

LTCC Diplexer

50Ω 2400 to 2500 MHz (4900 to 5950 MHz)

Maximum Ratings

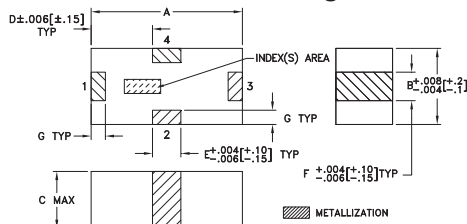
Operating Temperature	-40°C to 85°C
Storage Temperature*	-40°C to 85°C
RF Power Input**	2W

*Refer to product storage temperature after installation.
Suggestion for T&R unused product storage condition: +5--35°C,
Humidity 45~75%RH, 12 Month max.
Permanent damage may occur if any of these limits are exceeded.
** Derate linearly to 1W at 85°C.

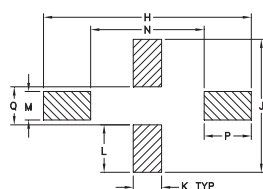
Pad Connections

Low Pass Port	1
Band Pass Port	3
Common Port	2
Ground	4

Outline Drawing



PCB Land Pattern

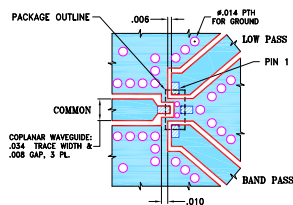


Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch mm)

A	B	C	D	E	F	G	H
.063	.032	.024	.026	.012	.012	.006	.087
1.60	0.81	0.61	0.66	0.30	0.30	0.15	2.21
J	K	L	M	N	P	Q	wt
.055	.012	.020	.012	.047	.020	.016	grams
1.40	0.30	0.51	0.30	1.19	0.51	0.41	.005

Evaluation Board MCL P/N: TB-1030+ Suggested PCB Layout (PL-570)



NOTES:
1. TRACE WIDTH & GAP ARE SHOWN FOR ROGERS RO4235 WITH DIELECTRIC THICKNESS .0028±.0015.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
3. DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER).
4. DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK.

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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Features

- low insertion loss, 0.7 dB typ.
- miniature size 0603
- low cost
- aqueous washable

Applications

- ISM Band
- WLAN
- Bluetooth
- Zigbee



Generic photo used for illustration purposes only

CASE STYLE: JC0603C-3

+RoHS Compliant

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

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

Electrical Specifications¹ at 25°C

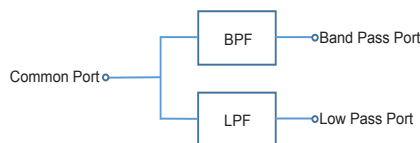
Parameter		Port	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Insertion Loss	Low Pass	2400 - 2500	-	0.7	0.9	dB
		Band Pass	4900 - 5950	-	0.7	1.1	
	Return Loss	Low Pass	2400 - 2500	9.5	18	-	dB
		Band Pass	4900 - 5950	9.5	26	-	
		Common	2400 - 2500	9.5	16	-	
			4900 - 5950	9.5	26	-	
Stop Band Rejection		Band Pass	800 - 2500	20	34	-	dB
			9800 - 11900	20	37	-	
		Low Pass	4800 - 6000	20	28	-	dB
			7200 - 7500	20	28	-	

¹ Tested on Evaluation Board TB-1030+

Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)		Return Loss (dB)		
	Low Pass Port	Band Pass Port	Common Port	Low Pass Port	Band Pass Port
500	0.26	33.38	23.46	23.58	0.07
1000	0.38	29.27	17.05	17.21	0.07
1800	0.59	31.50	14.37	14.62	0.25
2000	0.62	33.60	14.69	15.26	0.30
2400	0.71	32.51	16.13	18.02	0.43
2450	0.71	31.27	16.54	18.21	0.45
2500	0.73	29.95	16.62	18.44	0.47
3000	1.11	19.31	16.90	16.20	0.85
3500	3.15	9.11	13.57	8.92	2.60
4000	16.50	1.80	13.49	1.42	11.64
4800	29.14	0.82	29.22	0.73	44.73
4900	29.23	0.79	32.17	0.70	48.76
5400	28.29	0.75	24.25	0.59	22.20
5950	27.98	0.91	14.69	0.54	14.37
6000	28.02	0.94	14.23	0.54	13.95
7200	27.60	1.82	8.67	0.23	8.88
7500	27.52	2.40	7.24	0.18	7.23
9000	24.57	17.45	0.93	0.26	0.89
9800	20.29	36.44	0.48	0.30	0.44
11000	14.27	37.30	0.59	0.74	0.54
11900	10.19	30.74	1.08	1.29	1.13
12000	9.86	29.67	1.16	1.30	1.22

