## Engineering Development Model

## **Band Pass Filter**

## RBP-EDU1597

### **Surface Mount**

#### **Important Note**

This model has been designed, built and tested in our engineering department. Performance data represents model capability. At present it is a non-catalog model. On request, we can supply a final specification sheet, part number and price/delivery information.



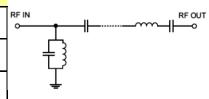
Please click "Back", and then click "Contact Us" for Applications support.

**GP731** 

ELECTRI	CAL SPECIFICAT	IONS 50Ω @	+25°C	
Parameter	Min.	Тур.	Max.	Units
Passband (Loss < 3 dB)	360		380	MHz
Centre frequency		370		MHz
Low Band (Loss > 40 dB)	DC	120		MHz
Low Band (Loss > 20 dB)	120	260		MHz
High Band (Loss > 20 dB)		490	540	MHz
High Band (Loss > 40 dB )		540	1600	MHz
Passband VSWR		1.8		(:1)
Stopband VSWR		18		(:1)

#### **Functional Schematic**

MAXIM		
Operating Temperature	-40°C to 85°C	RF IN
Storage Temperature	-55°C to 100°C	$\blacksquare$
RF Power Input	100mW	Ţ



PIN CONNECTIONS					
Input 2					
Output	6				
Ground	1,3,4,5,7,8				





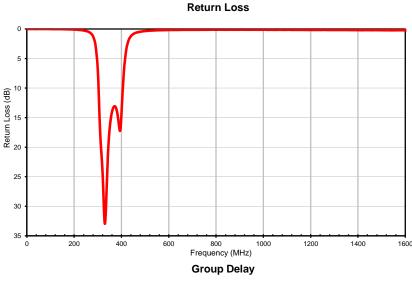
### Typical Performance Data

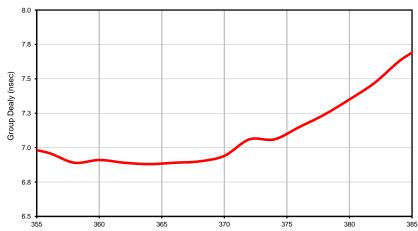
FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)	FREQUENCY (MHz)	GROUP DELAY (nsec)
1	101.15	0.04	340	7.57
20	79.28	0.06	344	7.38
50	66.89	0.12	346	7.25
90	55.98	0.17	350	7.10
120	50.66	0.21	352	7.05
160	44.67	0.26	354	7.00
220	39.78	0.41	356	6.96
260	34.65	0.72	358	6.89
280	17.53	1.29	360	6.91
300	5.02	5.70	362	6.89
330	1.63	26.17	364	6.88
360	1.68	14.57	366	6.89
370	1.77	13.71	368	6.90
380	1.88	13.56	370	6.94
410	4.29	6.31	372	7.06
440	15.86	1.37	374	7.06
490	35.82	0.56	376	7.15
510	44.18	0.46	378	7.24
540	65.84	0.38	380	7.35
700	68.17	0.24	382	7.47
800	63.07	0.20	384	7.63
1000	56.52	0.17	386	7.76
1300	57.03	0.13	388	8.00
1600	69.65	0.15	390	8.21



