

Surface Mount

Diplexer

TDP-871-75+

75 Ω 5 to 870 MHz
(5-38, 49-870 MHz)

The Big Deal

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



CASE STYLE: HR1176

Product Overview

TDP-871-75+ is a low-pass + high-pass combination device. Low pass port is designed for 5 to 38 MHz and high pass port is designed for 49 to 870 MHz. This diplexer can be used in satellite systems, vehicle tracking, 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.

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IF/RF MICROWAVE COMPONENTS

For detailed performance specs
& shopping online see web site

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet 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

75Ω 5 to 870 MHz (5-38, 49-870 MHz)

Maximum Ratings

Operating Temperature -40° to 85°C

Storage Temperature -55°C to 100°C

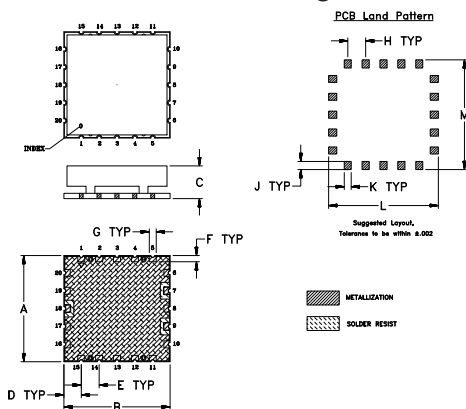
RF Power Input 250mW at 25°C

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

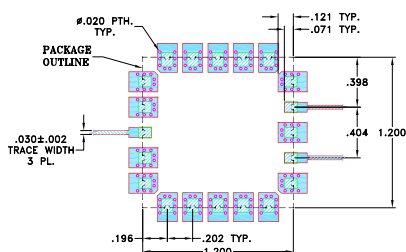
Outline Drawing



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
.079 (2.01)	.202 (5.13)	.091 (2.31)	.079 (2.01)	1.240 (31.50)	1.240 (31.50)
					wt 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 case
- Aqueous washable

Applications

- Satellite systems
- Vehicle tracking
- Radio

TDP-871-75+



CASE STYLE: HR1176

PRICE: \$14.95 ea. QTY (10)

+ RoHS compliant in accordance
with EU Directive (2002/95/EC)

The +Suffix has been added in order to identify RoHS
Compliance. See our web site for RoHS Compliance
methodologies and qualifications.

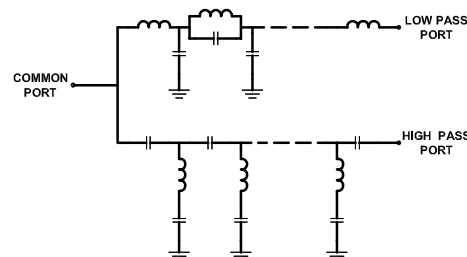
Electrical Specifications at 25°C

Parameter		Port	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Insertion Loss	Low Pass	5-38	-	1.0	2.0	dB
		High Pass	49-870	-	1.0	2.5	
	Return Loss	Low Pass	5-38	12	25	-	dB
		High Pass	49-870	12	17	-	
		Common	5-38	12	24	-	
Stop Band Isolation			49-870	12	17	-	
		Low Pass	49-870	25	47	-	dB
		High Pass	5-38	25	46	-	

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	0.10	64.11	38.55	38.69	0.00
5.0	0.13	50.61	33.47	34.15	0.02
20.0	0.28	53.65	35.48	36.79	0.27
30.0	0.48	53.59	33.06	32.84	0.59
38.0	0.99	51.51	27.71	31.08	1.02
39.0	1.20	62.76	20.55	22.57	1.11
40.0	1.62	46.09	14.28	16.29	1.24
41.5	3.50	29.50	6.76	8.74	1.56
42.0	4.89	23.86	4.96	6.80	1.75
43.0	9.58	14.27	3.00	4.13	2.49
44.0	17.23	7.59	3.50	2.81	4.46
44.5	22.16	5.34	4.78	2.43	6.35
45.0	27.50	3.77	6.79	2.14	9.09
47.0	45.34	1.55	19.30	1.43	33.12
48.0	55.16	1.29	20.22	1.22	20.76
49.0	66.66	1.14	18.94	1.07	18.34
100.0	70.66	0.28	24.49	0.31	27.45
150.0	84.81	0.23	35.11	0.20	37.22
300.0	73.80	0.26	21.14	0.04	21.23
500.0	65.00	0.39	16.85	0.05	17.36
800.0	52.29	0.51	18.32	0.11	18.85
870.0	55.02	0.49	19.55	0.22	19.86

