

Plug-In Directional Coupler

NON-CATALOG

TDC-6-1

50Ω

10 to 400 MHz



CASE STYLE: B02

Maximum Ratings

Operating Temperature -55°C to 100°C

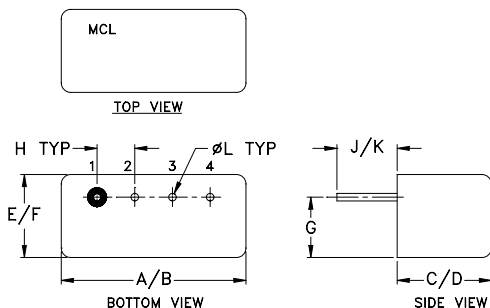
Storage Temperature -55°C to 100°C

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

Pin Connections

| | |
|-------------|---|
| INPUT | 1 |
| OUTPUT | 2 |
| COUPLED | 4 |
| GROUND | 3 |
| CASE GROUND | 3 |

Outline Drawing



Outline Dimensions (inch/mm)

| A | B | C | D | E | F |
|-------|-------|------|------|------|-------|
| .480 | .500 | .240 | .255 | .210 | .230 |
| 12.19 | 12.70 | 6.10 | 6.48 | 5.33 | 5.84 |
| G | H | J | K | L | wt |
| .16 | .100 | .14 | .20 | .020 | grams |
| 4.06 | 2.54 | 3.56 | 5.08 | 0.51 | 1.9 |

Features

- excellent directivity, 30 dB typ.
- rugged welded case, hermetically sealed

Applications

- VHF/UHF
- instrumentation
- communication receivers & transmitters

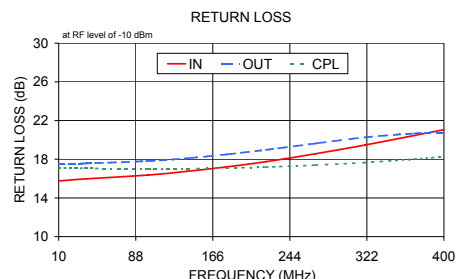
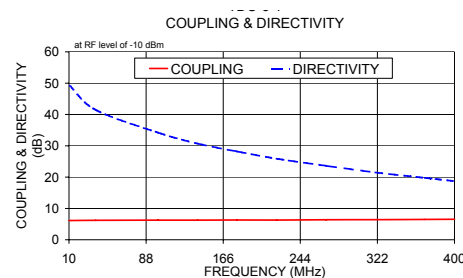
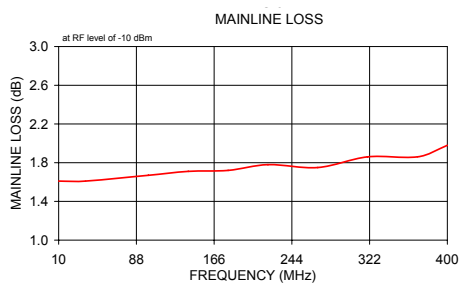
Directional Coupler Electrical Specifications

| FREQ. RANGE (MHz) | COUPLING (dB) | | MAINLINE LOSS ¹ (dB) | | | | | | DIRECTIVITY (dB) | | | | | | VSWR (:1) | POWER INPUT, W | | |
|-------------------|---------------|----------|---------------------------------|------|------|------|------|------|------------------|------|------|------|------|------|-----------|----------------|-----|----|
| | Nom. | Flatness | L | | M | | U | | L | | M | | U | | | Typ. | L | MU |
| | | | Typ. | Max. | Typ. | Max. | Typ. | Max. | Typ. | Min. | Typ. | Min. | Typ. | Min. | | | | |
| 10-400 | 6.3±0.4 | ±0.4 | 2.0 | 2.4 | 2.0 | 2.4 | 2.0 | 2.5 | 36 | 30 | 30 | 25 | 20 | 15 | 1.5 | 1.0 | 2.0 | |

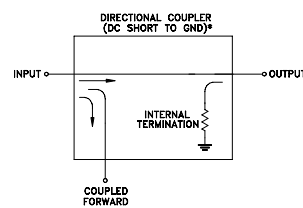
L = low range [f_L to $10 f_L$] M = mid range [$10 f_L$ to $f_U/2$] U = upper range [$f_U/2$ to f_U]
 1. Mainline loss includes theoretical power loss at coupled port.

Typical Performance Data

| Frequency (MHz) | Mainline Loss (dB) In-Out | Coupling (dB) In-Cpl | Directivity (dB) | Return Loss (dB) | | |
|-----------------|---------------------------|----------------------|------------------|------------------|-------|-------|
| | | | | In | Out | Cpl |
| 10.00 | 1.61 | 6.13 | 49.37 | 15.75 | 17.54 | 17.12 |
| 37.00 | 1.61 | 6.21 | 41.47 | 15.97 | 17.57 | 17.06 |
| 100.00 | 1.67 | 6.25 | 34.23 | 16.36 | 17.82 | 17.02 |
| 140.00 | 1.71 | 6.27 | 30.72 | 16.75 | 18.10 | 17.03 |
| 180.00 | 1.72 | 6.30 | 28.19 | 17.21 | 18.50 | 17.09 |
| 220.00 | 1.78 | 6.28 | 25.90 | 17.75 | 18.98 | 17.19 |
| 270.00 | 1.75 | 6.38 | 23.63 | 18.57 | 19.63 | 17.39 |
| 320.00 | 1.86 | 6.40 | 21.51 | 19.47 | 20.27 | 17.66 |
| 370.00 | 1.86 | 6.48 | 19.76 | 20.46 | 20.67 | 18.02 |
| 400.00 | 1.98 | 6.54 | 18.72 | 21.06 | 20.73 | 18.27 |



Electrical Schematic



* ELECTRICAL SCHEMATIC IS FOR DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMER(S) 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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