

Surface Mount

Diplexer

DPLB-6588A0+

75Ω DC to 1220 MHz
(DC-65, 88-1220 MHz)



CASE STYLE: NU1620

The Big Deal

- Low insertion loss, 0.8dB Typ.
- High rejection, 50dB Typ.
- Very good return loss, 22dB Typ.
- 75Ω Impedance
- Used in DOCSIS 3.1 standard

Product Overview

DPLB-6588A0+ is a high performance low cost diplexer with the lowpass port at DC-65 MHz and highpass port at 88-1220 MHz. Excellent return loss combined with high out of channel rejection makes it a ideal component in cable TV and multiband radio systems.

Key Features

Feature	Advantages
Low passband insertion loss	Passband insertion loss 0.8dB ensures low signal loss through both the channels.
Excellent Stopband rejection	Co-channel rejection of 50dB ensures unwanted spurious are eliminated.
Excellent return loss at DC-65 and 88-1220 MHz	This makes signal transmission with very less reflection and well-matched with the adjacent component used in the system.

Notes

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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



Surface Mount Diplexer

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

Maximum Ratings

Operating Temperature	-40° to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	30dBm Max.

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

Features

- Low insertion loss
- 75Ω Impedance
- Good return loss
- High rejection

Applications

- Cable TV systems (DOCSIS 3.1 standard)
- Multiband radio systems

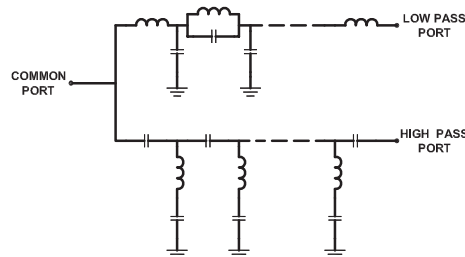
Electrical Specifications at 25°C

Parameter	Port	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Insertion Loss	Low Pass	DC-65	-	0.8	1.3	dB
		High Pass	88-1220	-	0.8	1.3	
	Return Loss	Low Pass	DC-65	18	22	-	dB
		High Pass	88-1220	17	22	-	
Common		DC-65	18	22	-		
Stop Band Isolation	Low Pass	88-1220	43	50	-	dB	
	High Pass	DC-65	43	50	-		
Group Delay Variation	Low Pass	61.5-65	-	6	-	ns	
	High Pass	88-91.5	-	5	-		

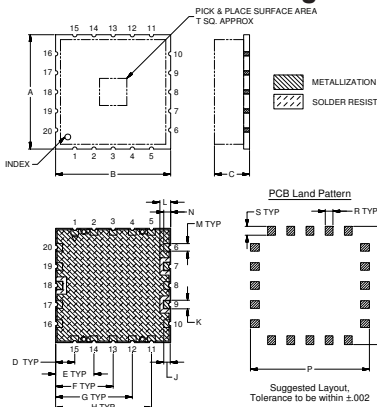
Typical Performance Data at 25°C

FREQUENCY (MHz)	INSERTION LOSS (dB)			RETURN LOSS (dB)	
	Low Pass Port	High Pass Port	Common Port	Low Pass Port	High Pass Port
1.0	0.03	72.09	45.50	45.29	0.00
10.0	0.16	54.16	41.39	36.18	0.09
50.0	0.46	54.32	38.88	53.93	0.30
65.0	0.85	49.92	29.30	23.24	0.56
72.0	2.56	20.82	7.78	7.43	0.87
74.0	3.68	14.58	6.22	7.17	1.21
78.5	19.33	3.97	4.83	2.40	4.60
79.0	22.47	3.45	5.29	1.91	5.19
80.5	29.98	2.30	7.24	1.18	7.32
82.0	34.73	1.59	9.80	0.89	9.98
88.0	53.50	0.69	24.61	0.57	26.75
100.0	56.60	0.47	23.18	0.46	24.01
150.0	60.40	0.30	26.52	0.33	25.61
250.0	59.50	0.28	36.25	0.24	40.72
500.0	55.17	0.33	29.37	0.11	27.17
650.0	53.14	0.37	24.63	0.10	24.10
700.0	52.37	0.39	23.73	0.12	23.46
850.0	52.08	0.44	22.77	0.22	23.49
900.0	52.18	0.46	22.99	0.25	24.28
1000.0	50.24	0.46	24.54	0.35	27.34
1150.0	48.63	0.48	29.49	0.49	40.53
1220.0	48.44	0.48	28.68	0.56	30.34

