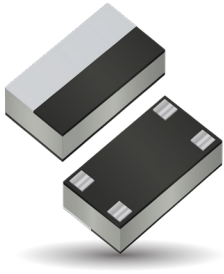


# Thin-Film RF/Microwave Directional Couplers

## CP0302/CP0402/CP0603/CP0805 and DB0603N/DB0805 3dB 90°

### CP0402W2700FNTR Wide Band High Directivity



#### ITF TECHNOLOGY

The ITF High Directivity Wide Band LGA Coupler is based on thinfilm 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.

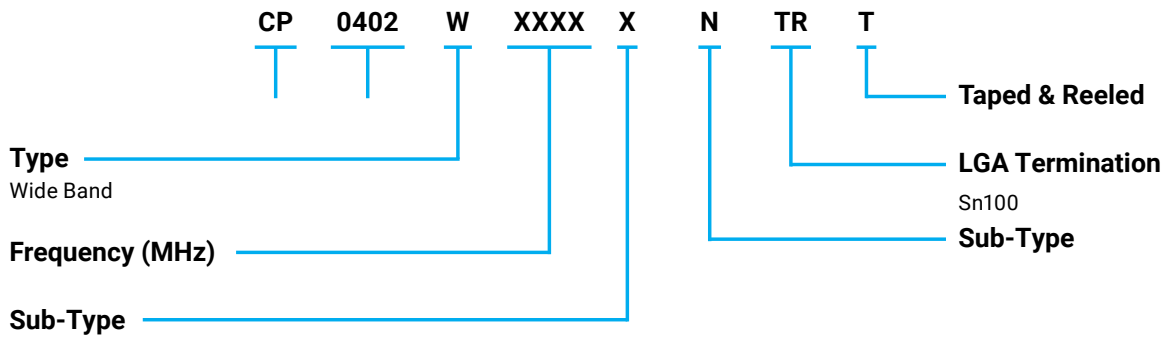
#### APPLICATIONS

- 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

#### HOW TO ORDER



#### QUALITY INSPECTION

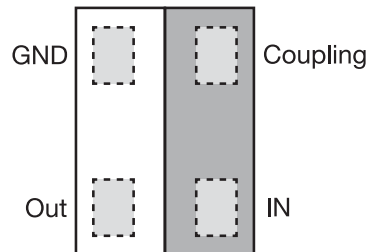
Finished parts are 100% tested for electrical parameters and visual characteristics. Each production lot is evaluated on a sample basis for:

- Static Humidity: 85°C, 85% RH, 160 hours
- Endurance: 125°C, I<sub>R</sub>, 4 hours

#### TERMINATION

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

#### TERMINALS (TOP VIEW)



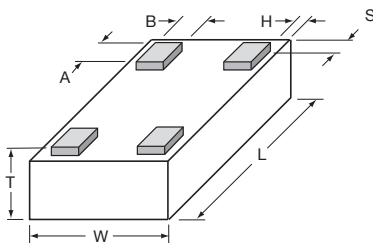
#### OPERATING TEMPERATURE

-40°C to +85°C

#### POWER RATING

3W RF Continuous

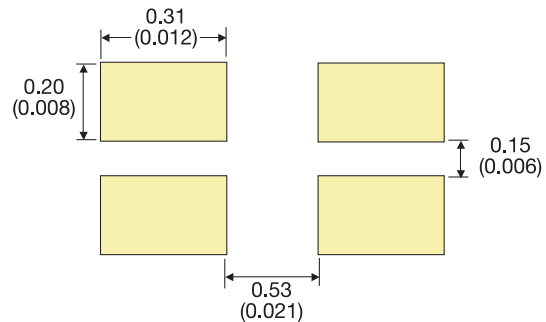
#### DIMENSIONS (BOTTOM VIEW)



