Metal Shield

Dual Low Pass Filter

LPFD-7080+

50Ω Passband DC to 70 MHz & DC to 80 MHz

Maximum Ratings*

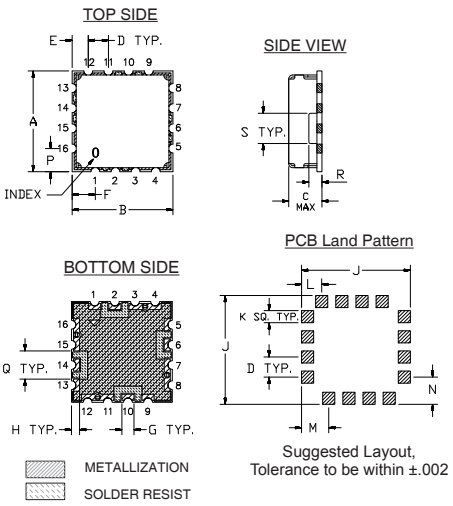
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.5W Max

*Ratings are for each of the two filters in the package.
Permanent damage may occur if any of these limits are exceeded.

Pin Connections

RF IN 1	2 (Filter 1)
RF OUT 1	14 (Filter 1)
RF IN 2	6 (Filter 2)
RF OUT 2	10 (Filter 2)
GROUND	1,3,4,5,7,8,9,11,12,13,15,16

Outline Drawing



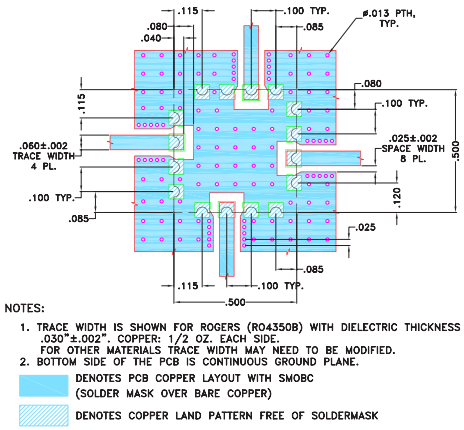
Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H	J
.500	.500	.195	.100	.080	.115	.060	.040	.540
12.70	12.70	4.95	2.54	2.03	2.92	1.52	1.02	13.72

K	L	M	N	P	Q	R	S	wt.
.060	.100	.135	.135	.115	.140	.070	.150	grams
1.52	2.54	3.43	3.43	2.92	3.56	1.78	3.81	1.0

Demo Board MCL P/N: TB-686
Suggested PCB Layout (PL-374)



NOTES:
1. TRACE WIDTH IS SHOWN FOR ROGERS (RO4350B) WITH DIELECTRIC THICKNESS .030"±.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.

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

DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK

Features

- High rejection
- Sharp insertion loss roll off
- Good VSWR, 1.2:1 typ.@ passband
- Small size dual filter, 0.5" x 0.5"
- Aqueous washable

Applications

- Wireless communications
- Receivers / Transmitters

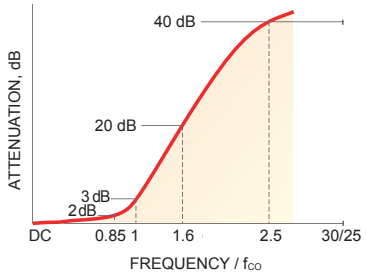
CASE STYLE: DV874

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

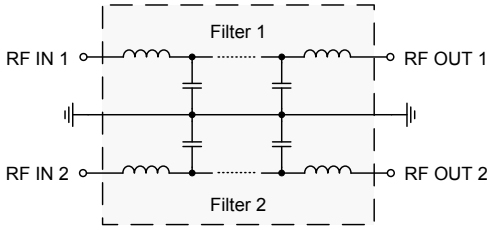
Low Pass Filter Electrical Specifications (T_{AMB}= 25°C)

STRUCTURE	PASSBAND (MHz) (Loss < 2dB)	fco, MHz Nom. (Loss 3dB)	STOPBAND (MHz) (Loss > 20dB)	STOPBAND (MHz) (Loss > 40dB)	CROSS OVER ISOLATION (dB) Typ.	VSWR (:1) Passband Typ.	VSWR (:1) Stopband Typ.
Filter 1	DC - 70	80	135 - 200	200 - 2500	60	1.2	20
Filter 2	DC - 80	93	155 - 250	250 - 2500		1.2	20

Typical Frequency Response (for each of filter)