Functional Schematic



Outline Drawing

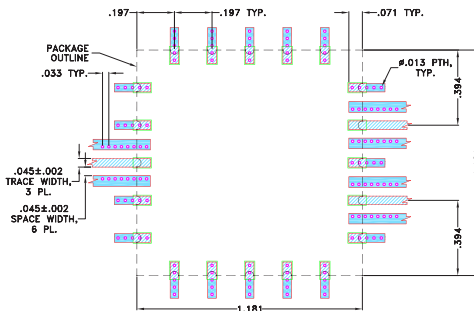


Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	Wt. grams
-	-	Max	Min	-	-	-	-	-	-	-
1.181	1.181	.280	.205	.197	.394	.591	.787	.984	.066	.089
30.00	30.00	7.11	5.21	5.00	10.00	15.00	20.00	25.00	1.68	2.26
L	M	N	P	Q	R	S	T			
-	-	.071	1.221	1.221	.079	.091	.280			3.6
.111	.079	1.80	31.01	31.01	2.01	2.31	7.11			

Demo Board MCL P/N: TB-786+ Suggested PCB Layout (PL-435)

SUGGESTED MOUNTING CONFIGURATION FOR NU1620, NV198B, NZ2001, PA2002 CASE STYLE "20DP01" PIN CODE



NOTES:

1. TRACE WIDTH IS SHOWN FOR OAK-602 WITH DIELECTRIC THICKNESS .031"±.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

