

Surface Mount Diplexer

75Ω 5 to 870 MHz (5-42, 54-870 MHz)

Maximum Ratings

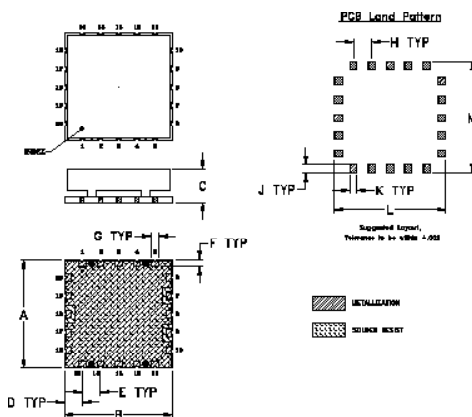
Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	250mW at 25°C

Note: Permanent damage may occur if any of these limits are exceeded. These ratings are not intended for continuous normal operation.

Pin Connections

HIGH PASS PORT	7
LOW PASS PORT	9
COMMON PORT	18
GROUND	1-6,8,10-17,19,20

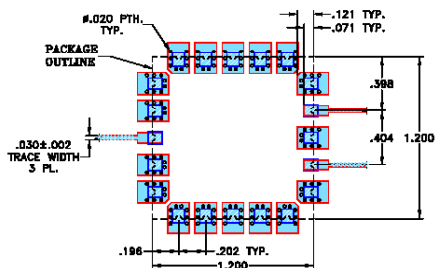
Outline Drawing



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	L	M	wt.
1.200	1.200	.370	.196	.202	.071	.079	.202	.091	.079	1.240	1.240	grams
30.48	30.48	9.40	4.98	5.13	1.80	2.01	5.13	2.31	2.01	31.50	31.50	8.5

Demo Board MCL P/N: TB-563+
Suggested PCB Layout (PL-228)



NOTES:
1. TRACE WIDTH IS SHOWN FOR OAK-802 WITH DIELECTRIC THICKNESS .008±.002. 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:
Blue box: DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
Red box: DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK

Features

- Low Insertion Loss 0.5dB typ.
- High Isolation 60dB typ.
- 75 Ω Impedance
- Usable up to 1000 MHz

Applications

- CATV
- MMDS
- Set-Top Box

DPLX-4254-75+



CASE STYLE: HR1176

+RoHS Compliant

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

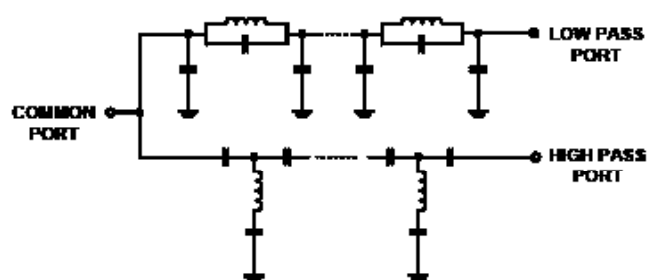
Electrical Specifications (T_{AMB} = 25°C)

Insertion Loss, dB PASSBAND MHz				Isolation, dB STOPBAND MHz				Cross Over Isolation (dB)		Return Loss (dB)							
5-42		54-870		54-870		5-42		42-54 MHz		Low Pass Port 5-42 MHz		High Pass Port 54-870 MHz		Common Port 5-42 MHz 54-870 MHz			
Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.
0.5	1.2	0.5	1.4	50	40	60	35	30	17	25	18	20	11	30	22	23	11

Typical Performance Data (T_{AMB} = 25°C)

