Ceramic

Diplexer

LDPW-162-242+

50Ω DC to 6000 MHz (DC-1650, 2400-6000 MHz)



CASE STYLE: JC0603C

+RoHS Compliant

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

Available Tape and Reel at no extra cost

Reel Size	Devices/Reel
7"	20, 50, 100, 200, 500,1000, 4000

Maximum Ratings

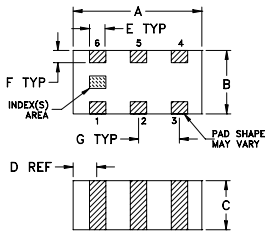
Operating Temperature	-55°C to 100°C
Storage Temperature*	-55°C to 100°C
RF Power Input**	2W at 25°C

* 12 months max.
** passband rating, derate linearly to 1W at 100°C ambient.
Permanent damage may occur if any of these limits are exceeded.

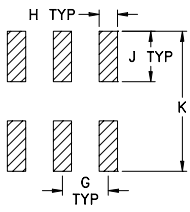
Pad Connections

Low Pass Port	6
High Pass Port	4
Common Port	2
Ground	1,3,5

Outline Drawing



PCB Land Pattern



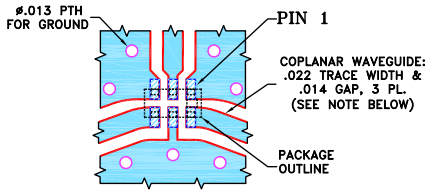
Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch / mm)

A	B	C	D	E	F
.063	.031	.024	.012	.008	.006
1.60	0.79	0.61	0.30	0.20	0.15

G	H	J	K	wt
.020	.010	.022	.053	grams
0.51	0.25	0.56	1.35	0.005

Demo Board MCL P/N: TB-796+
Suggested PCB Layout (PL-428)



NOTES:
1. COPLANAR WAVEGIDE IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .010" ± .001". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH AND GAP MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER).

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK.

Features

- small size 0603 (1.6 x 0.8 mm)
- low insertion loss, 0.6 dB typ.
- high rejection
- temperature stable
- LTCC construction

Applications

- communication systems
- cellular
- GPS
- WCDMA

Electrical Specifications[1,2] at 25°C

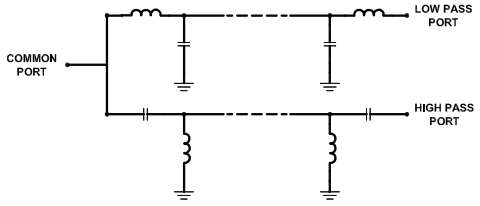
Parameter		Port	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Insertion Loss	Low Pass	DC - 1650	—	0.6	0.9	dB
		High Pass	2400 - 2500	—	0.6	1.3	
			4900 - 6000		0.3	0.8	
	Return Loss	Low Pass	DC - 1650	10	20	—	dB
		High Pass	2400 - 2500	10	23	—	
			4900 - 6000	10	16	—	
		Common	DC -1650	—	20	—	
			2400 - 2500	—	23	—	
			4900 - 6000	—	16	—	
Stop Band Isolation		High Pass	DC - 200	—	25	—	dB
			200 - 1400	—	15	—	
			1400 - 1650	—	20	—	
		Low Pass	2500 - 6000	—	20	—	

1. In Application where DC voltage is present at either input or output port, coupling capacitors are required.
2. Measured on Mini-Circuits Characterization Test Board TB-796+

Typical Performance Data at 25°C

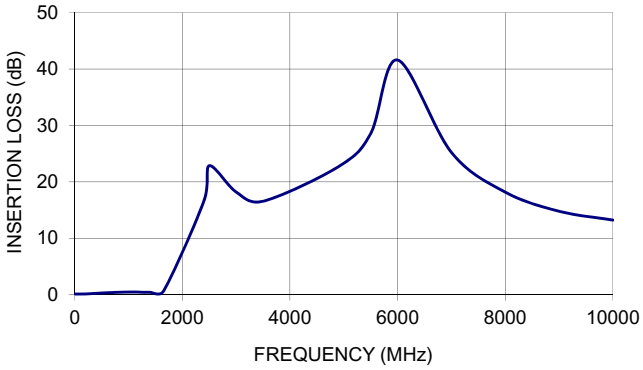
Frequency (MHz)	Insertion Loss (dB)		Return Loss (dB)		
	Low Pass Port	High Pass Port	Common Port	Low Pass Port	High Pass Port
10	0.13	47.51	42.31	37.69	0.04
200	0.14	21.72	34.81	36.27	0.09
500	0.30	14.79	27.23	29.10	0.38
1000	0.48	12.64	23.25	26.89	0.84
1400	0.43	18.92	22.09	23.60	0.84
1650	0.63	18.42	22.33	24.79	1.38
2400	16.56	0.63	25.67	1.37	23.73
2500	22.87	0.49	23.79	1.06	24.19
3000	18.21	0.40	18.95	0.73	18.81
3500	16.56	0.41	17.03	0.60	16.78
4900	22.69	0.30	17.07	0.23	18.05
5500	28.56	0.26	18.00	0.20	19.46
6000	41.60	0.28	16.94	0.24	17.80
7000	25.23	0.39	13.98	0.39	13.64
8000	18.18	0.49	13.75	0.52	12.56
9000	14.80	0.61	14.12	0.55	12.14
10000	13.22	0.76	13.03	0.58	11.24