## Typical Performance Curves





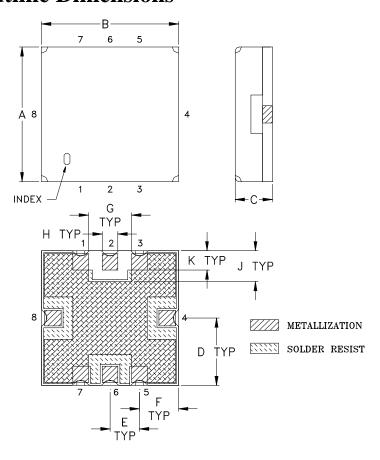


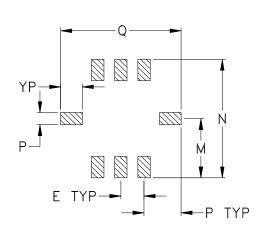




### **Outline Dimensions**

**GP731** 





CASE#	A	В	C	D	Е	F	G	Н	J	K	L	M
GP731	.350	.350	.100	.175	.075	.100	.110	.040	.080	.050	.040	.195
	(8.89)	(8.89)	(2.54)	(4.45)	(1.91)	(2.54)	(2.79)	(1.02)	(2.03)	(1.27)	(1.02)	(4.95)

CASE#	N	P	Q	R	WT. C	GRAM
GP731	.390	.120	.390	.070	4	+0.3
GP/31	(9.91)	(3.05)	(9.91)	(1.78)	.4	-0.0

Dimensions are in inches (mm). Tolerances: 2 Pl.  $\pm$  .03; 3Pl.  $\pm$  .015

#### **Notes:**

- 1. Case material: Nickel-Silver alloy.
- 2. Base: Printed wiring laminate.
- 3. Termination finish:

For RoHS Case Styles:  $3-5 \mu$  inch (.08-.13 microns) Gold over 120-240  $\mu$  inch (3.05-6.10 microns) Nickel plate.

For RoHS-5 Case Styles: Tin-Lead plate.





P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site

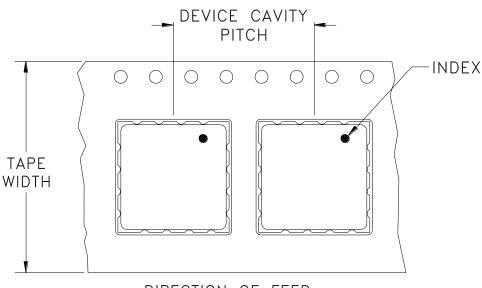
The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com





# Tape & Reel Packaging TR-F78

#### DEVICE ORIENTATION IN T&R



DIRECTION OF FEED

Tape Width,	<b>Device Cavity</b>	Reel Size,	Devices per Reel	
mm	Pitch, mm	inches	see note	
			10	
			20	
1.6	10	7	50	
16	12	12		100
			200	
		13	500, 1000	

Note: Please consult individual model data sheet to determine device per reel availability.

Mini-Circuits carrier tape materials provide protection from ESD (Electro-Static Discharge) during handling and transportation. Tapes are static dissipative and comply with industry standards EIA-481/EIA-541.

Go to: www.minicircuits.com/pages/pdfs/tape.pdf



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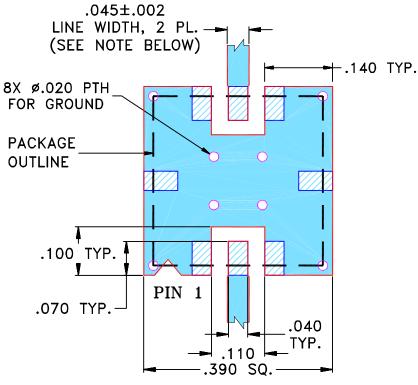
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THIRD ANG	LE PROJECTION
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		REVISIONS			
REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	R59289	NEW RELEASE (FROM RAVON)	02/05	DK	HH
A	M101151	ADDED "RBP" & CORRECTED PIN	10/10/05	MMG	DJ
		CONNECTION TO DESCRIPTION OF PL-DWG.			
В	M102713	UPDATED NOTES, ADDED "WITH SMOBC"	01/20/06	GT	IL

# SUGGESTED MOUNTING CONFIGURATION FOR GP731 CASE STYLE, "qf" PIN CONNECTION.



NOTES: 1. TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS .025" ± .002"; COPPER: 1/2 OZ. EACH SIDE.
FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.