FREQUENCY (MHz)	INSERTION LOSS (dB)		CROSS OVER ISOLATION (dB)		RETURN LOSS (dB)		
	Low Pass Port	High Pass Port	(between LPF and HPF)	Common Port	Low Pass Port	High Pass Port	
5	0.07	61.67	62.95	34.95	34.58	0.01	
20	0.19	62.13	62.09	32.08	33.43	0.06	
32	0.40	66.98	68.54	42.50	34.00	0.26	
41	0.88	51.11	50.32	21.91	20.12	0.80	
42	0.98	43.19	43.22	24.42	21.35	0.94	
44	1.41	32.07	32.27	18.81	24.12	1.31	
46	3.88	23.59	24.95	6.12	6.95	2.04	
48	12.68	8.28	24.58	4.27	1.96	4.88	
50	27.29	2.78	32.13	11.28	0.98	14.57	
52	41.03	1.60	43.85	19.86	0.66	36.57	
54	52.64	1.19	54.82	21.30	0.51	25.68	
55	53.95	1.08	55.40	21.22	0.46	24.17	
80	67.87	0.35	70.63	24.11	0.15	23.17	
100	74.51	0.25	74.82	34.71	0.13	29.48	
200	61.58	0.18	65.65	23.61	0.17	22.91	
400	59.25	0.24	57.06	18.36	0.23	18.84	
600	54.63	0.35	53.67	16.07	0.25	16.36	
800	50.91	0.47	50.60	13.89	0.29	14.30	
870	50.27	0.57	44.86	13.45	0.68	13.67	
1000	60.80	1.06	61.87	10.63	0.28	11.27	