Functional Schematic

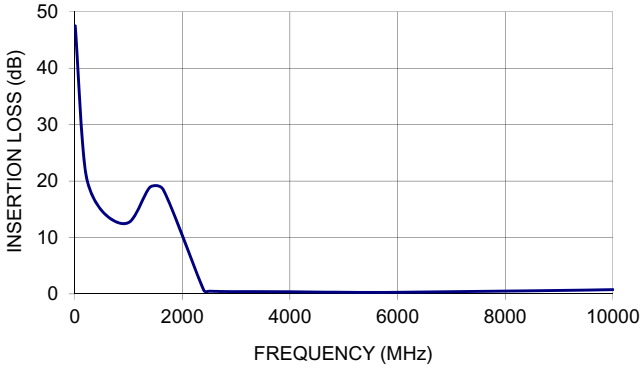


Notes
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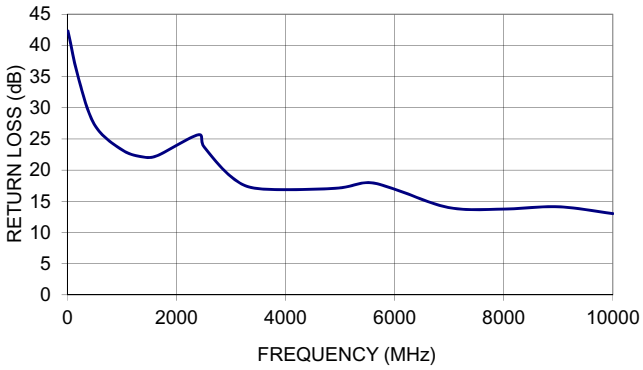
LDPW-162-242+
LOW FREQUENCY PORT INSERTION LOSS (Pin=0dBm)



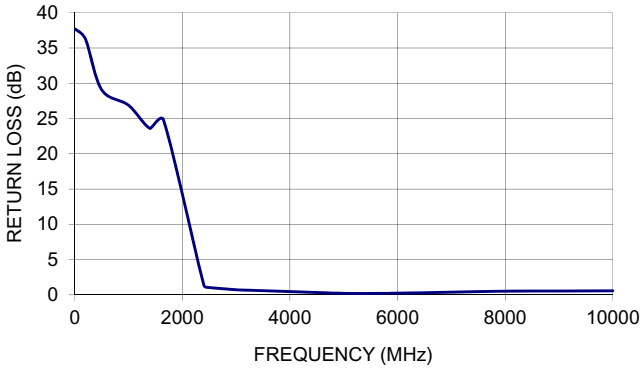
LDPW-162-242+
HIGH FREQUENCY PORT INSERTION LOSS (Pin=0dBm)



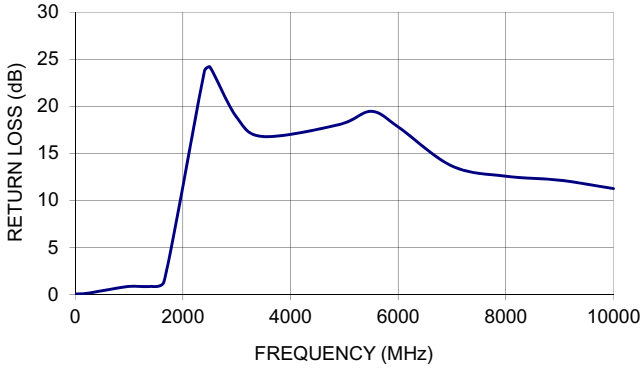
LDPW-162-242+
COMMON PORT RETURN LOSS (Pin=0 dBm)



LDPW-162-242+
LOW FREQUENCY PORT RETURN LOSS (Pin=0dBm)



LDPW-162-242+
HIGH FREQUENCY PORT RETURN LOSS (Pin=0dBm)



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