

# DC Pass Directional Coupler

50Ω

800 to 1000 MHz

ZADC-20-10+

## Maximum Ratings

|                                                                 |                |
|-----------------------------------------------------------------|----------------|
| Operating Temperature                                           | -55°C to 100°C |
| Storage Temperature                                             | -55°C to 100°C |
| DC Current                                                      | 1.5A           |
| Permanent damage may occur if any of these limits are exceeded. |                |

## Coaxial Connections

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

## Features

- low mainline loss, 0.4 dB typ.
- excellent VSWR, 1.18 typ.
- power input up to 5W
- DC current through input to output 1.5A Max.

## Applications

- GSM
- instrumentation
- cellular



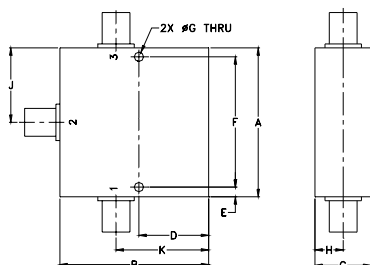
SMA version shown  
CASE STYLE: CC51-1

| Connectors | Model         |
|------------|---------------|
| N-TYPE     | ZADC-20-10-N+ |
| SMA        | ZADC-20-10-S+ |

### +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     |
|-------|-------|-------|-------|------|-------|
| 2.00  | 2.00  | .75   | .938  | .13  | 1.750 |
| 50.80 | 50.80 | 19.05 | 23.83 | 3.30 | 44.45 |
| G     | H     | J     | K     | wt   |       |
| .125  | .38   | 1.00  | 1.25  |      |       |
| 3.18  | 9.65  | 25.40 | 31.75 |      | 145.0 |

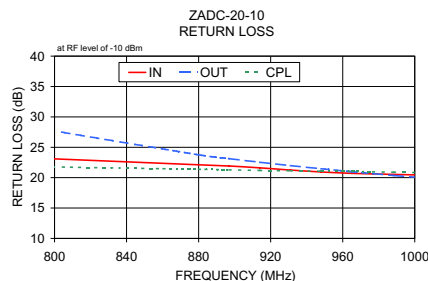
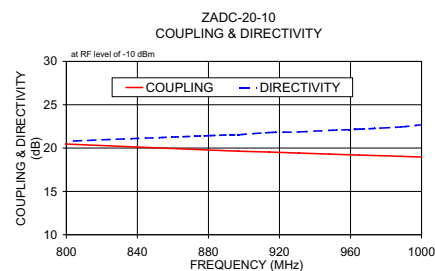
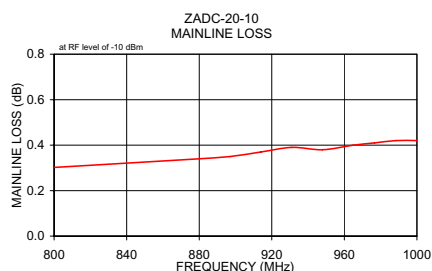
## Directional Coupler Electrical Specifications

| FREQ. RANGE (MHz)              | COUPLING (dB) |          | MAINLINE LOSS <sup>1</sup> (dB) |      | DIRECTIVITY (dB) |      | VSWR (:1) | POWER INPUT (W) |
|--------------------------------|---------------|----------|---------------------------------|------|------------------|------|-----------|-----------------|
|                                | Nom.          | Flatness | Typ.                            | Max. | Typ.             | Min. |           |                 |
| f <sub>L</sub> -f <sub>U</sub> |               |          |                                 |      |                  |      |           |                 |
| 800-1000                       | 20.0±0.6      | ±1.2     | 0.4                             | 0.7  | 21               | 17   | 1.18      | 5               |

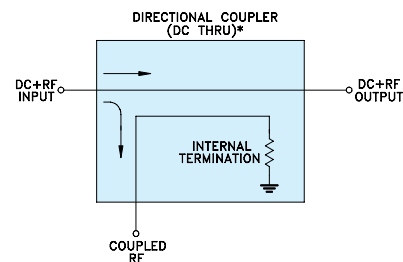
1. Mainline loss includes theoretical power loss at coupled port.

## Typical Performance Data

| Frequency (MHz) | Mainline Loss (dB) In-Out | Coupling (dB) In-Cpl | Directivity (dB) | Return Loss (dB) |       |       |
|-----------------|---------------------------|----------------------|------------------|------------------|-------|-------|
|                 |                           |                      |                  | In               | Out   | Cpl   |
| 753.33          | 0.28                      | 20.86                | 20.41            | 23.66            | 29.98 | 21.98 |
| 880.00          | 0.34                      | 19.78                | 21.43            | 22.11            | 23.76 | 21.39 |
| 897.00          | 0.35                      | 19.64                | 21.54            | 21.92            | 23.13 | 21.29 |
| 914.00          | 0.37                      | 19.54                | 21.79            | 21.61            | 22.54 | 21.20 |
| 931.00          | 0.39                      | 19.42                | 21.87            | 21.25            | 21.99 | 21.13 |
| 948.00          | 0.38                      | 19.30                | 22.04            | 20.93            | 21.47 | 21.07 |
| 965.00          | 0.40                      | 19.19                | 22.18            | 20.71            | 20.98 | 21.03 |
| 976.66          | 0.41                      | 19.12                | 22.30            | 20.62            | 20.67 | 20.96 |
| 988.33          | 0.42                      | 19.04                | 22.44            | 20.53            | 20.36 | 20.90 |
| 1000.00         | 0.42                      | 18.97                | 22.69            | 20.46            | 20.08 | 20.84 |



## Electrical Schematic



\* ELECTRICAL SCHEMATIC FOR DIRECTIONAL COUPLER THAT IS DESIGNED WITHOUT INTERNAL TRANSFORMERS.

### 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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