Functional Schematic



Typical Performance Data at 25°C

Freq. (MHz)	Filter 1 I. Loss (dB) x̄	Filter 1 I. Loss (dB) σ	Filter 1 R. Loss (dB)	Filter 2 I. Loss (dB) x̄	Filter 2 I. Loss (dB) σ	Filter 2 R. Loss (dB)	Cross Over Isolation (dB) between filters 1 & 2	Freq. (MHz)	Filter 1 Group Delay (nSec)	Filter 2 Group Delay (nSec)
0.5	0.25	0.01	29.65	0.23	0.01	30.43	91.07	1.0	8.71	7.70
10.0	0.31	0.01	24.16	0.26	0.01	28.06	85.80	3.5	7.24	6.22
70.0	1.01	0.03	16.31	0.70	0.01	23.57	62.72	5.0	7.26	6.21
80.0	2.77	0.18	5.81	0.93	0.02	20.26	60.18	10.0	7.16	6.16
93.0	8.78	0.36	1.59	2.99	0.15	5.76	61.51	15.0	7.22	6.20
95.0	9.87	0.37	1.36	3.63	0.17	4.73	62.07	20.0	7.29	6.24
100.0	12.58	0.37	0.99	5.58	0.21	2.94	63.67	25.0	7.39	6.31
135.0	28.39	0.32	0.39	20.92	0.20	0.53	71.02	30.0	7.54	6.39
140.0	30.25	0.32	0.36	22.79	0.19	0.48	71.15	35.0	7.72	6.51
155.0	35.43	0.30	0.29	27.92	0.17	0.36	71.62	40.0	7.94	6.63
200.0	48.59	0.27	0.20	40.20	0.15	0.22	70.58	45.0	8.20	6.78
250.0	61.85	0.26	0.17	50.46	0.37	0.18	69.69	50.0	8.51	6.93
300.0	79.88	0.69	0.14	58.56	0.82	0.13	68.75	55.0	8.94	7.13
500.0	74.18	2.26	0.14	80.02	3.37	0.09	66.98	60.0	9.62	7.36
1000.0	67.53	0.49	0.21	78.51	0.58	0.16	67.67	66.0	10.89	7.81
1500.0	66.18	2.87	0.26	71.46	1.54	0.23	50.65	70.0	12.01	8.28
2000.0	60.25	4.58	0.27	57.38	1.46	0.26	43.79	75.0	13.20	9.10
2500.0	56.20	7.32	0.31	47.80	1.38	0.29	39.95	80.0	13.27	10.14

Notes
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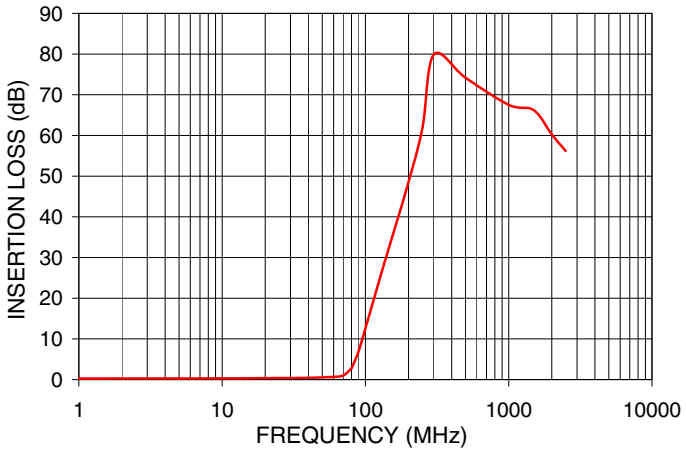
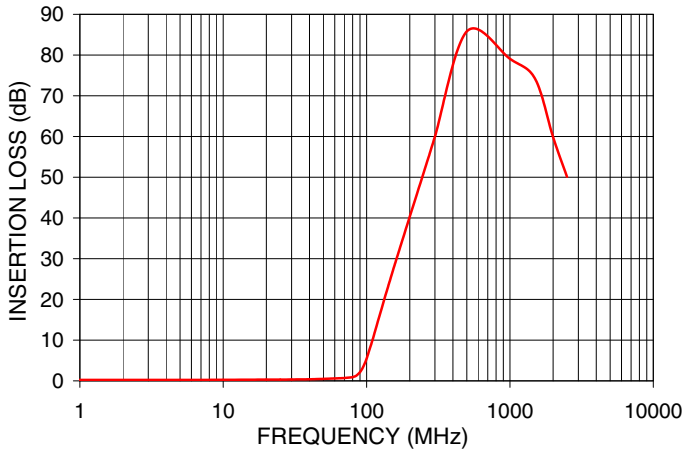
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty 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-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp