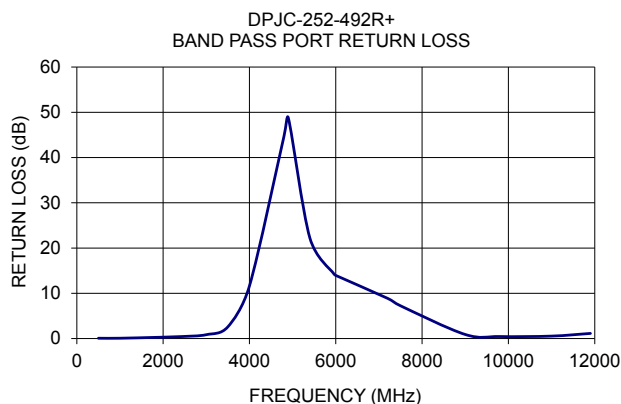
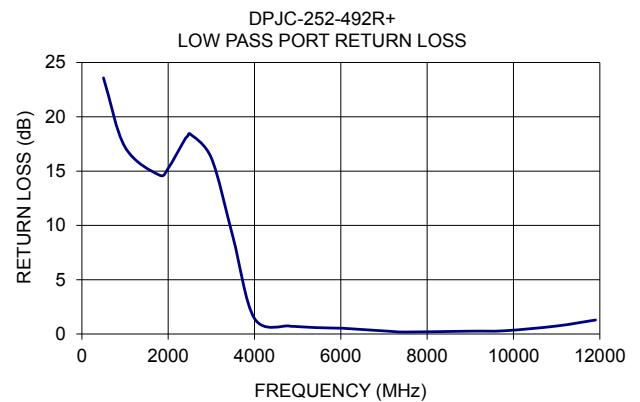
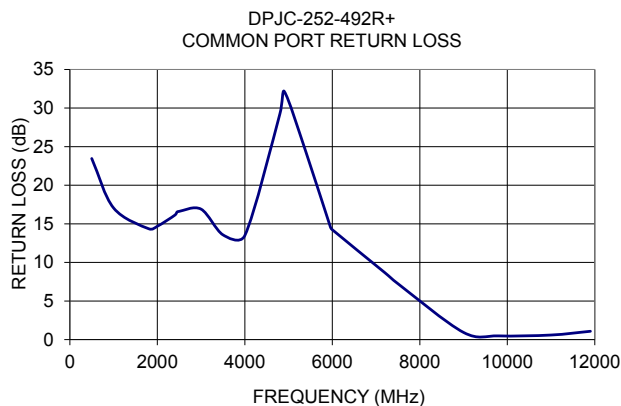
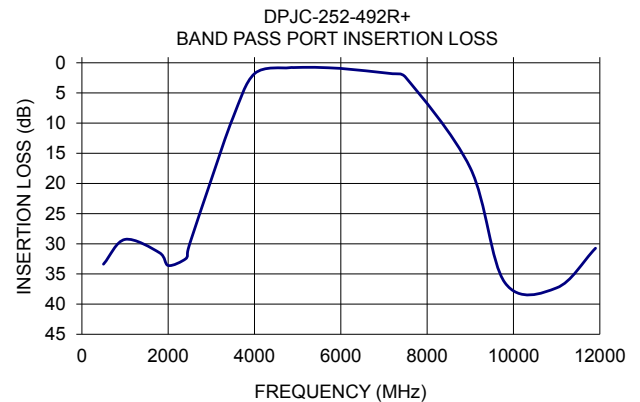
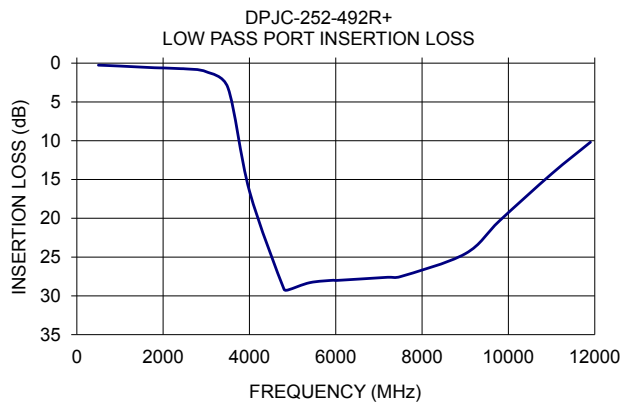
Block Diagram



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