

Surface Mount High Pass Filter

RHPF-500+

50Ω 500 to 6500 MHz

The Big Deal

- High rejection
- Good VSWR
- Wide passband
- Miniature shielded package



CASE STYLE: CK605-5

Product Overview

RHPF-500+ is a 50Ω high pass filter in a shielded package (size of 0.500" x 0.500" x 0.197") fabricated using SMT technology. Covering 500 to 6500 MHz band width, these units offer good matching within the passband and high rejection. In addition it has repeatable performance across production lots and consistent performance across temperature.

Key Features

Feature	Advantages
Fast roll-off	Fast roll-off, this will attenuate frequencies closer to the passband with good rejection.
Good VSWR for broad band	This enables the filter to provide good matching over broad band frequency.
Small size, 0.500" x 0.500" x 0.197"	The small surface mount package enables the RHPF-500+ to be used in compact designs.

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



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Features

- High Rejection
- Good VSWR
- Wide passband
- Miniature shielded package

Applications

- Defence systems
- Aeronautical mobile

Electrical Specifications at 25°C

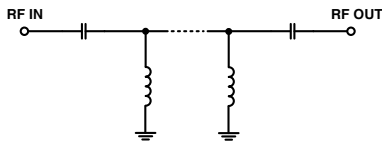
Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Stop Band	Rejection Loss	DC-F1	DC-400	45	50	-	dB
		F1-F2	400-430	20	30	-	dB
	VSWR	DC-F1	DC-430	-	20	-	:1
Pass Band	Insertion Loss	F3-F4	500-3000	-	1.4	2.0	dB
		F4-F5	3000-6500	-	1.7	3.0	dB
	VSWR	F3-F4	500-3000	-	1.4	1.6	:1
		F4-F5	3000-6500	-	2.0	-	:1

Maximum Ratings

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

Permanent damage may occur if any of these limits are exceeded.

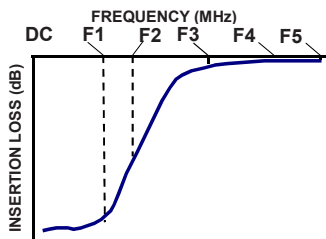
Functional Schematic



Typical Performance Data at 25°C

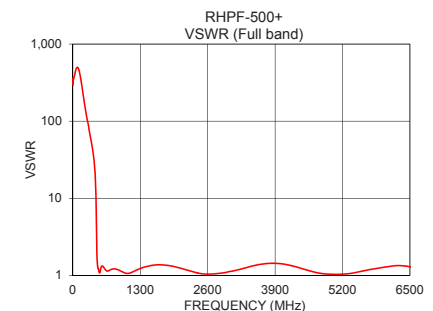
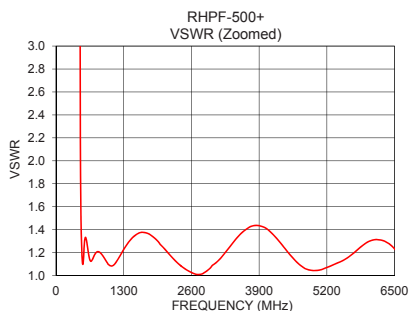
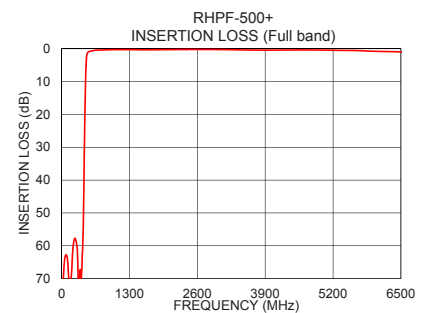
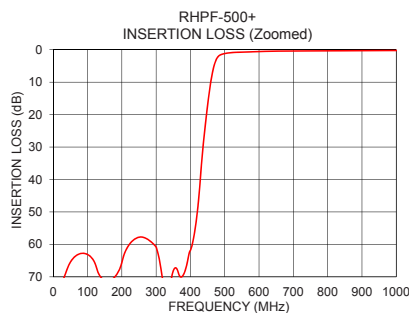
Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
0.3	105.68	362.24
1.2	96.47	354.06
5.0	77.74	399.57
10.0	76.29	408.07
100.0	63.09	410.66
250.0	57.78	81.66
400.0	61.81	31.41
430.0	38.16	22.63
432.0	35.52	21.76
436.0	30.81	19.77
442.0	24.56	15.97
446.0	20.72	12.86
450.0	17.11	9.60
460.0	9.49	3.82
474.0	3.30	1.74
480.0	2.18	1.50
500.0	1.18	1.16
3000.0	0.22	1.09
5000.0	0.39	1.04
6500.0	0.93	1.23

Typical Frequency Response



+RoHS Compliant

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



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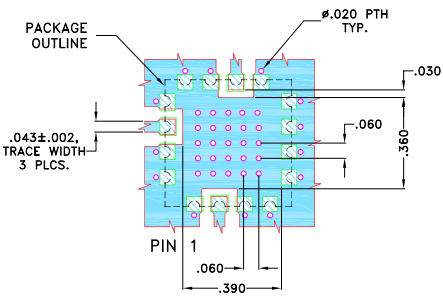
REV.A
M171827
RHPF-500+
EDU2926
URJ
190128
Page 2 of 3



Pad Connections

INPUT	2
OUTPUT	10
NOT CONNECTED	14
GROUND	1, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 15, 16

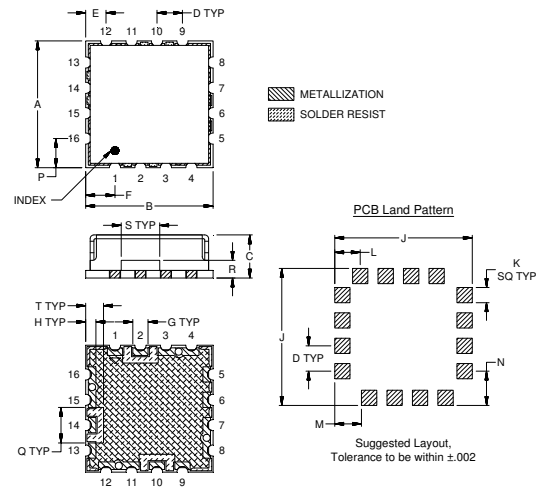
Demo Board MCL P/N: TB-1000+
Suggested PCB Layout (PL-580)

SUGGESTED MOUNTING CONFIGURATION FOR
CK605-5 CASE STYLE "16FL05" PIN CODE



- NOTES:
- 1. TRACE WIDTH IS SHOWN FOR ROGERS(R04350B) WITH DIELECTRIC THICKNESS .020"±.0015". 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

Outline Drawing



Outline Dimensions (inch)

A	B	C		D	E	F	G	H	J	K
-	-	Min	Max	-	-	-	-	-	-	-
.500	.500	.177	.197	.100	.080	.115	.060	.040	.540	.060
12.70	12.70	4.5	5.00	2.54	2.03	2.92	1.52	1.02	13.72	1.52
L	M	N		P	Q	R	S	T		
-	-			-	-	-	-	-		
.100	.135	.135	.115	.140	.070	.150	.070		Wt.	
2.54	3.43	3.43	2.92	3.56	1.78	3.81	1.78		grams	
										1.0

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