



Thin-Film Technology

CP0805

Thin-Film RF/Microwave
Directional Couplers

Thin-Film Directional Couplers



CP0805 Type

GENERAL DESCRIPTION

ITF (Integrated Thin-Film) TECHNOLOGY

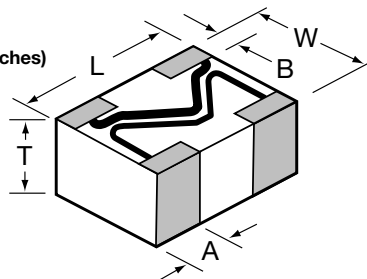
The ITF SMD Coupler is based on thin-film multilayer technology. The technology provides a miniature part with excellent high frequency performance and rugged construction for reliable automatic assembly.

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

TOP VIEW

DIMENSIONS: millimeters (inches)

	0805
L	2.03±0.1 (0.080±0.004)
W	1.55±0.1 (0.061±0.004)
T	0.98±0.1 (0.039±0.004)
A	0.56±0.25 (0.022±0.010)
B	0.35±0.15 (0.014±0.006)



FEATURES

- Small Size: 0805
- Frequency Range: 800MHz - 3GHz
- Characteristic Impedance: 50Ω
- Operating / Storage Temp.: -40°C ÷ +85°C
- Low Profile
- Rugged Construction
- Taped and Reeled

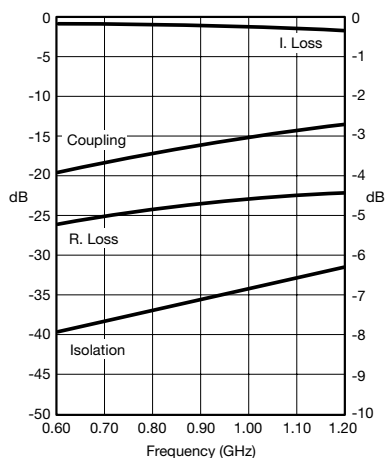
APPLICATIONS

- Mobile Communications
- Satellite TV Receivers
- GPS
- Vehicle Location Systems
- Wireless LAN's

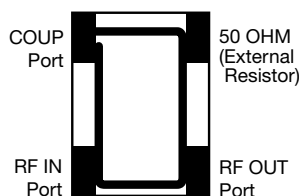
HOW TO ORDER

CP	0805	A	0902	A	W	TR
Style	Size	Layout Type	Frequency	Sub Type	Termination Code	Packaging Code
Directional Coupler	0805	(see layout types)	MHz	(see layout sub-types)	W = Nickel/Solder (Sn/Pb)	TR = Tape and Reel

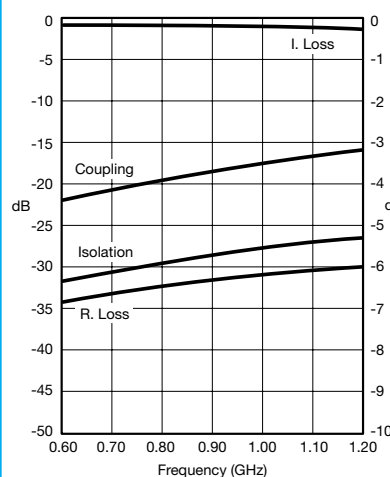
Type: A
Sub-Type: A



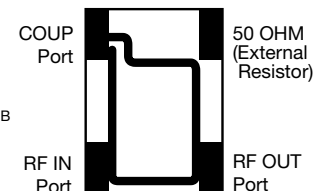
LAYOUT



Type: A
Sub-Type: B



LAYOUT



APPLICATION	P/N	FREQUENCY BAND [MHz]	COUPLING [dB]	I. LOSS max	VSWR max
GSM	CP0805A0902AW	890 ÷ 915	16±1	0.25dB	1.2
	CP0805A0947AW	935 ÷ 960	15.5±1		
AMPS	CP0805A0836AW	824 ÷ 849	16.5±1	0.25dB	1.2
	CP0805A0881AW	869 ÷ 894	16±1		