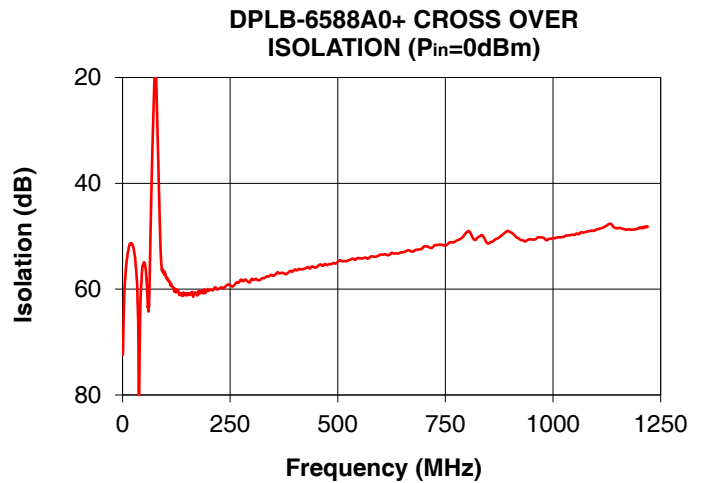
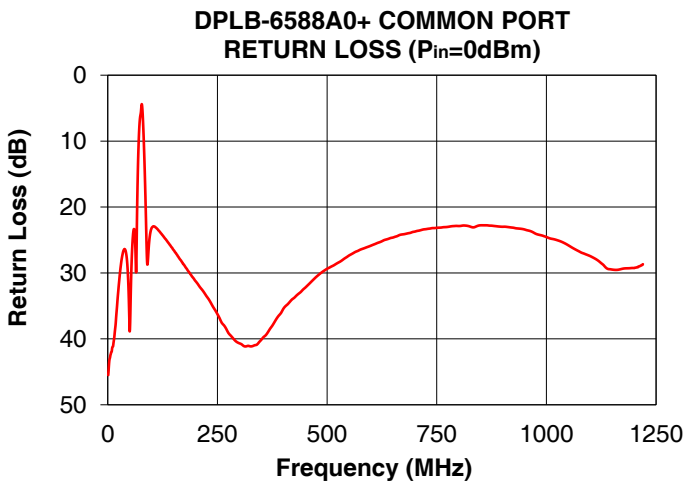
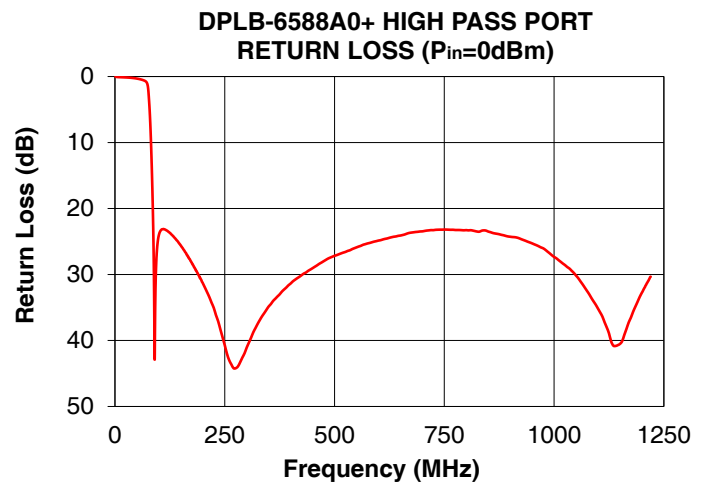
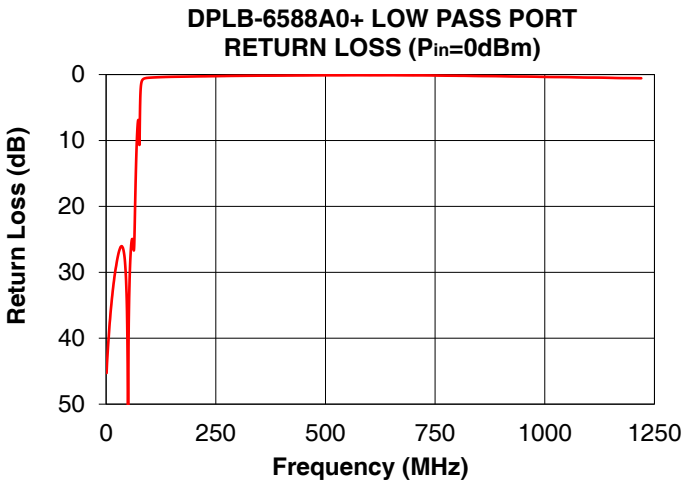
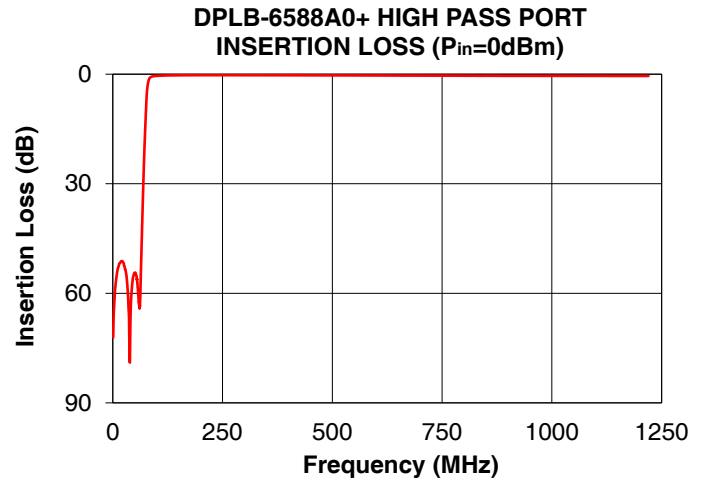
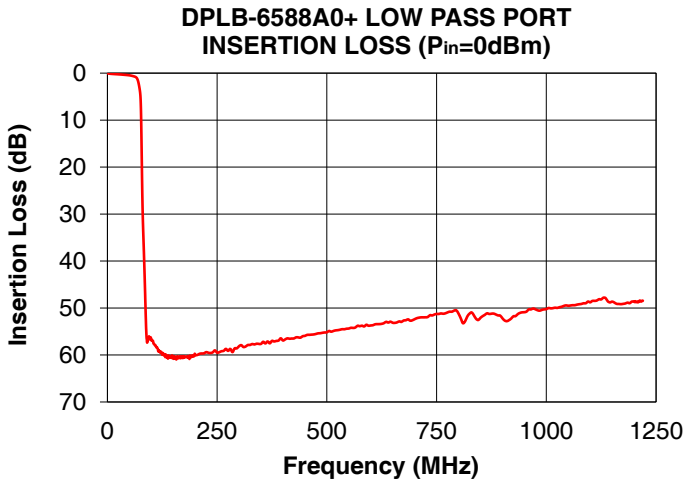
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