

Surface Mount

# Diplexer

RDP-632+

50Ω DC to 6300 MHz  
(DC-2100, 3420-6300 MHz)



CASE STYLE: CK605

## The Big Deal

- Low insertion loss
- High isolation
- Miniature shielded package

## Product Overview

RDP-632+ is a low-pass + high-pass combination device. Low pass port is designed for DC to 2700 MHz and high pass port is designed for 3420 to 6300 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.
Extended stopband rejection	Spurious rejection and avoids using additional filters.
Miniature shielded package	Reduced interference with the surrounding components.

### 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.  
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](http://www.minicircuits.com/MCLStore/terms.jsp)

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CASE STYLE: CK605

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

## Maximum Ratings

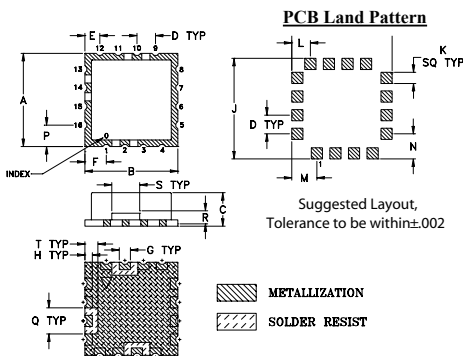
Operating Temperature	-40C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	1W at 25°C

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	10
LOW PASS PORT	14
COMMON PORT	2
GROUND	1,3-9,11-13,15,16

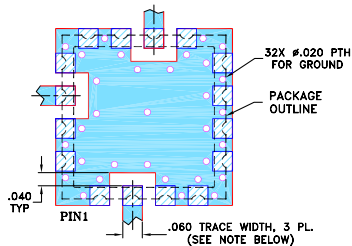
## Outline Drawing



## Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K
.500	.500	.180	.100	.080	.115	.060	.040	.540	.060
12.7	12.7	4.572	2.54	2.032	2.921	1.524	1.016	13.72	1.524
L	M	N	P	Q	R	S	T	Wt.	
.100	.135	.135	.115	.140	.070	.160	.070	grams	
2.54	3.429	3.429	2.921	3.556	1.778	3.81	1.778	1.0	

## Demo Board MCL P/N: TB-788+ Suggested PCB Layout (PL-424)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR FR4 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 SOLDER MASK

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## Features

- Low insertion loss
- 50Ω Impedance
- Combination of Low pass and High pass filters
- Miniature shielded package
- Aqueous washable