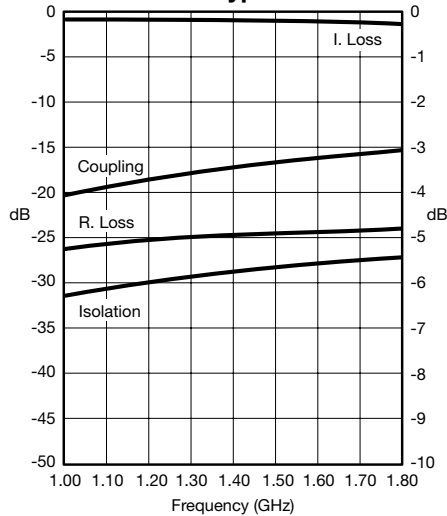
APPLICATION	P/N	FREQUENCY BAND [MHz]	COUPLING [dB]	I. LOSS max	VSWR max
GSM	CP0805A0902AW	890 ÷ 915	18±1	0.25dB	1.2
	CP0805A0947AW	935 ÷ 960	18±1		
AMPS	CP0805A0836AW	824 ÷ 849	19±1	0.25dB	1.2
	CP0805A0881AW	869 ÷ 894	18.5±1		

Thin-Film Directional Couplers

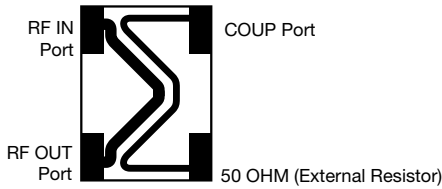


Layout Types

Type: B
Sub-Type: A

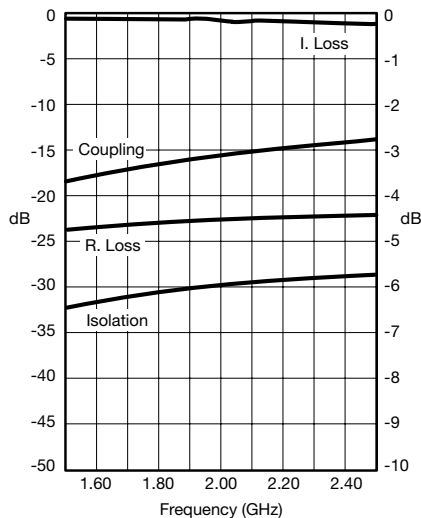


LAYOUT

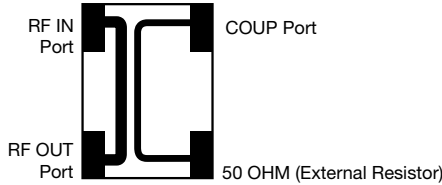


APPLICATION	P/N	FREQUENCY BAND [MHz]	COUPLING [dB]	I. LOSS max	VSWR max
PCN	CP0805B1747AW	1710 ÷ 1785	15.5±1	0.25dB	1.2
	CP0805B1842AW	1805 ÷ 1880	15±1	0.3dB	
PCS	CP0805B1890AW	1870 ÷ 1910	15±1	0.8dB	
	CP0805B1950AW	1930 ÷ 1970	14.5±1	0.3dB	
PHP	CP0805B1907AW	1895 ÷ 1920	15±1	0.3dB	
DECT	CP0805B1890AW	1880 ÷ 1900	15±1	0.3dB	
Wireless LAN	CP0805B2442AW	2400 ÷ 2484	13±1	0.4dB	

