leveling & monitoring
- VSWR measurement

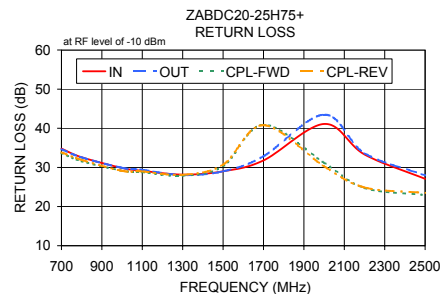
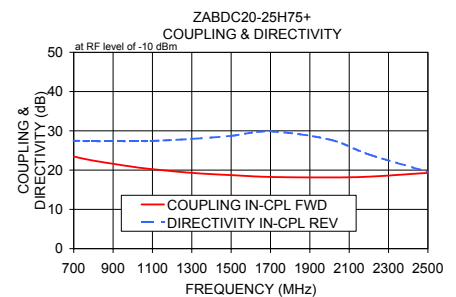
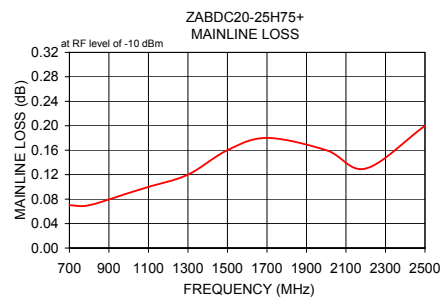
## Bi-Directional Coupler Electrical Specifications

| FREQ. (MHz)   | COUPLING (dB) |          | MAINLINE LOSS <sup>1</sup> (dB) |      | DIRECTIVITY (dB) |      | VSWR (:1) | POWER INPUT (W) |
|---------------|---------------|----------|---------------------------------|------|------------------|------|-----------|-----------------|
| $f_L$ - $f_U$ | Nom.          | Flatness | Typ.                            | Max. | Typ.             | Min. | Typ.      | Max.            |
| 700-2500      |               |          | 0.15                            | 0.35 | 25               | 15   | 1.08      | 25              |
| 800-1000      | 21.5±1.0      | ±0.95    | 0.10                            | 0.30 | 27               | 22   | 1.08      | 100             |
| 1000-1300     | 20±0.8        | ±0.95    | 0.15                            | 0.35 | 27               | 20   | 1.08      | 50              |
| 1300-2200     | 18.5±1.0      | ±0.7     | 0.15                            | 0.35 | 25               | 17   | 1.08      | 50              |
| 2200-2500     | 18.5±1.0      | ±0.7     | 0.15                            | 0.35 | 18               | 15   | 1.08      | 25              |

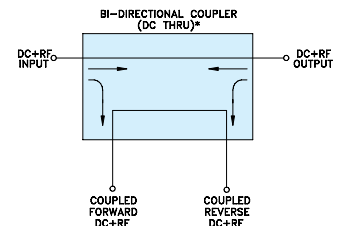
1. Mainline loss includes theoretical power loss at coupled port.

## Typical Performance Data

| Frequency (MHz) | Mainline Loss (dB) | Coupling (dB) |             | Directivity (dB) |            | Return Loss (dB) |       |         |         |
|-----------------|--------------------|---------------|-------------|------------------|------------|------------------|-------|---------|---------|
|                 | In-Out             | In-Cpl Fwd    | Out-Cpl Rev | Out-Cpl Fwd      | In-Cpl Rev | In               | Out   | Cpl Fwd | Cpl Rev |
| 700.00          | 0.07               | 23.45         | 23.45       | 27.55            | 27.50      | 34.81            | 34.65 | 33.64   | 33.85   |
| 800.00          | 0.07               | 22.41         | 22.41       | 27.34            | 27.33      | 32.60            | 32.55 | 31.58   | 31.93   |
| 1000.00         | 0.09               | 20.85         | 20.86       | 26.91            | 27.33      | 29.85            | 29.89 | 29.17   | 29.13   |
| 1100.00         | 0.10               | 20.24         | 20.25       | 26.77            | 27.44      | 29.14            | 29.39 | 28.78   | 28.99   |
| 1300.00         | 0.12               | 19.29         | 19.29       | 26.66            | 27.95      | 28.17            | 28.04 | 27.88   | 28.11   |
| 1500.00         | 0.16               | 18.72         | 18.71       | 26.90            | 28.73      | 29.02            | 29.00 | 30.31   | 30.70   |
| 1700.00         | 0.18               | 18.26         | 18.24       | 27.53            | 29.85      | 31.79            | 32.85 | 40.91   | 40.80   |
| 2000.00         | 0.16               | 18.13         | 18.11       | 26.08            | 27.79      | 41.10            | 43.50 | 31.19   | 30.29   |
| 2200.00         | 0.13               | 18.33         | 18.32       | 22.74            | 23.99      | 33.31            | 33.65 | 24.74   | 24.89   |
| 2500.00         | 0.20               | 19.29         | 19.29       | 18.56            | 19.52      | 27.08            | 27.97 | 22.95   | 23.50   |



## Electrical Schematic



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

## Notes

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