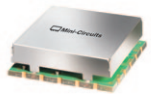
NON-CATALOG

Surface Mount

Diplexer

TDP-122-75+

75Ω DC to 1200 MHz (DC-120, 160-1200 MHz)



CASE STYLE: HR1176

The Big Deal

- Low insertion loss
- High rejection
- 75Ω Impedance
- Miniature shielded package

Product Overview

TDP-122-75+ is a low-pass + high-pass combination device. Low pass port is designed for DC to 120 MHz and high pass port is designed for 160 to 1200 MHz. This diplexer can be used in satellite systems, communication test sets and other multiband radio systems.

Key Features

Feature	Advantages
Low passband insertion loss	Suitable for high performance application
Excellent stopband rejection	Spurious rejection and avoids using additional filters
Miniature shielded package	Reduced interference with the surrounding components.

Surface Mount

Diplexer NON-CATALOG TDP-122-75+

75Ω DC to 1200 MHz (DC-120, 160-1200 MHz)

CASE STYLE: HR1176

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

Maximum Ratings

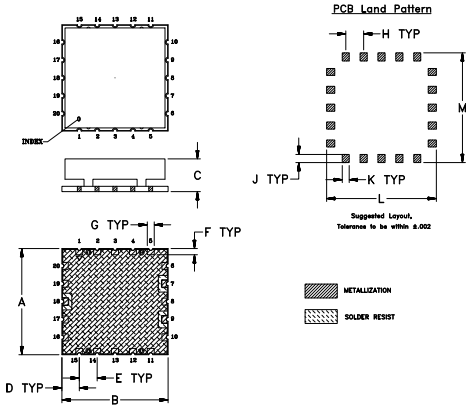
Operating Temperature	-40° to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	250mW at 25°C

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

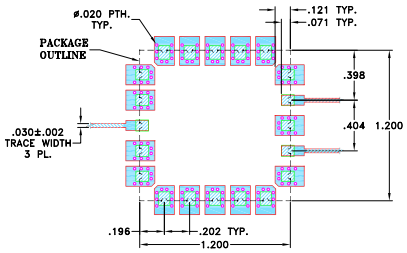


Outline Dimensions (inch / mm)

A	B	C	D	E	F
1.200 (30.48)	1.200 (30.48)	.370 (9.40)	.196 (4.98)	.202 (5.13)	.071 (1.80)

G	H	J	K	L	M	wt
.079 (2.01)	.202 (5.13)	.091 (2.31)	.079 (2.01)	1.240 (31.50)	1.240 (31.50)	grams 8.5

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



NOTES:
1. TRACE WIDTH IS SHOWN FOR OAK WITH DIELECTRIC THICKNESS .022"±.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

- Low insertion loss
- 75Ω Impedance
- Combination of Low pass and High pass filters
- Miniature shielded package
- Aqueous washable

Applications

- Satellite systems
- Multiband radio systems

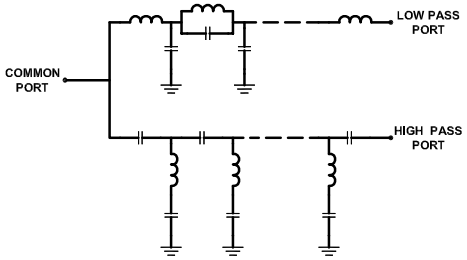
Electrical Specifications at 25°C

Parameter		Port	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Insertion Loss	Low Pass	DC-120	-	0.9	2.0	dB
		High Pass	160-1200	-	0.9	2.0	
	Return Loss	Low Pass	DC-120	14	19	-	dB
		High Pass	160-1200	10	12	-	
		Common	DC-120	14	18	-	
			160-1200	10	12	-	
Stop Band Isolation		Low Pass	160-1200	20	48	-	dB
		High Pass	DC-120	25	50	-	

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	0.04	76.15	34.98	41.72	0.05
15	0.08	54.17	36.84	38.58	0.00
40	0.16	50.24	32.35	42.91	0.02
80	0.33	55.01	22.76	22.61	0.20
120	0.87	58.72	32.30	25.89	0.64
126	1.15	39.79	20.87	21.66	0.76
134	2.44	24.93	13.76	10.62	1.06
136	3.44	19.61	12.83	7.83	1.27
138	5.60	13.24	10.51	4.96	1.77
140	9.59	8.33	8.11	2.81	2.75
142	15.45	5.41	7.15	1.70	4.16
144	22.19	3.79	7.50	1.24	5.75
148	32.08	2.16	10.10	0.88	9.28
150	34.91	1.73	11.94	0.78	11.22
154	40.95	1.23	16.38	0.63	15.36
160	51.57	0.89	25.19	0.49	21.71
225	56.18	0.40	22.09	0.25	23.19
300	59.91	0.31	31.58	0.29	33.03
500	54.25	0.47	14.18	0.32	14.27
700	55.47	0.71	12.18	0.14	12.26
1000	55.65	0.43	19.14	0.03	20.36
1200	61.82	0.51	25.29	0.16	23.23

