Surface Mount

Diplexer

RDP-272+

50Ω DC to 2700 MHz (DC-950, 1700-2700 MHz)



CASE STYLE: CK605

The Big Deal

- Low insertion loss
- High isolation
- Miniature shielded package

Product Overview

RDP-272+ is a low-pass + high-pass combination device. Low pass port is designed for DC to 950 MHz and high pass port is designed for 1700 to 2700 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.

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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	-40C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.5W 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	14
LOW PASS PORT	10
COMMON PORT	2
GROUND	1,3-9,11-13,15,16

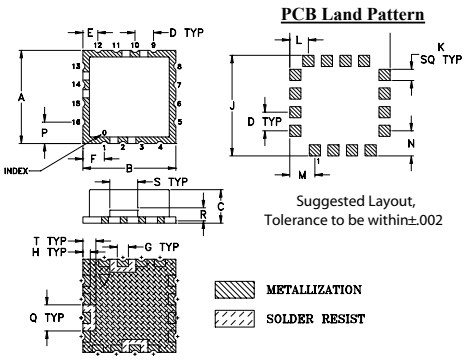
Features

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

Applications

- Satellite systems
- Vehicle tracking
- Multiband radio systems

Outline Drawing

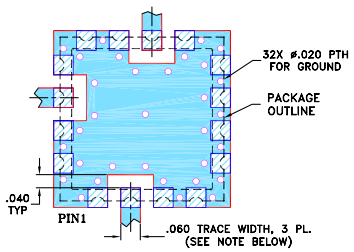


Outline Dimensions (inch / mm)

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	.150	.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-10+
Suggested PCB Layout (PL-012)



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

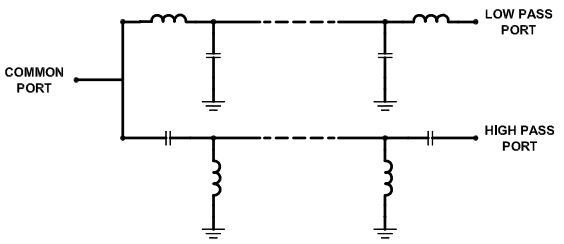
Electrical Specifications at 25°C

Parameter		Port	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Insertion Loss	Low Pass	DC-950	-	0.7	2.5	dB
		High Pass	1700-2700	-	0.7	1.5	
	Return Loss	Low Pass	DC-950	12	18	-	dB
		High Pass	1700-2700	12	17	-	
		Common	DC-950	12	20	-	
			1700-2700	12	17	-	
Stop Band Isolation		Low Pass	1360-2700	20	31	-	dB
			1700-2700	36	48	-	
		High Pass	DC-980	-	30	-	dB
			DC-950	20	35	-	

