

Surface Mount

Diplexer

TDP-142-75+

**75Ω 550 to 1400 MHz
(550-630, 1280-1400 MHz)**

The Big Deal

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



CASE STYLE: HR1176

Product Overview

TDP-142-75+ is a band-pass in low frequency + band-pass in high frequency combination device. Low frequency port is designed for 550 to 630 MHz and high frequency port is designed for 1280 to 1400 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.

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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

TDP-142-75+

75Ω 550 to 1400 MHz (550-630, 1280-1400 MHz)

Maximum Ratings

Operating Temperature -40° to 85°C

Storage Temperature -55°C to 100°C

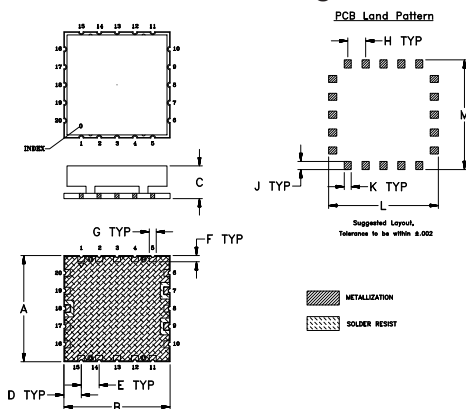
RF Power Input 1W at 25°C

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

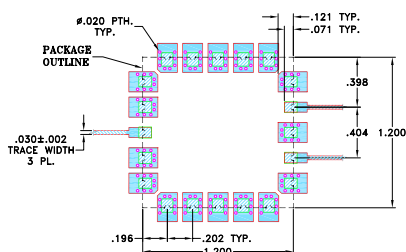
Outline Drawing



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 grams
.079 (2.01)	.202 (5.13)	.091 (2.31)	.079 (2.01)	1.240 (31.50)	1.240 (31.50)	8.5

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



- NOTES:
- 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.
 - 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
- Aqueous washable
- Miniature shielded package

Applications

- Satellite systems
- Communication systems
- Multiband systems

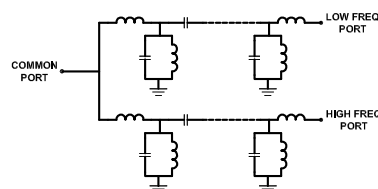
Electrical Specifications at 25°C

Parameter	Port	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Insertion Loss	Low Frequency	550-630	-	0.6	1.5
		High Frequency	1280-1400	-	1.4	2.5
	Return Loss	Low Frequency	550-630	12	19	-
		High Frequency	1280-1400	10	14	--
Stop Band Isolation	Common	550-630	12	19	-	dB
		1280-1400	10	15	-	dB
	Low Frequency	DC-200	20	32	-	dB
		1250-1600	20	32	-	dB
High Frequency	DC-800	2100-2500	20	31	-	dB
		550-630	-	34	-	dB

Typical Performance Data at 25°C

FREQUENCY (MHz)	INSERTION LOSS (dB)		RETURN LOSS (dB)	
	Low Freq. Port	High Freq. Port	Common Port	Low Freq. Port
1	73.26	75.52	0.10	0.10
200	32.92	63.21	0.24	0.25
300	20.84	61.71	0.33	0.18
400	9.79	46.31	0.87	0.68
475	2.41	40.64	4.80	4.93
550	0.52	38.39	20.23	23.29
590	0.53	36.65	18.83	19.84
630	0.54	35.23	24.28	28.75
750	3.57	38.59	3.83	3.60
800	6.31	32.90	1.90	1.49
850	9.19	27.92	1.06	0.60
1000	16.84	17.60	0.30	0.05
1200	27.99	4.40	3.56	0.12
1250	33.03	1.75	9.14	0.20
1280	35.44	1.11	16.53	0.25
1340	36.46	1.06	16.10	0.36
1400	38.50	1.31	16.87	0.51
1500	43.48	2.97	6.70	0.74
1600	41.49	8.96	1.02	0.87
1700	44.30	14.64	0.51	0.95
2100	57.75	31.35	1.03	1.05
2500	43.57	47.24	0.99	0.00

Functional Schematic



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.