#### 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)

#### Recommended Pad Layout Dimensions mm (inches)

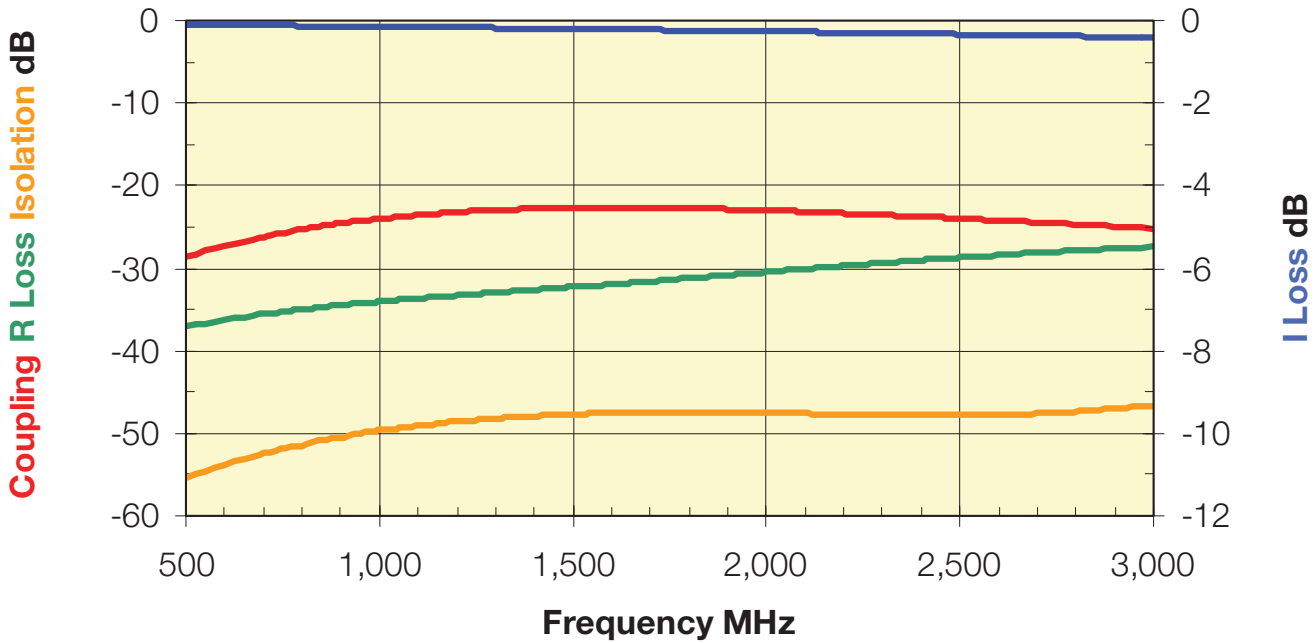


**Thin-Film RF/Microwave Directional Couplers**  
**CP0302/CP0402/CP0603/CP0805 and DB0603N/DB0805 3dB 90°**  
**CP0402W2700FNTR Wide Band High Directivity**



**Directional Coupler Type CP0402W2700FNTR**

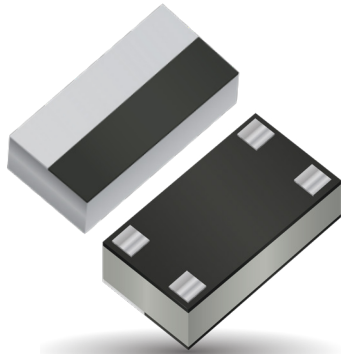
P/N	Frequency [MHz]	Coupling [dB]	I. Loss max. [dB]	Return Loss [dB]	Directivity [dB]
CP0402W2700FNTR	700-2,700	24±2	0.3	18	20



# Broadband Directional Couplers

## Lead-Free LGA Termination

### CP0402W3800GNTR - High Directivity



#### ITF TECHNOLOGY

The ITF High Directivity 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 ITF Coupler is offered in a variety of frequency bands compatible with various types of high frequency wireless systems.

#### 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

#### HOW TO ORDER

<b>CP</b>	<b>0402</b>	<b>W</b>	<b>3800</b>	<b>G</b>	<b>N</b>	<b>TR</b>
Series	Size	Type	Frequency (MHz)	Sub-Type	LGA Term Sn100	Taped & Reeled

#### FINAL QUALITY INSPECTION

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

- Static Humidity: 85°C, 85% RH, 160 hours
- Endurance: 125°C, I<sub>R</sub>, 4 hours

#### TERMINATION

Nickel/Lead-Free Solder coating (Sn100) compatible with automatic soldering technologies: reflow, wave soldering, vapor phase and manual.