Functional Schematic



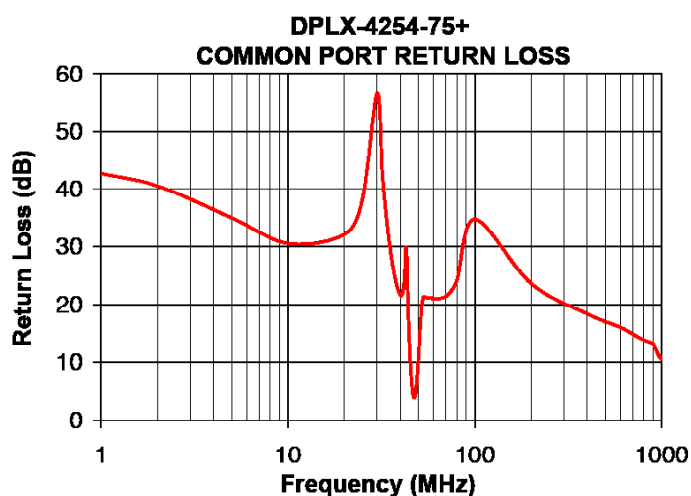
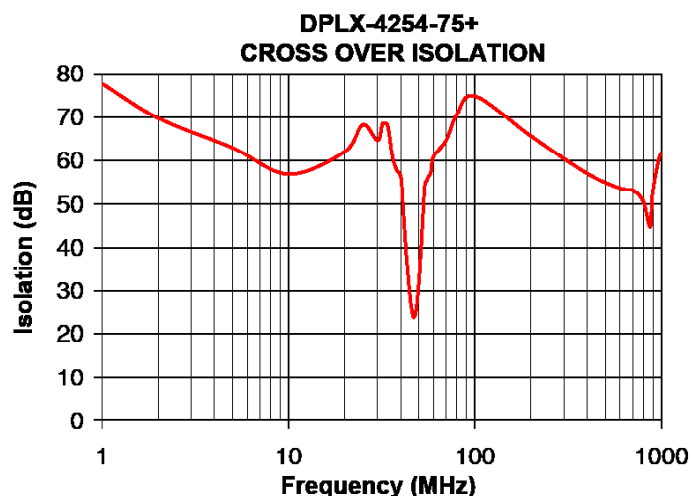
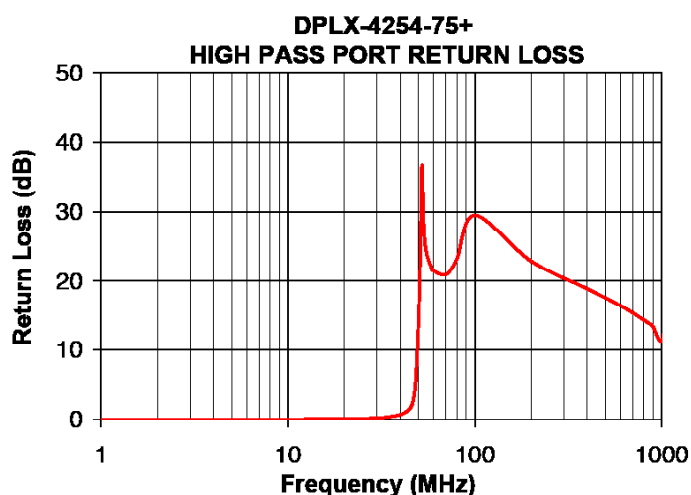
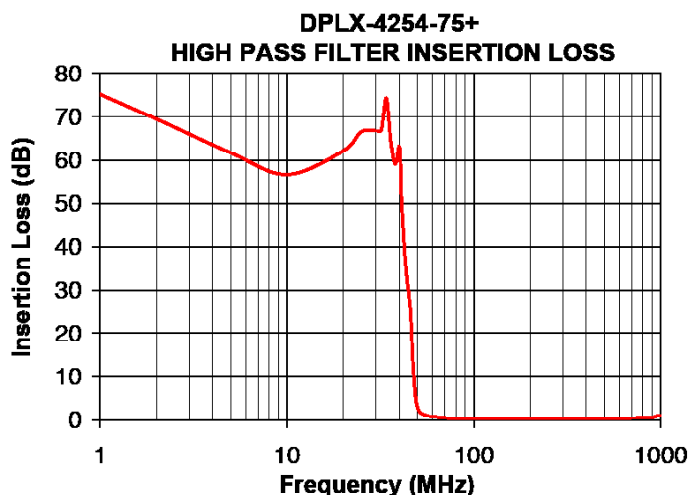
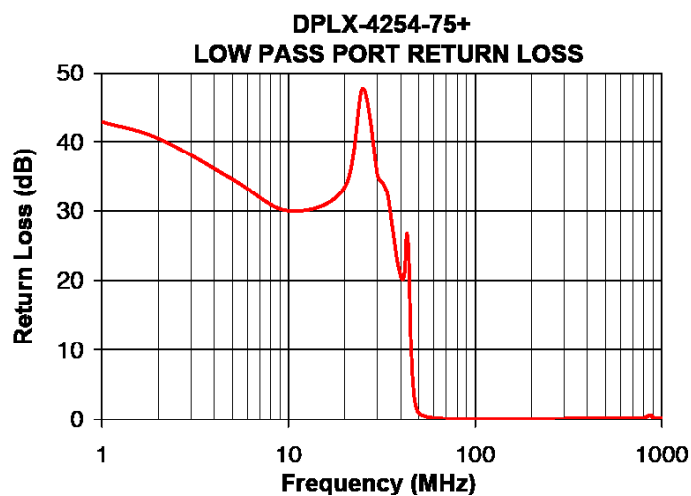
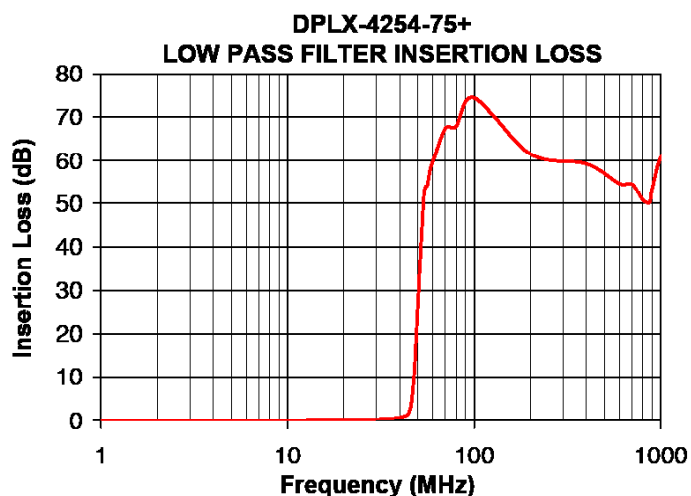
Notes

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