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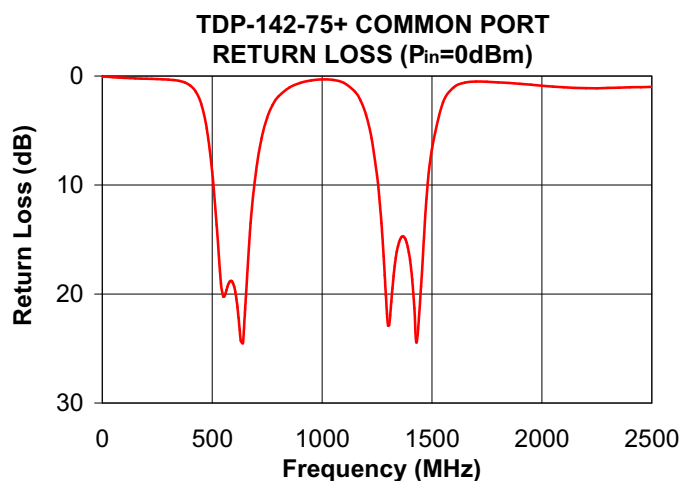
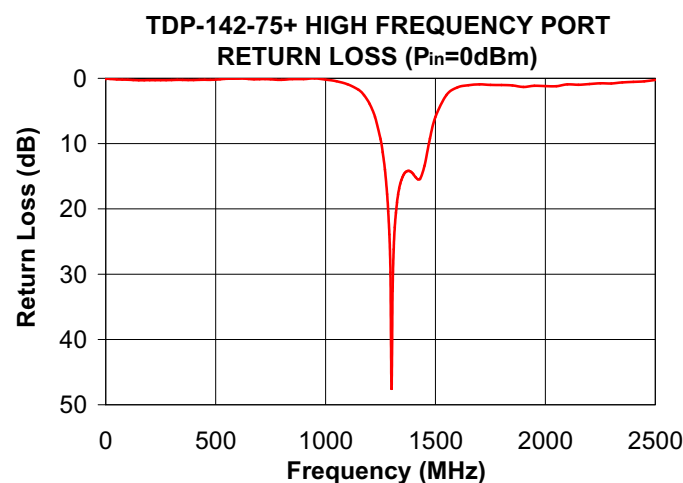
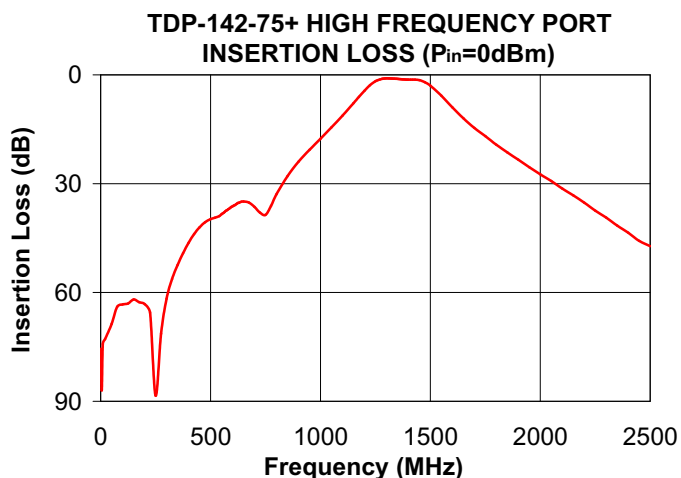
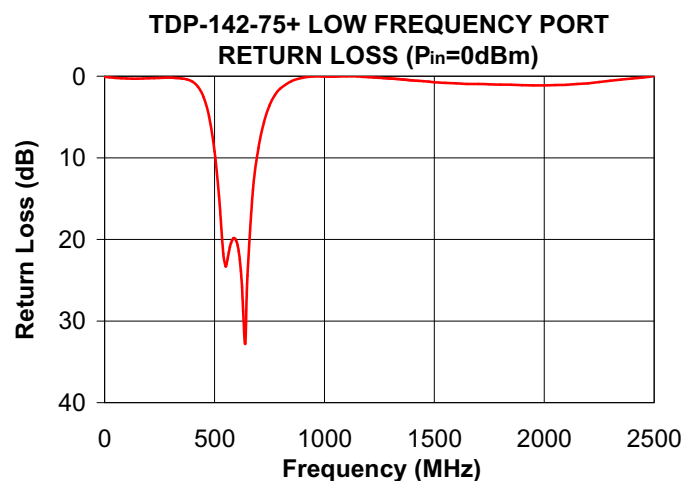
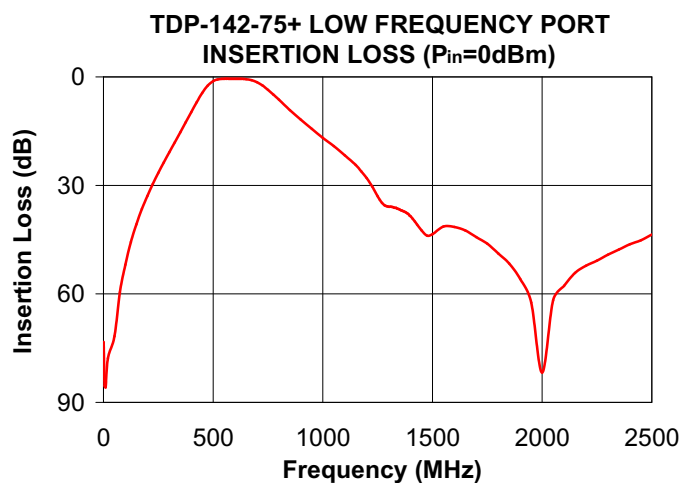
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