Functional Schematic



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.
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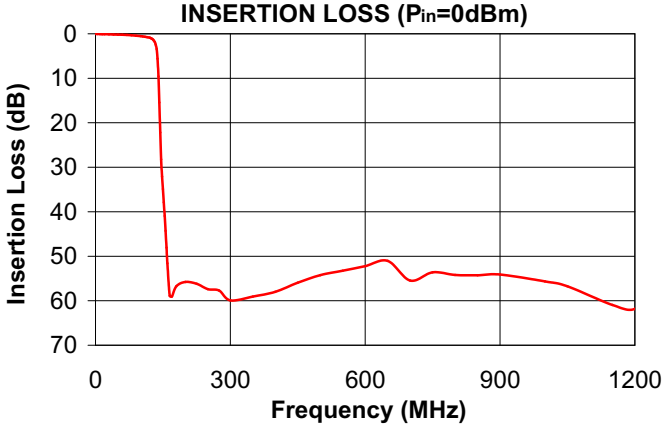
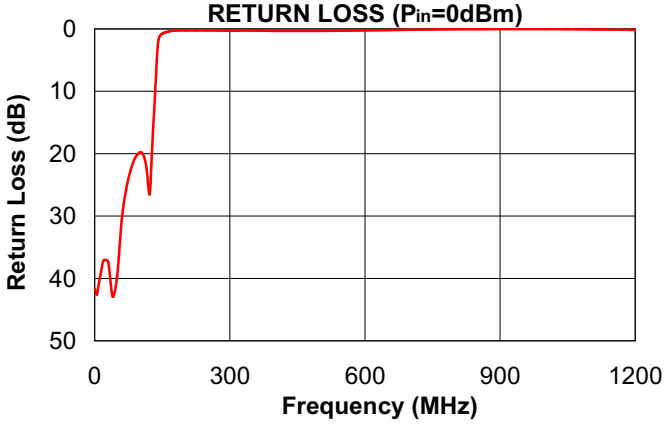
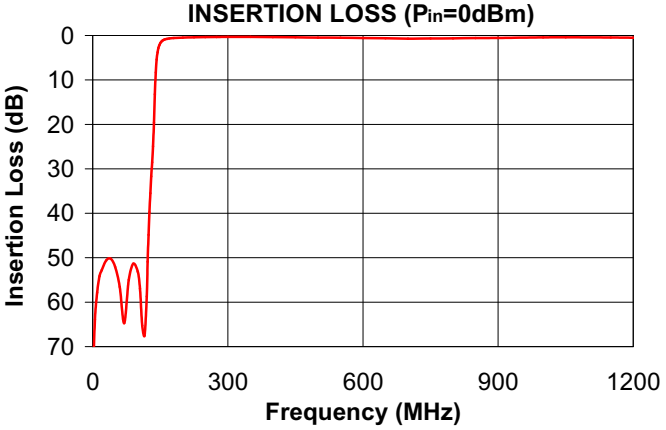
TDP-122-75+ LOW PASS PORT
INSERTION LOSS (P_{in}=0dBm)



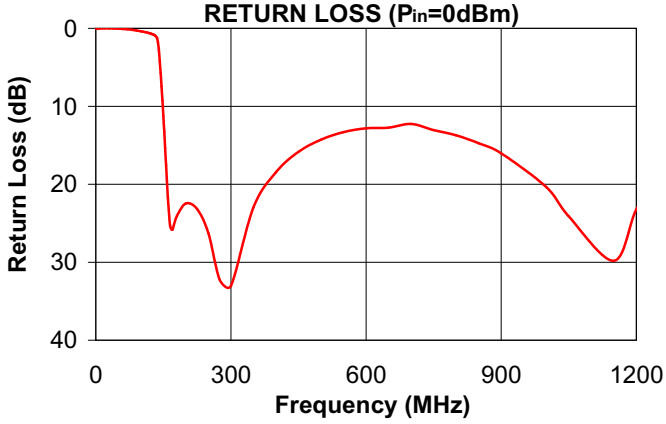
TDP-122-75+ LOW PASS PORT
RETURN LOSS (P_{in}=0dBm)



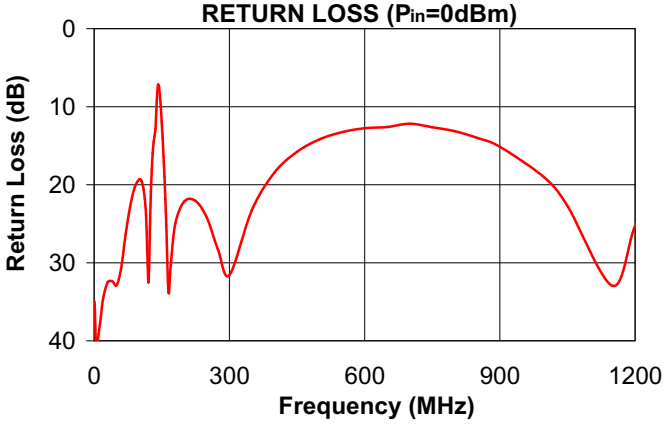
TDP-122-75+ HIGH PASS PORT
INSERTION LOSS (P_{in}=0dBm)



TDP-122-75+ HIGH PASS PORT
RETURN LOSS (P_{in}=0dBm)



TDP-122-75+ COMMON PORT
RETURN LOSS (P_{in}=0dBm)



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