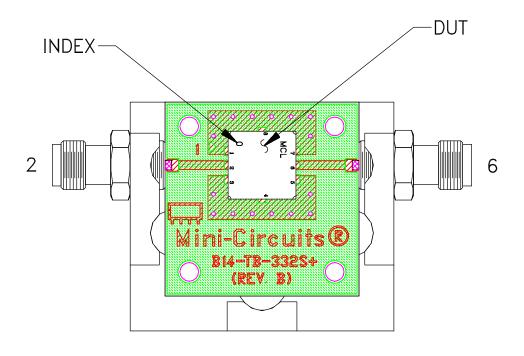
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.



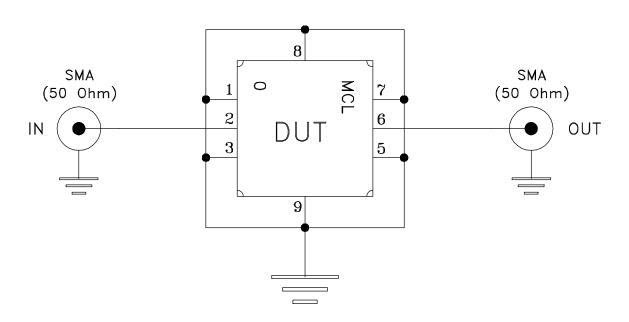
DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

UNLESS OTHERWISE SPECIFIED		INITIALS	DATE			• ~		• 4 ®		
DIMENSIONS ARE IN INCHES	DRAWN	DK (RAVON	) 10 FEB 05		Min	1 <b>–</b> C	ırcu	1ts	13 Neptu	ne Avenue
TOLERANCES ON: 2 PL DECIMALS ±	CHECKED	RZ (RAVON	) 10 FEB 05						Brooklyn	NI II235
3 PL DECIMALS ± .005	APPROVED	HH (RAVON	) 10 FEB 05		_					
FRACTIONS ±				] PI	L, qf, (	GP7	31. R	BP.	TB-	-332
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PARIT, IN WHOLE OR IN PARI, WITHO	PARTY, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION OF MINI-CIRCUITS.  ASHEETA1.DWG REV:A DATE:01/12/95		FILE:	98PL176	SCALE:	5:1	SHEET:	1	OF 1	

## Evaluation Board and Circuit



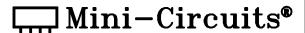
TB - 332



Schematic Diagram

#### Notes:

- 1. 50 Ohm SMA Female connectors.
- 2. PCB Material: R04350 or equivalent, Dielectric Constant=3.5, Thickness=.020 inch.



## Mini-Circuits

#### **Environmental Specifications**

#### ENV03T2

All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-40° to 85° C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
HAST	130°C, 85% RH, 96 hours	JESD22-A110
Humidity	90 to 95% RH, 240 hours, 50°C	MIL-STD-202, Method 103, Condition A, Except 50°C and end-point electrical test done within 12 hours
Thermal Shock	-55° to 100°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except +100°C
Solder Reflow Heat	Sn-Pb Eutectic Process: 225°C peak Pb-Free Process, 245°C peak	J-STD-020, Table 4-1, 4-2 and 5-2, Figure 5-1
Solderability	10X Magnification	J-STD-002, Para 4.2.5, Test S, 95% Coverage
Vibration (High Frequency)	20g peak, 20-2000 Hz, 4 times in each of three axes (total 12)	MIL-STD-883, Method 2007.3, Condition A
Mechanical Shock	50g, 11 ms, 1/2-sine, 18 shocks: 3 each direction, each of 3 axes	MIL-STD-202, Method 213, Condition A
Marking Resistance to Solvents	Isopropyl alcohol + mineral spirits at 25°C; terpene defluxer at 25°C; distilled water + proylene glycol monomethyl ether + monoethanolamine at 63°C to 70°C	MIL-STD-202, Method 215

ENV03T2 Rev: A

02/25/11

M130240 File: ENV03T2.pdf

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