Type: B
Sub-Type: B

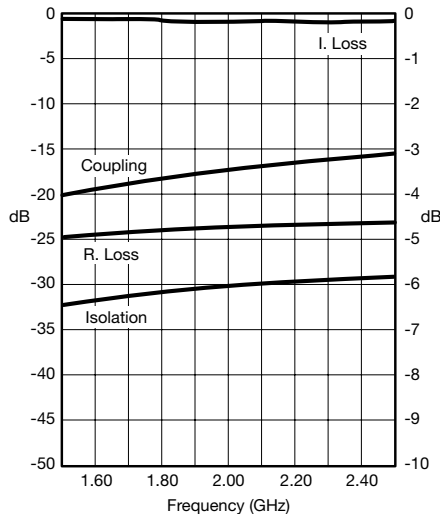


LAYOUT

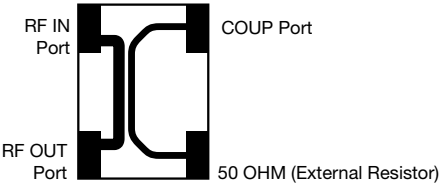


APPLICATION	P/N	FREQUENCY BAND [MHz]	COUPLING [dB]	I. LOSS max	VSWR max
PCN	CP0805B1747BW	1710 ÷ 1785	17±1	0.25dB	1.2
	CP0805B1842BW	1805 ÷ 1880	16.5±1		
PCS	CP0805B1890BW	1870 ÷ 1910	16±1		
	CP0805B1950BW	1930 ÷ 1970	16±1		
PHP	CP0805B1907BW	1895 ÷ 1920	16±1		
DECT	CP0805B1890BW	1880 ÷ 1900	16±1		
Wireless LAN	CP0805B2442BW	2400 ÷ 2484	14±1	0.4dB	

Type: B
Sub-Type: C



LAYOUT



APPLICATION	P/N	FREQUENCY BAND [MHz]	COUPLING [dB]	I. LOSS max	VSWR max
PCN	CP0805B1747CW	1710 ÷ 1785	18.5±1	0.25dB	1.2
	CP0805B1842CW	1805 ÷ 1880	18.5±1		
PCS	CP0805B1890CW	1870 ÷ 1910	18±1		
	CP0805B1950CW	1930 ÷ 1970	17.5±1		
PHP	CP0805B1907CW	1895 ÷ 1920	18±1		
DECT	CP0805B1890CW	1880 ÷ 1900	18±1		
Wireless LAN	CP0805B2442CW	2400 ÷ 2484	16±1	0.4dB	



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Test Jig

CALIBRATION

Use Full 2-port calibration. Open, Short & Thru fixtures are in the jig. For Load calibration, an SMA 50 Ω Termination may be used, or the LOAD port in the jig, with a 50 Ω chip resistor soldered to ground.

CONNECTORS

P/N: 142-0701-881 (Johnson Components)

SUBSTRATE

The jig is a multilayer FR4 substrate. Thickness between printed lines to ground layer is 0.2mm.

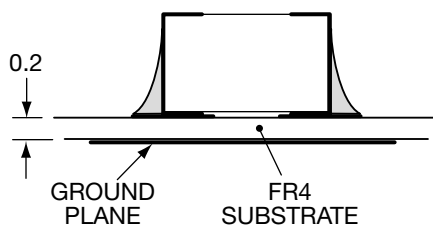
QUALITY INSPECTION

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

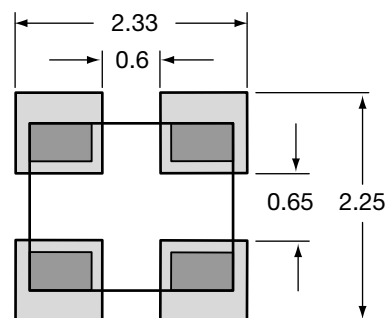
- Static Humidity: 85°C, 85% RH, 160 hours
- Endurance: 125°C, I_R , 4 hours

RECOMMENDED PAD

DIMENSIONS: millimeters (inches)



Side View



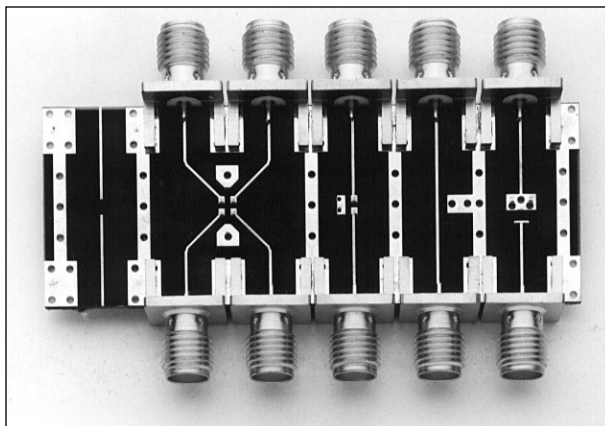
Top View

Substrate Material: FR4

Substrate Thickness: 0.2mm

Note: Slight changes in electrical parameters should be expected if a different substrate is used.

JIG SHAPE



TERMINATION

Nickel/Solder coating (Sn, Pb) compatible with automatic soldering technologies: reflow, wave soldering, vapor phase and manual.