Surface Mount **Bandpass Filter**

50Ω 500 to 850 MHz

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 50 Ω 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.

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

Mini-Circuits

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SYBP-675+



Generic photo used for illustration purposes only CASE STYLE: TT1423

Surface Mount **Bandpass Filter**

500 to 850 MHz 50Ω

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







REV.OR M175561 SYBP-675-

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SYBP-675+



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Electrical Specifications at 25°C

Parameter		F#	Frequency (MHz)	Min.	Тур.	Max.	Unit
	Center Frequency	-	-	-	675	-	MHz
Pass Band	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
Papahand rating dorate linearly to	1 F 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

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Pad Connections INPUT

OUTPUT	6
GROUND	1,2,3,5

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



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NOIES: 1. COPLANAR WAYEGUIDE PARAMETERS ARE SHOWN FOR ROGERS R04350B 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 L and Pattern



Suggested Layout, Tolerance to be within ±.002

METALLIZATION SOLDER RESIST

Outline Dimensions (inch)

Α	В	С	D	E	F	G	н
.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	к	L	Ν	Q			wt.
J .300	K .060	L .060	N .105	Q .070		g	wt. rams

Note: Please refer to case style drawing for details

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