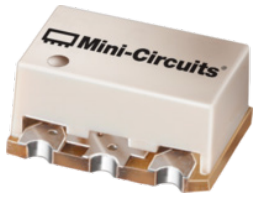
Surface Mount

Bandpass Filter

SYBP-675+

50Ω 500 to 850 MHz



Generic photo used for illustration purposes only

CASE STYLE: TT1423

The Big Deal

- Small size (0.25" X 0.31" X 0.15")
- High power handling, 4 W
- Low insertion loss, 1.8 dB typ.

Product Overview

SYBP-675+ is a 50Ω bandpass filter fabricated using SMT technology. The bandpass filter covers from 500 to 850 MHz offering low insertion loss and good matching within the passband. It is fabricated in a tiny housing with very good power handling capabilities.

Key Features

Feature	Advantages
Small size (0.25" X 0.31" X 0.15")	Saves space in dense circuit board layouts.
High power handling, 4 W	Supports a wide range of system power requirements.
Low insertion loss, 1.8 dB typ.	Low insertion loss enables usage in military radio transmitters.

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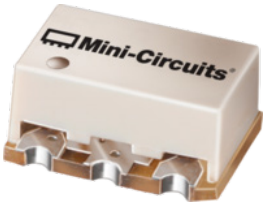


Generic photo used for illustration purposes only
CASE STYLE: TT1423

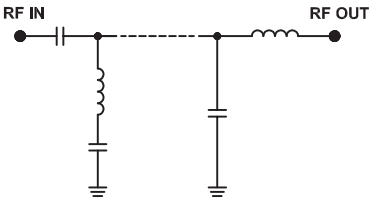
Features

- High power handling
- Small size
- Temperature stable

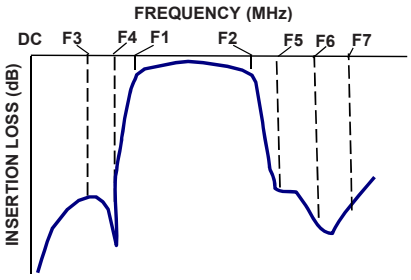
Applications

- Military radio
- Lab use
- Television broadcast

Functional Schematic



Typical Frequency Response



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

Electrical Specifications at 25°C

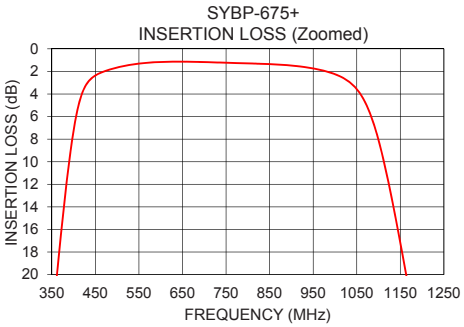
Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Center Frequency	-	-	-	675	-	MHz
	Insertion Loss	F1-F2	500 - 850	-	1.8	2.8	dB
	VSWR	F1-F2	500 - 850	-	1.7	-	:1
Stop Band, Lower	Insertion Loss	DC-F3	DC - 230	40	52	-	dB
		F3-F4	230 - 340	20	28	-	dB
	VSWR	DC-F4	DC - 340	-	16	-	:1
Stop Band, Upper	Insertion Loss	F5-F6	1275 - 1350	20	35	-	dB
		F6-F7	1350 - 4500	-	22	-	dB
	VSWR	F5-F7	1275 - 4500	-	14	-	:1

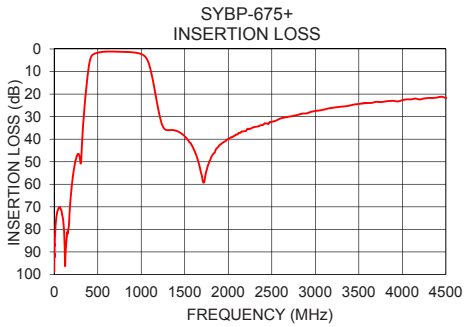
Maximum Ratings	
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power Input*	4 W max. at 25°C

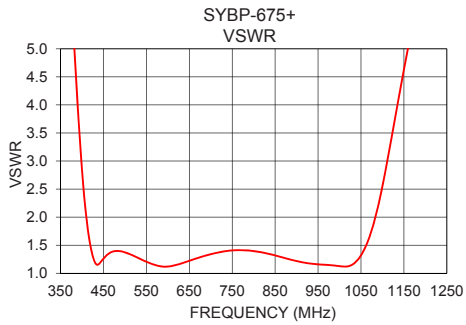
*Passband rating, derate linearly to 1.5 W at 100°C ambient.
Permanent damage may occur if any of these limits are exceeded.

Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
10	82.87	327.07
100	75.08	258.89
230	52.50	58.98
340	29.70	19.33
360	20.76	14.03
430	3.11	1.82
500	1.65	1.38
675	1.15	1.28
850	1.35	1.27
1040	3.16	1.53
1165	20.33	10.76
1215	30.22	14.88
1275	35.67	17.20
1350	35.93	17.57
1400	36.24	16.63
2000	39.94	24.39
2700	29.98	90.27
3000	27.50	111.35
4000	22.71	17.93
4500	21.67	54.04







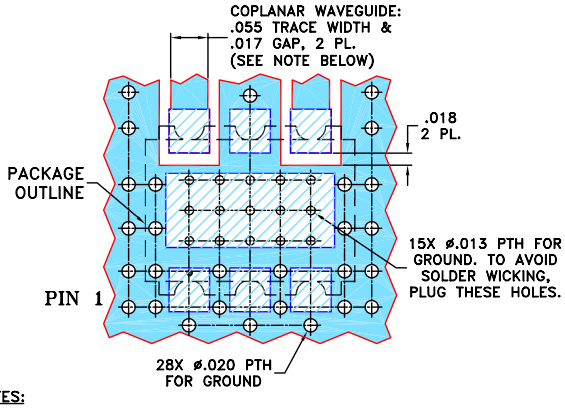
Notes
A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's 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

Pad Connections

INPUT	4
OUTPUT	6
GROUND	1,2,3,5

Demo Board MCL P/N: TB-1122+
Suggested PCB Layout (PL-308)

SUGGESTED MOUNTING CONFIGURATION
FOR TT1423 CASE STYLE "06FL04" PIN CONNECTION

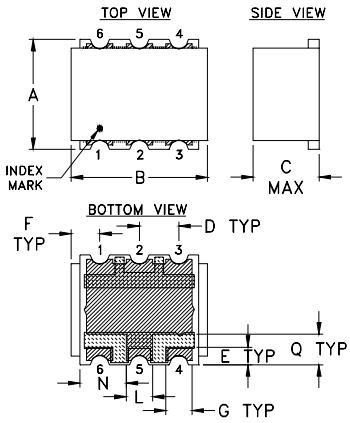


NOTES:
1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH AND GAP MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

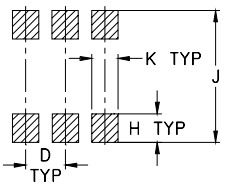
DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Outline Drawing



PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

METALLIZATION
SOLDER RESIST

Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H
.25	.31	.15	.090	.040	.065	.060	.065
6.35	7.87	3.81	2.29	1.02	1.65	1.52	1.65

J	K	L	N	Q	wt.
.300	.060	.060	.105	.070	grams
7.62	1.52	1.52	2.67	1.78	0.50

Note: Please refer to case style drawing for details