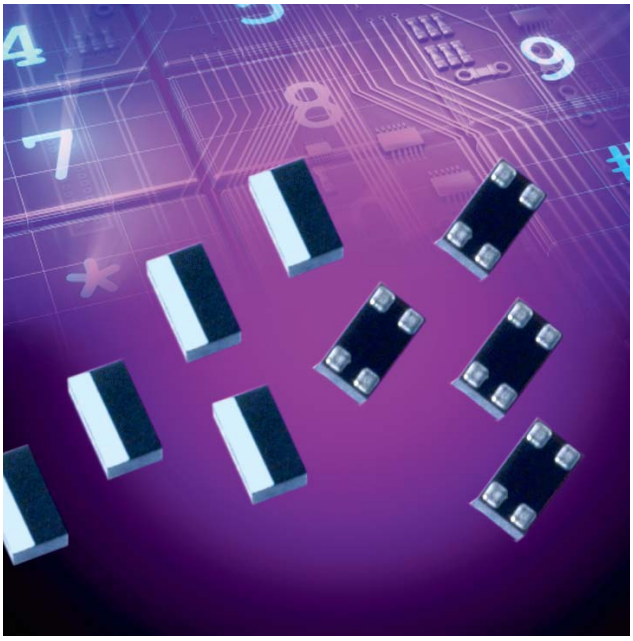
Thin Film Directional Couplers
Wide Band High Directivity

CP0402W2700FNTR



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HOW TO ORDER

CP	0402	W	XXXX	X	N	TR
		Type Wide Band	Frequency (MHz)	Sub-Type	LGA Termination Sn100	Taped & Reeled

RoHS COMPLIANT

QUALITY INSPECTION

Finished parts are 100% tested for electrical parameters and visual characteristics. Each production lot is evaluated on a sample basis for:

- Static Humidity: 85°C, 85% RH, 160 hours
- Endurance: 125°C, I_R, 4 hours

TERMINATION

Nickel/Lead Free solder coating compatible with automatic soldering technologies: reflow, wave soldering, vapor phase and manual.

OPERATING TEMPERATURE

-40°C to +85°C

POWER RATING

3W RF Continuous

ITF TECHNOLOGY

The ITF High Directivity Wide Band LGA Coupler is based on thin-film multilayer technology. The technology provides a miniature part with excellent high frequency performance and rugged construction for reliable automatic assembly.

The Wide Band High Directivity Coupler displays a stable coupling factor over a wide frequency band.

APPLICATIONS

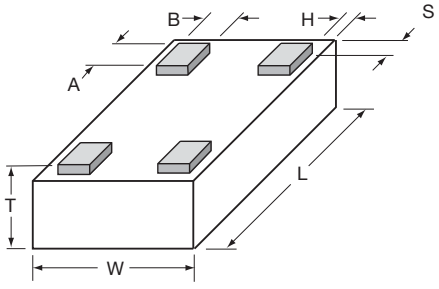
- Mobile communications
- Satellite TV receivers
- GPS
- Vehicle location systems
- Wireless LAN's

LAND GRID ARRAY ADVANTAGES

- Inherent Low Profile
- Self Alignment during Reflow
- Excellent Solderability
- Low Parasitics
- Better Heat Dissipation

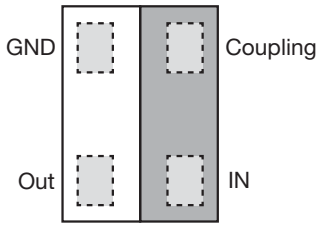
DIMENSIONS (Bottom View)

mm (inches)

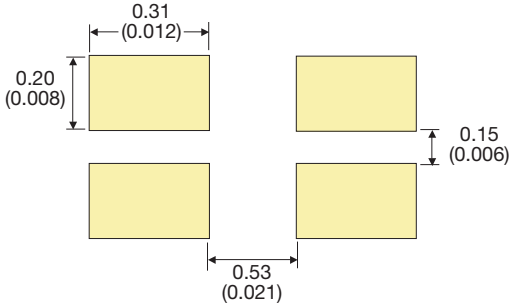


L	1.00±0.05 (0.040±0.002)
W	0.58±0.04 (0.023±0.002)
T	0.35±0.05 (0.014±0.002)
A	0.20±0.05 (0.008±0.002)
B	0.18±0.05 (0.007±0.002)
S, H	0.05±0.05 (0.002±0.002)

TERMINALS (Top View)



Recommended Pad Layout Dimensions mm (inches)