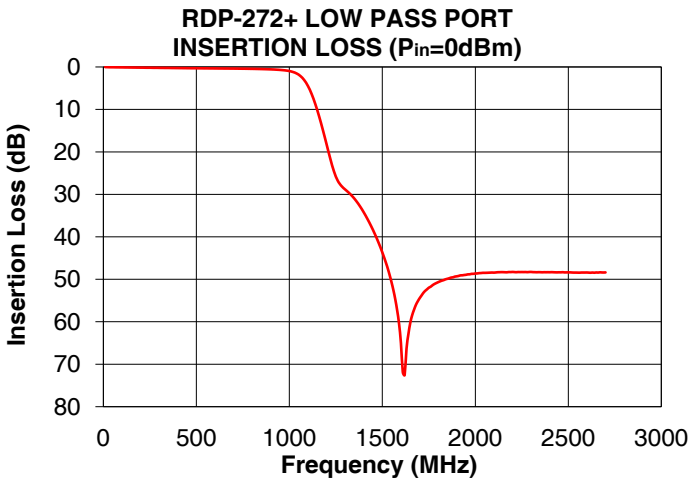
Typical Performance Data at 25°C

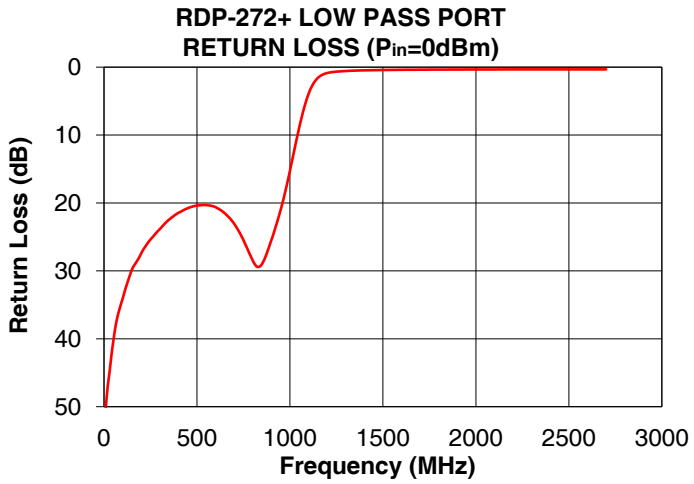
FREQUENCY (MHz)	INSERTION LOSS (dB)		RETURN LOSS (dB)		
	Low Pass Port	High Pass Port	Common Port	Low Pass Port	High Pass Port
10	0.03	102.79	48.98	50.10	0.00
30	0.06	104.68	43.87	44.92	0.00
120	0.12	81.00	30.90	32.24	0.02
360	0.24	54.54	21.45	22.24	0.08
858	0.50	51.81	29.28	28.58	0.40
950	0.69	36.22	22.33	21.02	0.53
980	0.82	31.11	19.06	17.73	0.59
1020	1.19	24.62	13.78	12.67	0.70
1080	3.09	14.94	6.79	5.63	1.10
1120	6.38	9.96	4.28	2.71	1.72
1140	8.79	8.14	3.78	1.88	2.16
1200	18.17	4.57	4.36	0.87	4.04
1220	21.58	3.79	5.01	0.76	4.88
1360	31.58	1.16	14.42	0.50	15.38
1480	41.41	0.76	33.54	0.43	30.23
1550	50.81	0.70	22.97	0.40	21.17
1620	72.56	0.68	19.66	0.38	18.57
1700	54.49	0.66	18.29	0.37	17.63
1850	49.88	0.62	18.09	0.35	18.03
2000	48.64	0.57	18.82	0.34	19.62
2450	48.35	0.56	17.23	0.33	19.06
2700	48.38	0.59	15.66	0.33	16.99

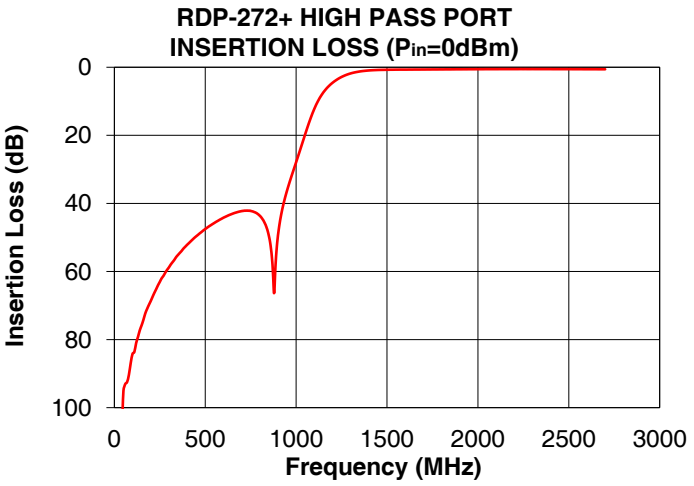
Functional Schematic

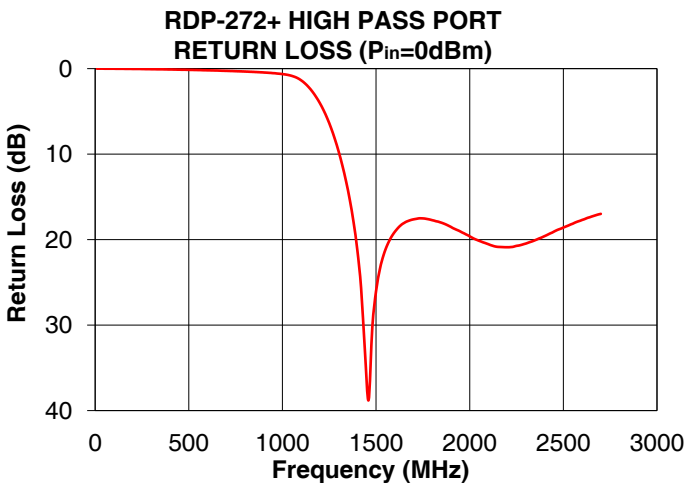


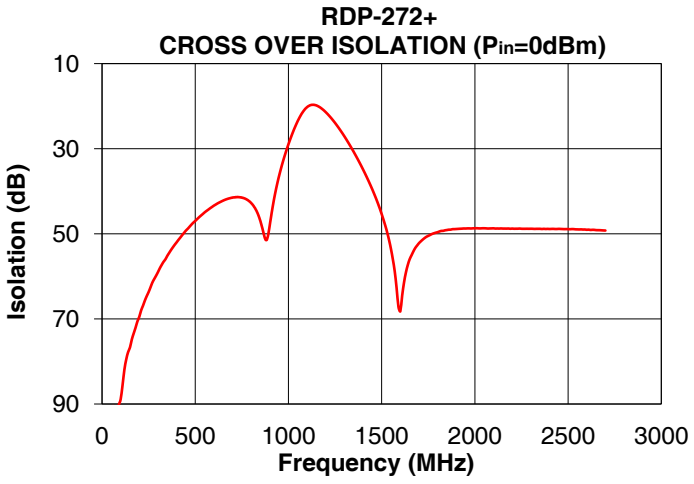
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