

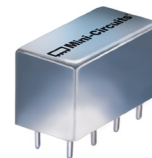
Plug-In

# Directional Coupler

50Ω

0.01 to 35 MHz

PDC-15-6+



CASE STYLE: A01

PRICE: \$31.20 ea. QTY. (1-9)

**+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

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

## Pin Connections

|             |         |
|-------------|---------|
| INPUT       | 1       |
| OUTPUT      | 4       |
| COUPLED     | 3       |
| GROUND      | 2,5,7,8 |
| CASE GROUND | 2,5,7,8 |
| NOT USED    | 6       |

## Features

- excellent directivity, 35 dB typ.
- low mainline loss, 0.2 dB typ.
- good VSWR, 1.15 typ.
- up to 4W input
- rugged welded construction, hermetically sealed

## Applications

- HF
- amateur radio
- instrumentation
- communications

## Directional Coupler Electrical Specifications

| FREQ.<br>(MHz) | COUPLING<br>(dB) |      | MAINLINE LOSS <sup>1</sup><br>(dB) |      |      |      |      |      | DIRECTIVITY<br>(dB) |      |      |      |      |      | VSWR<br>(:1) | POWER<br>INPUT, W |      |
|----------------|------------------|------|------------------------------------|------|------|------|------|------|---------------------|------|------|------|------|------|--------------|-------------------|------|
|                |                  |      | L                                  |      | M    |      | U    |      | L                   |      | M    |      | U    |      |              |                   |      |
|                | $f_L$ - $f_U$    | Nom. | Flatness                           | Typ. | Max. | Typ. | Max. | Typ. | Max.                | Typ. | Min. | Typ. | Min. | Typ. |              | Min.              | Typ. |
| 0.01-35        | 15.0±0.5         | ±0.5 | 0.3                                | 0.6  | 0.2  | 0.4  | 0.3  | 0.6  | 38                  | 30   | 35   | 25   | 28   | 20   | 1.15         | 2.0               | 4.0  |

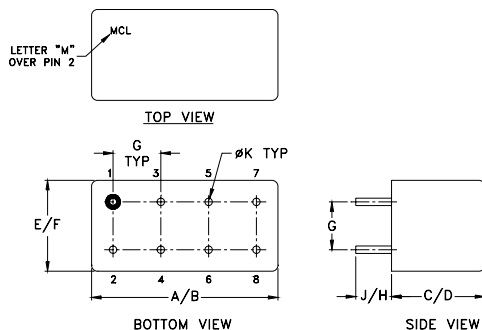
L = low range [ $f_L$  to 10  $f_L$ ] M = mid range [10  $f_L$  to  $f_U/2$ ] U = upper range [ $f_U/2$  to  $f_U$ ]

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

## Typical Performance Data

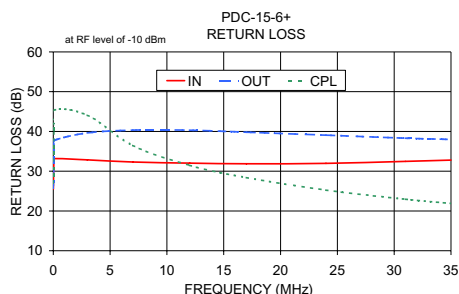
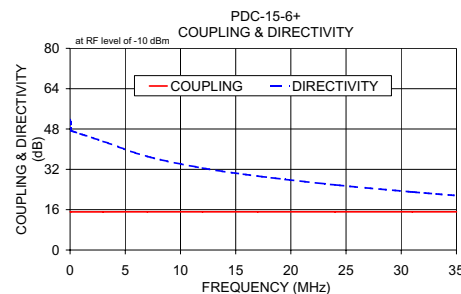
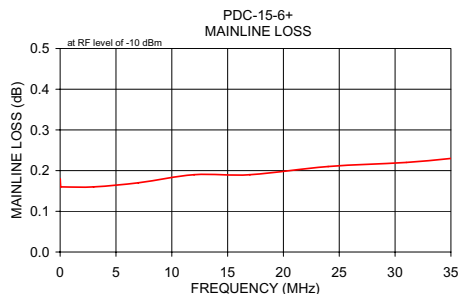
| Frequency<br>(MHz) | Mainline Loss<br>(dB)<br>In-Out | Coupling<br>(dB)<br>In-Cpl | Directivity<br>(dB) | Return Loss<br>(dB) |       |       |
|--------------------|---------------------------------|----------------------------|---------------------|---------------------|-------|-------|
|                    |                                 |                            |                     | In                  | Out   | Cpl   |
| 0.01               | 0.18                            | 15.17                      | 51.68               | 25.48               | 25.78 | 27.10 |
| 0.05               | 0.16                            | 15.13                      | 47.89               | 32.51               | 36.17 | 40.39 |
| 0.09               | 0.16                            | 15.13                      | 47.35               | 33.18               | 37.76 | 45.37 |
| 3.00               | 0.16                            | 15.13                      | 43.11               | 32.85               | 39.63 | 44.08 |
| 7.00               | 0.17                            | 15.15                      | 37.12               | 32.31               | 40.33 | 36.48 |
| 12.00              | 0.19                            | 15.16                      | 32.53               | 32.03               | 40.31 | 31.49 |
| 17.00              | 0.19                            | 15.16                      | 29.32               | 31.88               | 39.82 | 28.39 |
| 24.00              | 0.21                            | 15.17                      | 25.84               | 31.97               | 39.07 | 25.24 |
| 31.00              | 0.22                            | 15.17                      | 23.04               | 32.48               | 38.32 | 22.96 |
| 35.00              | 0.23                            | 15.16                      | 21.62               | 32.79               | 37.98 | 21.89 |

## Outline Drawing

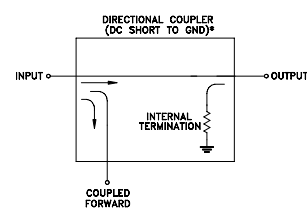


## Outline Dimensions (inch/mm)

| A     | B     | C    | D     | E    | F     |
|-------|-------|------|-------|------|-------|
| .770  | .800  | .385 | .400  | .370 | .400  |
| 19.56 | 20.32 | 9.78 | 10.16 | 9.40 | 10.16 |
| G     | H     | J    | K     |      | wt    |
| .200  | .20   | .14  | .031  |      | grams |
| 5.08  | 5.08  | 3.56 | 0.79  |      | 5.2   |



## Electrical Schematic



\* ELECTRICAL SCHEMATIC IS FOR DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMER(S) THAT ROUTES DC FROM RF PORTS TO GROUND.

## 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.

B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.

C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp)



[www.minicircuits.com](http://www.minicircuits.com) P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

REV. C  
M119986  
PDC-15-6+  
WZ/TD/CP/AM  
130114