#### OPERATING TEMPERATURE

-40°C to +85°C

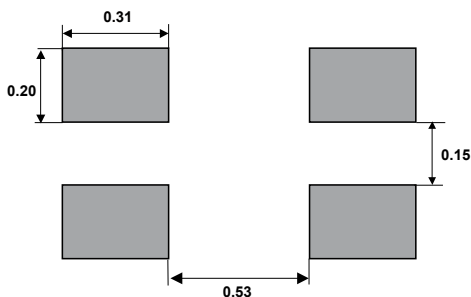
#### POWER RATING

1W RF Continuous

#### NOTE

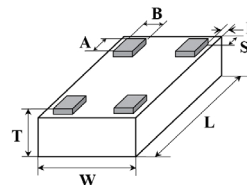
CP0402W3800GNTR includes a built in 50 Ohm resistor and does not require an external 50 Ohm resistor.

#### RECOMMENDED PAD LAYOUT: (mm)



#### DIMENSIONS: mm (inches)

(Bottom View)

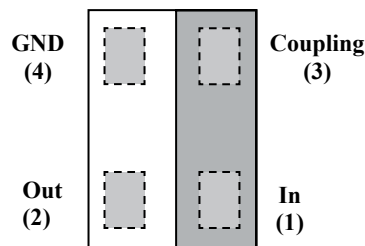


<b>L</b>	1.0±0.05 (0.040±0.002)
<b>W</b>	0.58±0.04 (0.023±0.002)
<b>T</b>	0.35±0.05 (0.014±0.002)

<b>A</b>	0.20±0.05 (0.008±0.002)
<b>B</b>	0.18±0.05 (0.007±0.002)
<b>S</b>	0.05±0.05 (0.002±0.002)

#### TERMINALS:

(Top View)



# Broadband Directional Couplers

Lead-Free LGA Termination

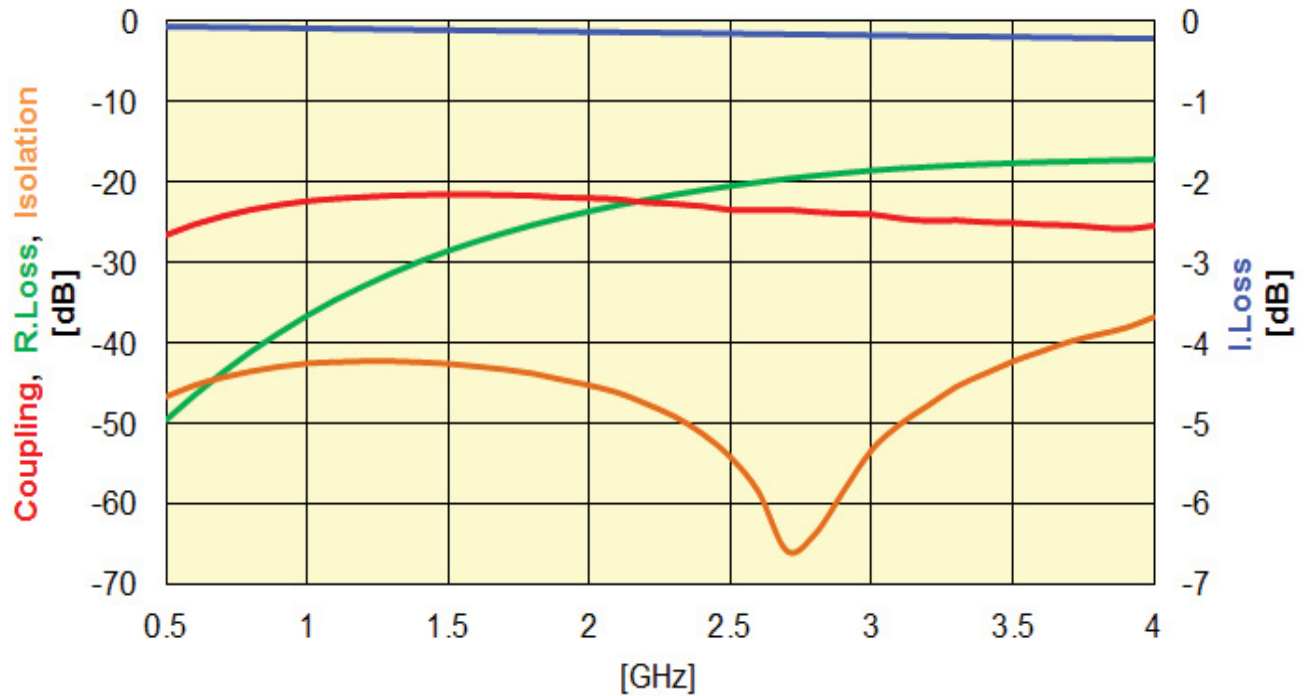
CP0402W3800GNTR - High Directivity



## DIRECTIONAL COUPLER TYPE CP0402W3800GNTR

P/N	FREQUENCY [MHz]	COUPLING [dB]	I. Loss max. [dB]	R.Loss [dB]	Directivity [dB]
CP0402W3800GNTR	700-3800	24±2.5	0.4	18	18

