

Coaxial Directional Coupler

ZX30-12-4+

50Ω 5 to 1000 MHz

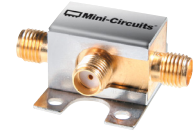
Maximum Ratings

| | |
|-----------------------|----------------|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |

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

Coaxial Connections

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



CASE STYLE: FL905

| | |
|------------|--------------|
| Connectors | Model |
| SMA | ZX30-12-4-S+ |

+RoHS Compliant

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

Features

- very flat coupling
- very broad, multi-octave
- all welded construction
- protected by U.S. Patents 6,140,887 & 6,784,521 & 6,790,049

Applications

- VHF/UHF
- communications receivers & transmitters
- cellular
- instrumentation

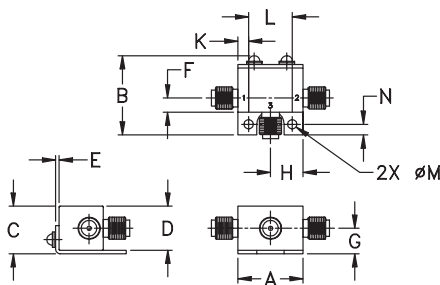
Directional Coupler Electrical Specifications (T_{AMB} = 25°C)

| FREQ. (MHz) | COUPLING (dB) | | MAINLINE LOSS ¹ (dB) | | | | | | DIRECTIVITY (dB) | | | | | | VSWR (:1) | POWER INPUT, W | | |
|--------------------------------|---------------|---------------|---------------------------------|------|------|------|------|------|------------------|------|------|------|------|------|-----------|----------------|-----|----|
| | Nom. | Typ. Flatness | L | | M | | U | | L | | M | | U | | | Typ. | L | MU |
| | | | Typ. | Max. | Typ. | Max. | Typ. | Max. | Typ. | Min. | Typ. | Min. | Typ. | Min. | | | | |
| f _L -f _U | | | | | | | | | | | | | | | | | | |
| 5-1000 | 12.0±0.5 | ±0.3 | 0.7 | 1.0 | 0.85 | 1.0 | 0.9 | 1.4 | 35 | 28 | 25 | 20 | 20 | 13 | 1.15 | 0.5 | 1.0 | |

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.

Outline Drawing

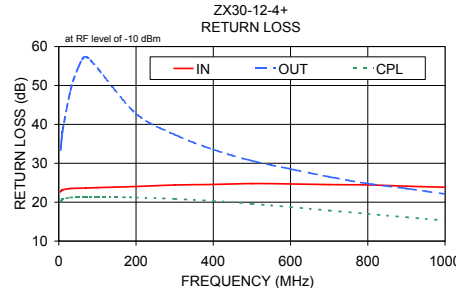
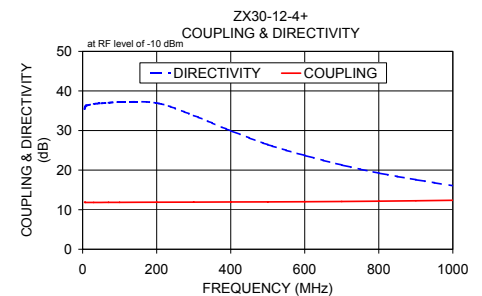
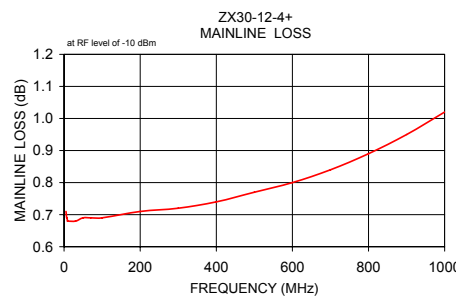


Outline Dimensions (inch/mm)

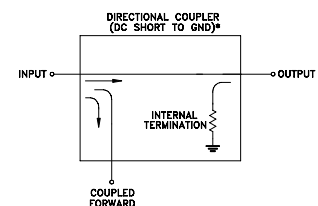
| | | | | | | |
|-------|-------|-------|-------|------|------|-------|
| A | B | C | D | E | F | G |
| .74 | .90 | .54 | .50 | .04 | .16 | .29 |
| 18.80 | 22.86 | 13.72 | 12.70 | 1.02 | 4.06 | 7.37 |
| H | J | K | L | M | N | wt |
| .37 | -- | .122 | .496 | .106 | .122 | grams |
| 9.40 | -- | 3.10 | 12.60 | 2.69 | 3.10 | 20.0 |

Typical Performance Data

| Frequency (MHz) | Mainline Loss (dB) In-Out | Coupling (dB) In-Cpl | Directivity (dB) | Return Loss (dB) | | |
|-----------------|---------------------------|----------------------|------------------|------------------|-------|-------|
| | | | | In | Out | Cpl |
| 5.00 | 0.71 | 11.86 | 35.40 | 22.64 | 33.41 | 20.06 |
| 8.00 | 0.69 | 11.83 | 36.14 | 23.06 | 36.92 | 20.62 |
| 10.00 | 0.68 | 11.82 | 36.32 | 23.20 | 38.67 | 20.80 |
| 50.00 | 0.69 | 11.83 | 36.87 | 23.58 | 54.57 | 21.25 |
| 100.00 | 0.69 | 11.85 | 37.20 | 23.75 | 54.41 | 21.28 |
| 200.00 | 0.71 | 11.88 | 36.97 | 24.03 | 42.79 | 21.20 |
| 400.00 | 0.74 | 11.94 | 29.96 | 24.56 | 33.53 | 20.33 |
| 600.00 | 0.80 | 12.02 | 23.72 | 24.68 | 28.55 | 18.76 |
| 800.00 | 0.89 | 12.15 | 19.26 | 24.44 | 24.79 | 16.99 |
| 1000.00 | 1.02 | 12.37 | 16.05 | 23.85 | 22.08 | 15.31 |



Electrical Schematic



* ELECTRICAL SCHEMATIC IS FOR DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMER 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.
- 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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