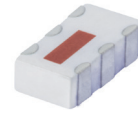


# Surface Mount Diplexer

## LDP-1050-252+

50Ω 1 to 2500 MHz (1-1050, 1650-2500 MHz)



Generic photo used for illustration purposes only

CASE STYLE: FV1206-1

### Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature*	-55°C to 100°C
RF Power Input**	2W at 25°C

\* 12 months max.

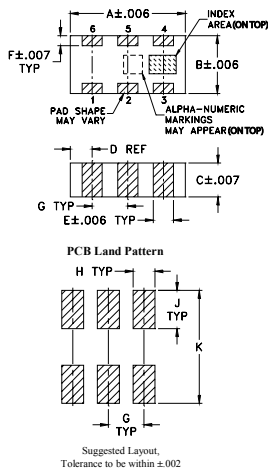
\*\* passband rating, derate linearly to 0.5W at 85°C ambient.

Permanent damage may occur if any of these limits are exceeded.

### Pin Connections

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

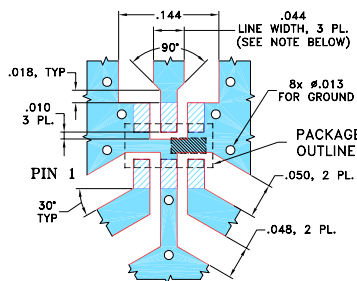
### Outline Drawing



### Outline Dimensions (inch mm)

A	B	C	D	E	F
.126	.063	.035	.024	.022	.011
3.20	1.60	0.89	0.61	0.56	0.28
G	H	J	K	wt	
.039	.024	.042	.123	grams	
0.99	0.61	1.07	3.12	.020	

### Demo Board MCL P/N: TB-706+ Suggested PCB Layout (PL-398)



- NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS .020" ± .0015". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.  
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- Legend:  
 DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER).  
 DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

### Notes

- A. 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.  
 B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.  
 C. The parts covered by this specification document are subject to Mini-Circuit's standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuit's website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp)

### Features

- low insertion loss
- high rejection
- temperature stable
- miniature package

### Applications

- satellite systems
- communication systems
- multiband systems
- cellular
- GPS
- WCDMA