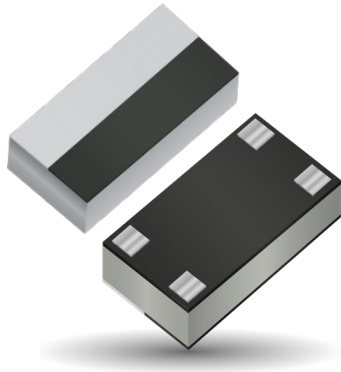
## TYPICAL ELECTRICAL PERFORMANCE



# Broadband Directional Couplers

## Lead-Free LGA Termination

### CP0402W4500JNTR - High Directivity



#### ITF TECHNOLOGY

The ITF High Directivity 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 ITF Coupler is offered in a variety of frequency bands compatible with various types of high frequency wireless systems.

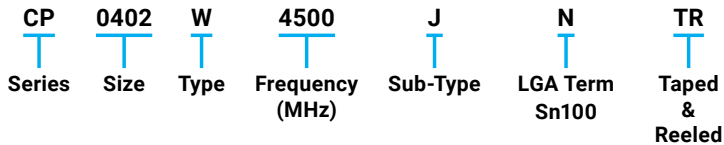
#### APPLICATIONS

- 5G Application
- Mobile communications
- Satellite TV receivers
- GPS
- Vehicle location systems

#### LAND GRID ARRAY ADVANTAGES

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

#### HOW TO ORDER



#### FINAL 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<sub>R</sub>, 4 hours

#### TERMINATION

Nickel/Lead-Free Solder coating (Sn100) compatible with automatic soldering technologies: reflow, wave soldering, vapor phase and manual.

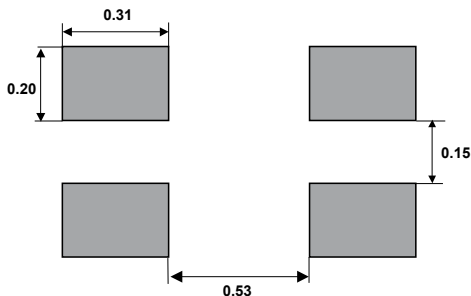
#### OPERATING TEMPERATURE

-40°C to +85°C

#### POWER RATING

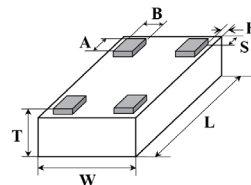
1W RF Continuous

#### RECOMMENDED PAD LAYOUT: (mm)



#### DIMENSIONS: mm (inches)

(Bottom View)

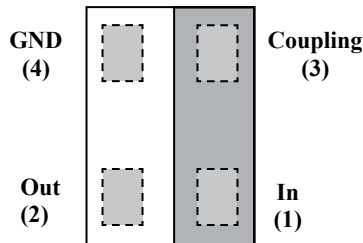


<b>L</b>	1.0±0.05 (0.040±0.002)
<b>W</b>	0.58±0.04 (0.023±0.002)
<b>T</b>	0.35±0.05 (0.014±0.002)

<b>A</b>	0.20±0.05 (0.008±0.002)
<b>B</b>	0.18±0.05 (0.007±0.002)
<b>S</b>	0.05±0.05 (0.002±0.002)

#### TERMINALS:

(Top View)



# Broadband Directional Couplers

## Lead-Free LGA Termination

### CP0402W4500JNTR - High Directivity



#### DIRECTIONAL COUPLER TYPE CP0402W3800GNTR

P/N	FREQUENCY [MHz]	COUPLING [dB]	I. Loss [dB]	R.Loss [dB]	Directivity [dB]
CP0402W4500JNTR	2000-7000	20±2	0.6	15	15

#### TYPICAL ELECTRICAL PERFORMANCE