## Applications

- Radio astronomy
- Auxiliary broadcasting
- Test and measurement

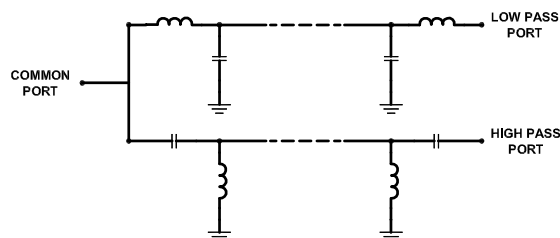
## Electrical Specifications at 25°C

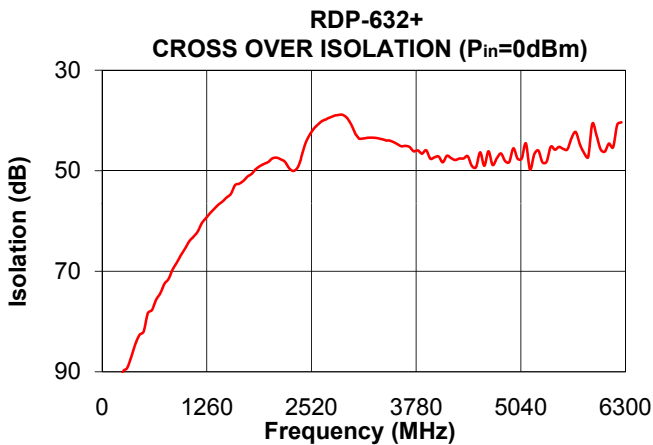
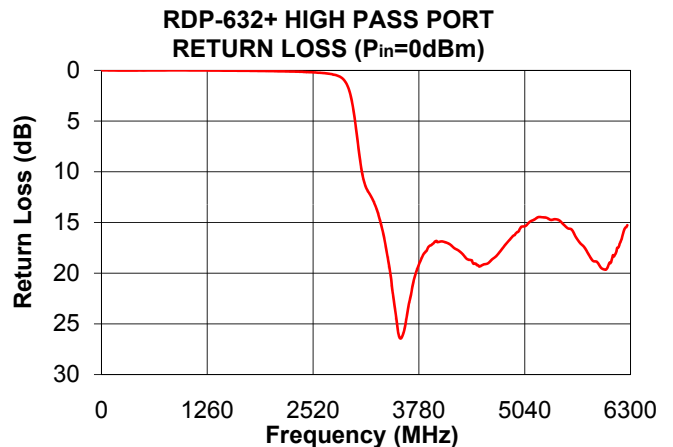
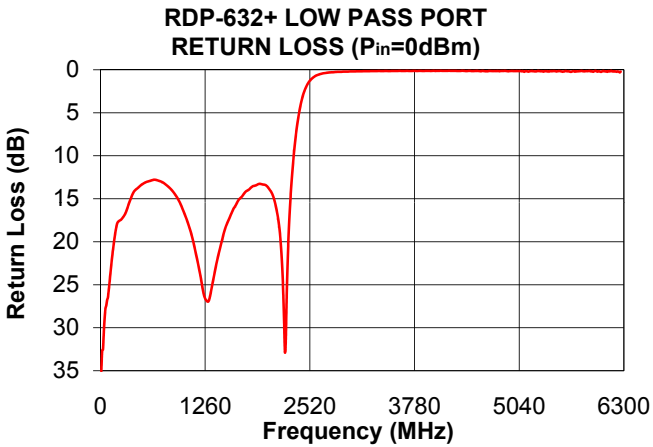
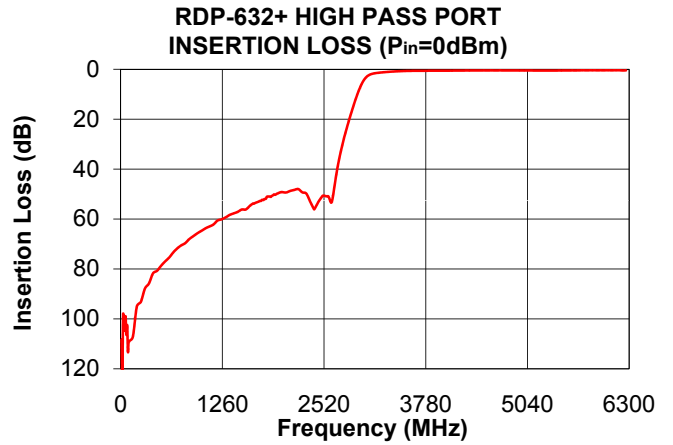
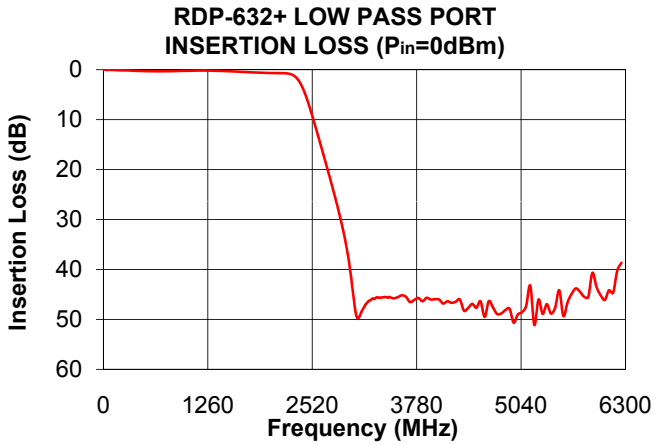
Parameter	Port	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Insertion Loss	Low Pass	DC-2100	-	1.0	2.5	dB
		High Pass	3420-6300	-	1.1	2.5	
	Return Loss	Low Pass	DC-2100	-	8	-	dB
		High Pass	3420-6300	-	8	-	
		Common	3420-6300	-	8	-	
Stop Band Isolation	Low Pass	3420-6300	33	42	-	dB	
	High Pass	DC-2100	36	47	-		

## 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
10	0.00	108.36	35.07	35.04	0.00
250	0.13	93.19	17.33	17.41	0.02
500	0.27	78.73	13.27	13.33	0.02
900	0.26	66.85	14.35	14.53	0.00
1000	0.22	64.74	16.20	16.47	0.00
1150	0.18	62.17	20.99	21.46	0.01
1300	0.19	59.35	26.69	26.92	0.02
2100	0.68	48.74	15.17	15.45	0.10
2350	2.04	53.18	8.03	7.70	0.13
2390	3.15	55.75	5.44	5.02	0.14
2710	20.30	35.51	1.17	0.38	0.33
2750	22.72	29.90	1.22	0.32	0.40
2830	27.77	20.28	1.47	0.26	0.59
2870	30.51	16.08	1.77	0.24	0.80
3040	48.29	3.23	9.58	0.20	6.33
3090	49.39	2.12	14.10	0.18	9.48
3200	46.31	1.38	14.10	0.17	12.29
3350	45.65	0.96	16.60	0.15	15.91
3420	45.55	0.82	19.91	0.15	19.03
4500	47.65	0.46	17.75	0.14	19.34
6000	45.17	0.42	21.23	0.17	19.66
6300	42.64	0.48	15.31	0.17	14.55

## Functional Schematic





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