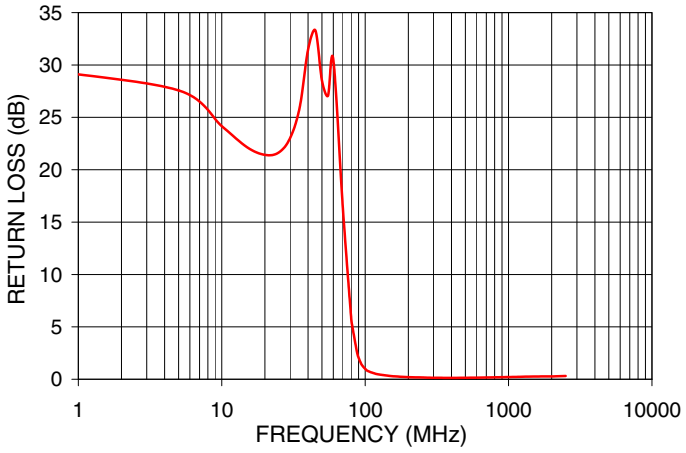
LOW PASS FILTER 1
INSERTION LOSS



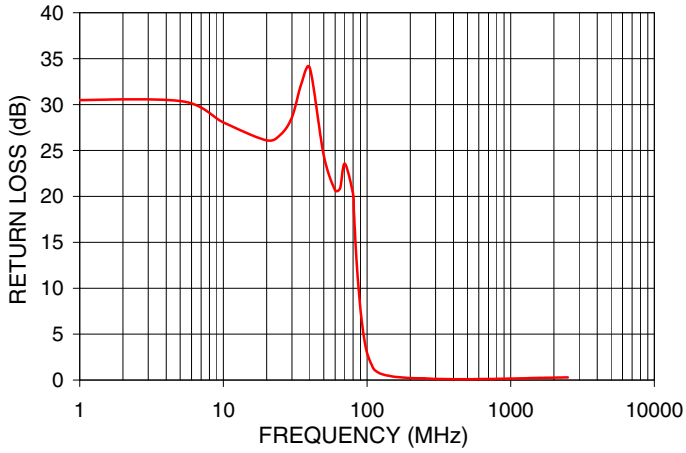
LOW PASS FILTER 2
INSERTION LOSS



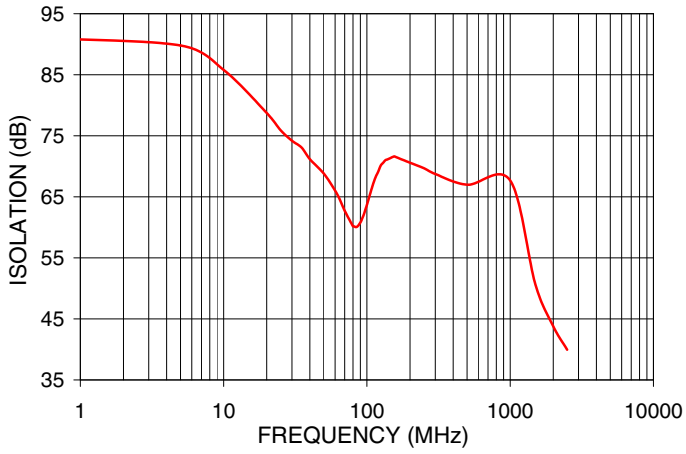
LOW PASS FILTER 1
RETURN LOSS



LOW PASS FILTER 2
RETURN LOSS



CROSS OVER ISOLATION
BETWEEN FILTERS 1 & 2



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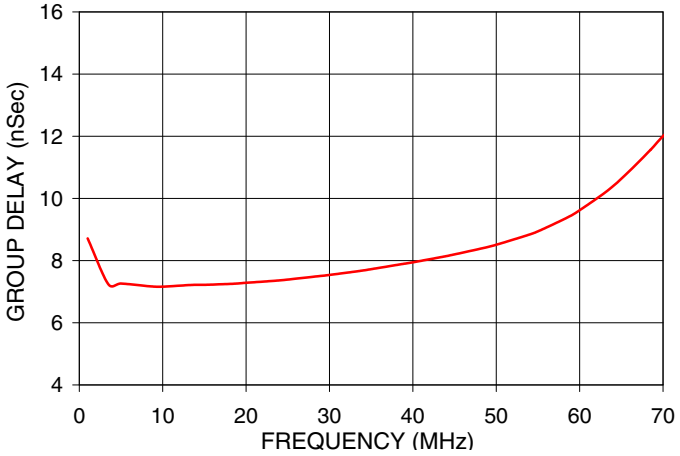
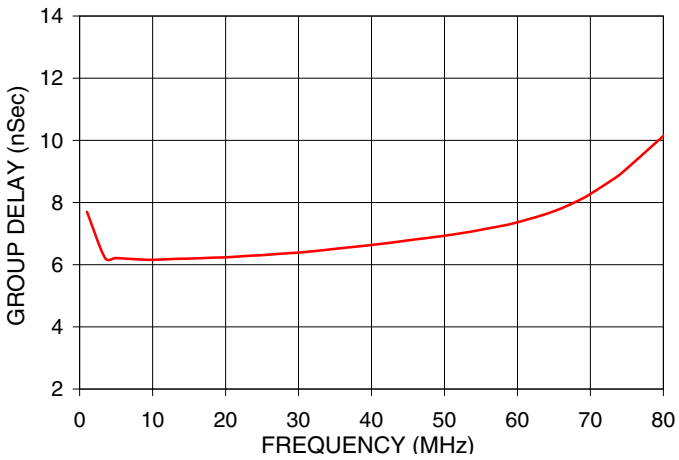
LOW PASS FILTER 1
GROUP DELAY



LOW PASS FILTER 2
GROUP DELAY



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