Functional Schematic



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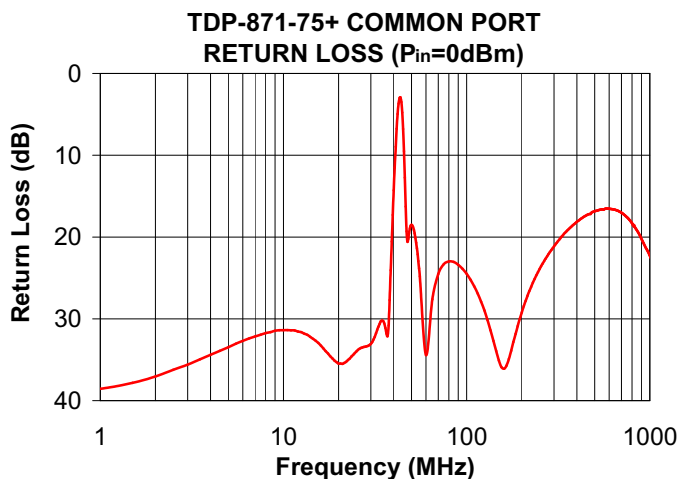
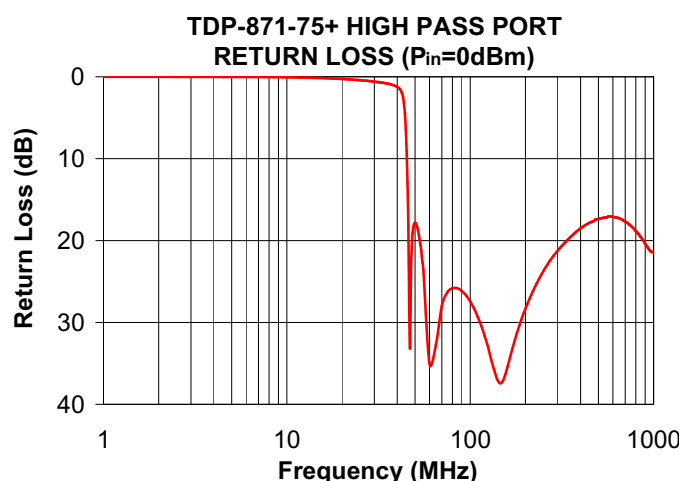
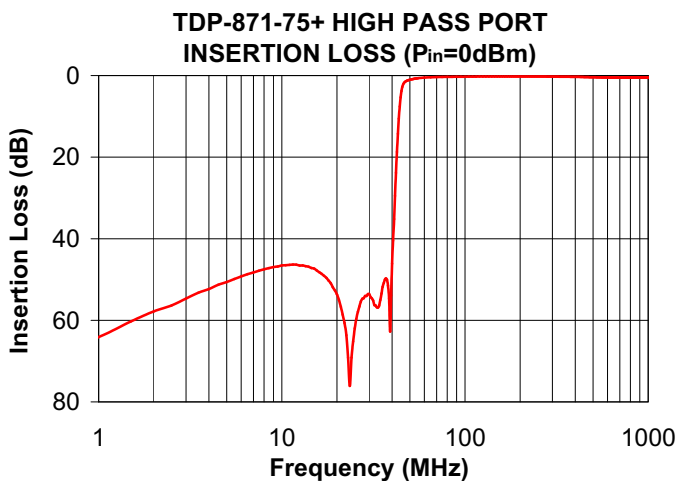
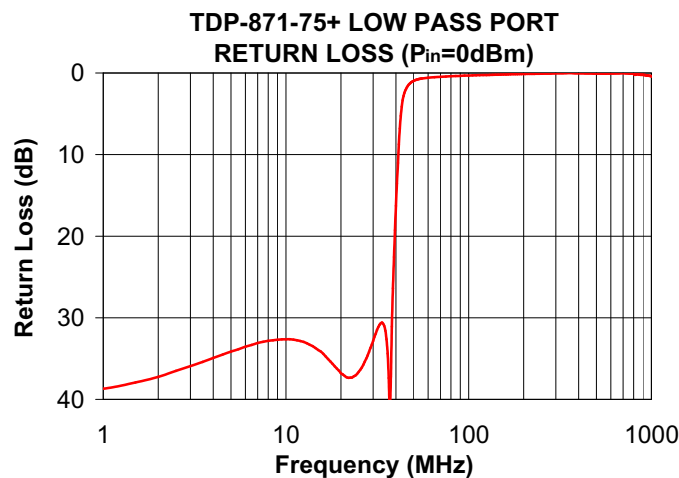
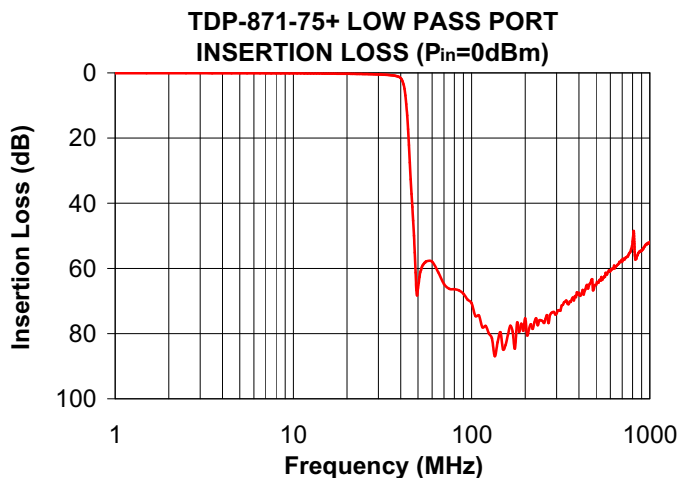
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