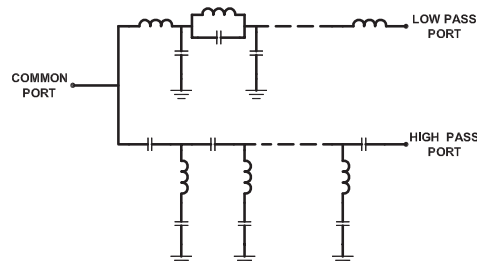
### Electrical Specifications at 25°C

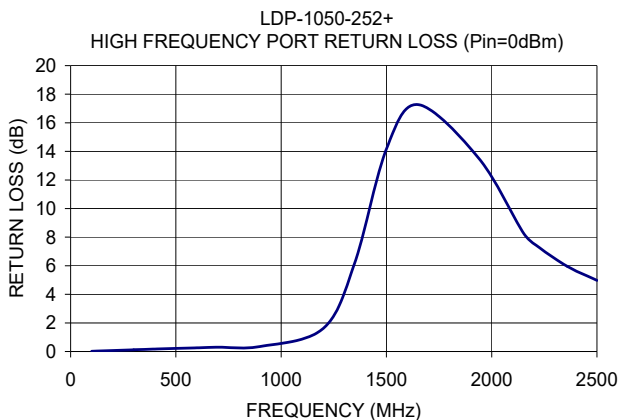
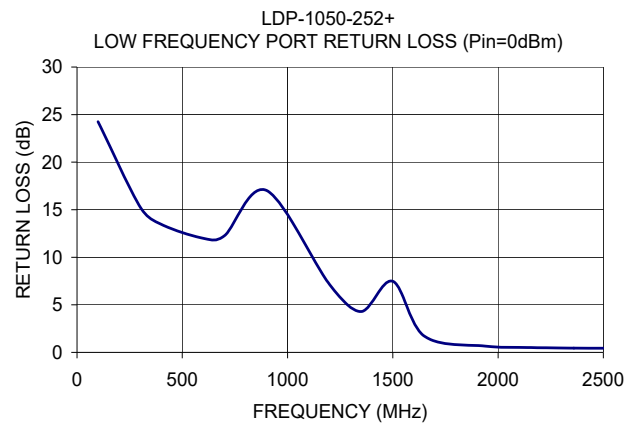
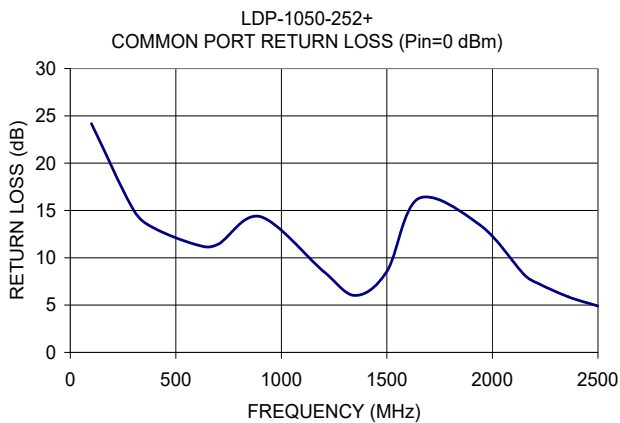
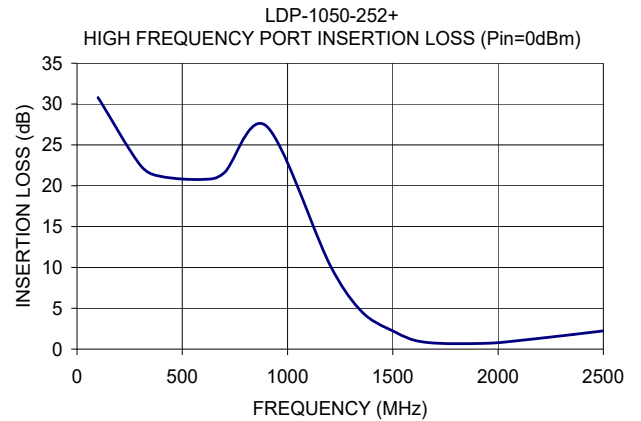
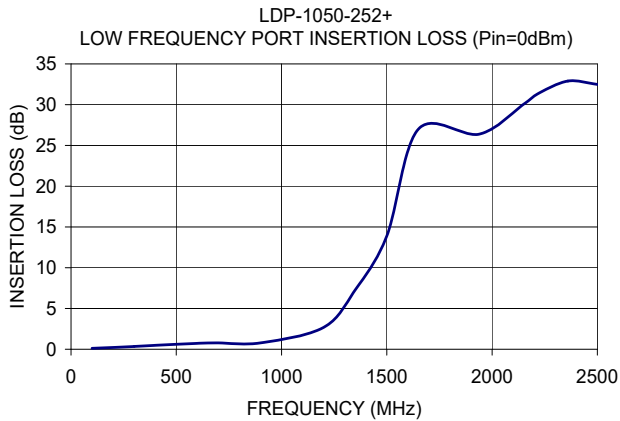
Parameter	Port	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Insertion Loss	Low Pass	1 - 1050	—	0.6	1.5	dB
		High Pass	1650 - 2150	—	1.0	1.8	
			2150 - 2500	—	2.0	2.9	
	Return Loss	Low Pass	1 - 1050	10	15	—	dB
		High Pass	1650 - 2150	6	12	—	
		Common	1 - 1050	11	14	—	
Stop Band Isolation	High Pass	1 - 200	20	32	—	dB	
		200 - 800	18	21	—		
	Low Pass	800 - 1050	20	25	—	dB	
		1650 - 2500	18	31	—		

### 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
100.0	0.11	30.80	24.17	24.26	0.02
300.0	0.35	22.54	15.04	15.29	0.12
400.0	0.49	21.14	13.10	13.47	0.17
600.0	0.72	20.78	11.37	12.00	0.26
700.0	0.78	21.60	11.43	12.26	0.30
900.0	0.78	27.30	14.35	17.03	0.35
1200.0	2.68	10.37	8.55	7.12	1.62
1350.0	7.27	4.66	6.02	4.30	6.21
1500.0	13.90	2.23	8.55	7.48	14.17
1650.0	27.00	0.86	16.26	1.70	17.27
1940.0	26.39	0.71	13.48	0.65	13.49
2150.0	30.06	1.19	8.22	0.51	8.31
2220.0	31.38	1.39	7.26	0.48	7.34
2360.0	32.90	1.81	5.87	0.45	5.95
2500.0	32.48	2.23	4.90	0.44	4.98

### Functional Schematic





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