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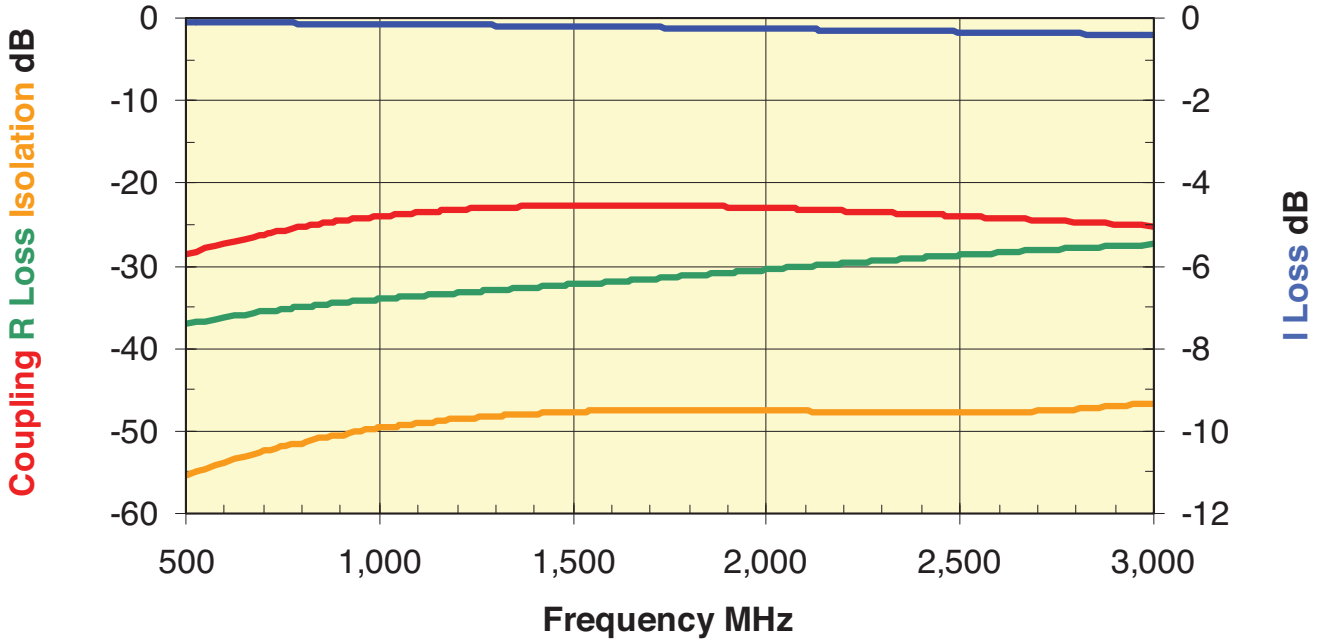
CP0402W2700FNTR

Directional Coupler Type CP0402W2700FNTR

P/N	Frequency [MHz]	Coupling [dB]	I. Loss max. [dB]	Return Loss [dB]	Directivity [dB]
CP0402W2700FNTR	700-2,700	24±2	0.3	18	20



Thin Film Directional Couplers
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CP0402W2700FNTR Test Jigs

GENERAL DESCRIPTION

These jigs are designed for testing the CP0402W2700FNTR High Directivity Couplers using a Vector Network Analyzer.

They consist of a dielectric substrate, having 50Ω microstrips as conducting lines and a bottom ground plane located at a distance of 0.254mm (0.010") from the microstrips.

The substrate used is Neltec's NH9338ST0254C1BC.

The connectors are SMA type (female), 'Johnson Components Inc.' Product P/N: 142-0701-841.

Both a measurement jig and a calibration jig are provided.

The calibration jig is designed for a full 2-port calibration, and consists of an open line, short line and through line. LOAD calibration can be done by a 50Ω SMA termination.

MEASUREMENT PROCEDURE

When measuring a component, it can be either soldered or pressed using a non-metallic stick until all four ports touch the appropriate pads. Set the VNA to the relevant frequency band. Connect the VNA using a 10dB attenuator on the jig terminal connected to port 2. Follow the VNA's instruction manual and use the calibration jig to perform a full 2-Port calibration in the required bandwidths.

Place the coupler on the measurement jig as follows:

GND (Coupler) ➜ Connector 1 (Jig)
IN (Coupler) ➜ Connector 3 (Jig)
Coupling (Coupler) ➜ Connector 2 (Jig)
Out (Coupler) ➜ Connector 4 (Jig)

To measure I. Loss connect:

Connector 3 (Jig) ➜ Port 1 (VNA)
Connector 2 (Jig) ➜ 50Ω
Connector 4 (Jig) ➜ Port 2 (VNA)

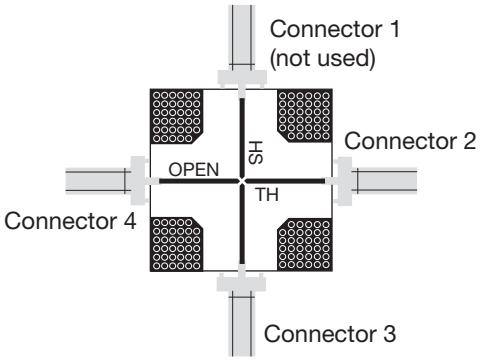
To measure R. Loss and Coupling connect:

Connector 3 (Jig) ➜ Port 1 (VNA)
Connector 4 (Jig) ➜ 50Ω
Connector 2 (Jig) ➜ Port 2 (VNA)

To measure Isolation connect:

Connector 4 (Jig) ➜ Port 1 (VNA)
Connector 2 (Jig) ➜ Port 2 (VNA)
Connector 3 (Jig) ➜ 50Ω

Measurement Jig



Calibration Jig