Engineering Development Model

Band Pass Filter RBP-EDU1642

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.

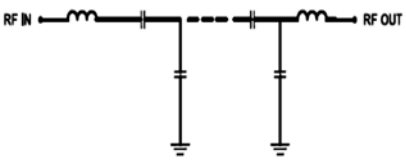
Please click "Back", and then click "Contact Us" for Applications support.

GP731

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C

Parameter	Min.	Typ.	Max.	Units
Passband (Loss < 3 dB)	150		170	MHz
Centre frequency		160		MHz
Low Band (Loss > 40 dB)	DC	16		MHz
Low Band (Loss > 20 dB)	DC	116		MHz
High Band (Loss > 20 dB)		204	1000	MHz
High Band (Loss > 40 dB)		360	1000	MHz
Passband VSWR		1.5		(:1)
Stopband VSWR		14		(:1)

Functional Schematic



MAXIMUM RATINGS

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	200mW

PIN CONNECTIONS

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

Metal Shield Band Pass Filter RBP-EDU1642

Typical Performance Data

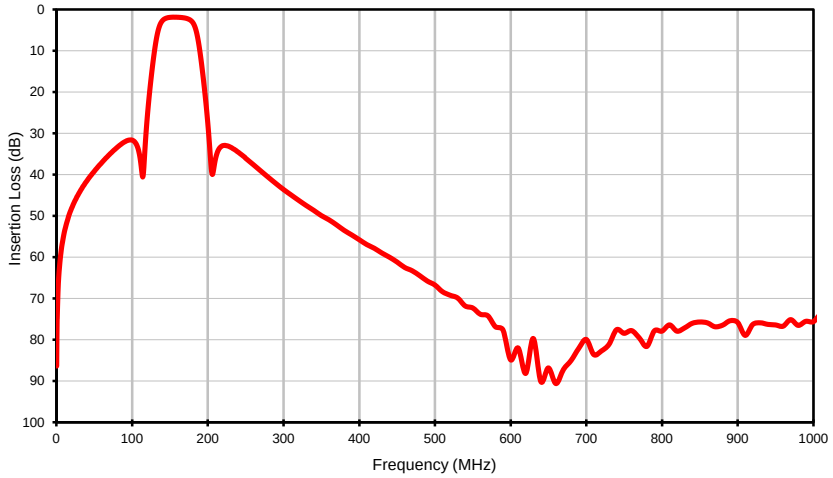
FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)
0.3	86.35	0.00
3.0	64.75	0.00
16.0	50.13	0.00
46.0	40.09	0.01
116.0	36.67	0.50
125.0	16.72	1.37
130.0	9.44	3.12
135.0	4.67	7.78
140.0	2.71	16.00
150.0	1.90	19.52
160.0	1.88	15.34
170.0	2.07	17.85
183.0	4.23	11.46
188.0	8.30	4.59
194.0	16.66	1.86
204.0	37.26	0.81
360.0	50.92	0.04
450.0	61.15	0.04
500.0	66.72	0.03
600.0	84.83	0.00
700.0	79.91	0.05
800.0	77.89	0.03
900.0	75.78	0.02
1000.0	75.61	0.06

FREQUENCY (MHz)	GROUP DELAY (nsec)
149	15.90
150	15.53
151	15.24
152	14.94
153	14.76
154	14.54
155	14.40
156	14.25
157	14.16
158	14.04
159	14.00
160	14.00
161	14.03
162	14.05
163	14.11
164	14.23
165	14.33
166	14.47
167	14.70
168	14.90
169	15.12
170	15.42
171	15.75
172	16.06

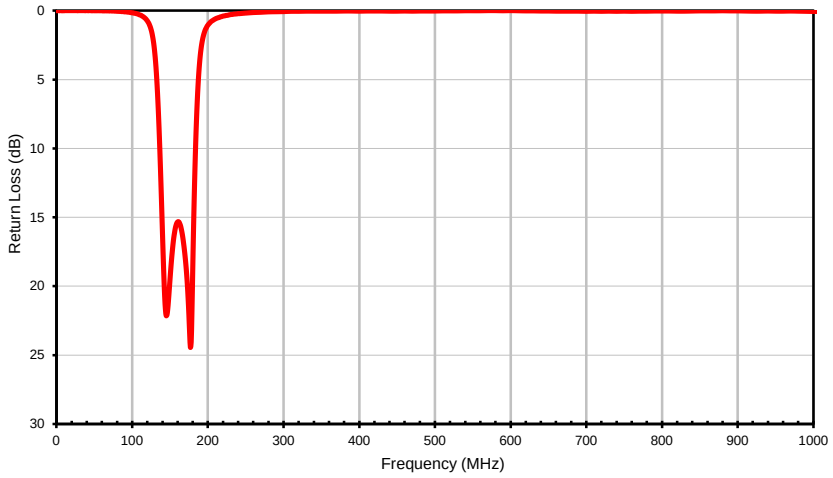
Metal Shield Band Pass Filter RBP-EDU1642

Typical Performance Curves

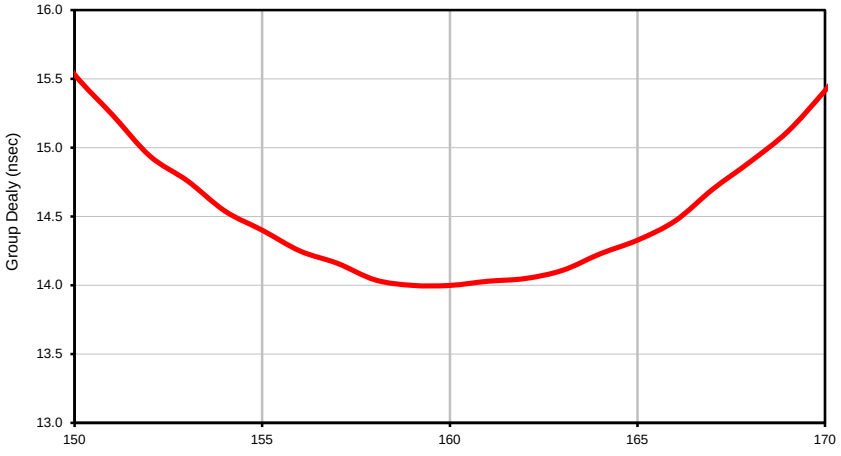
Insertion Loss



Return Loss

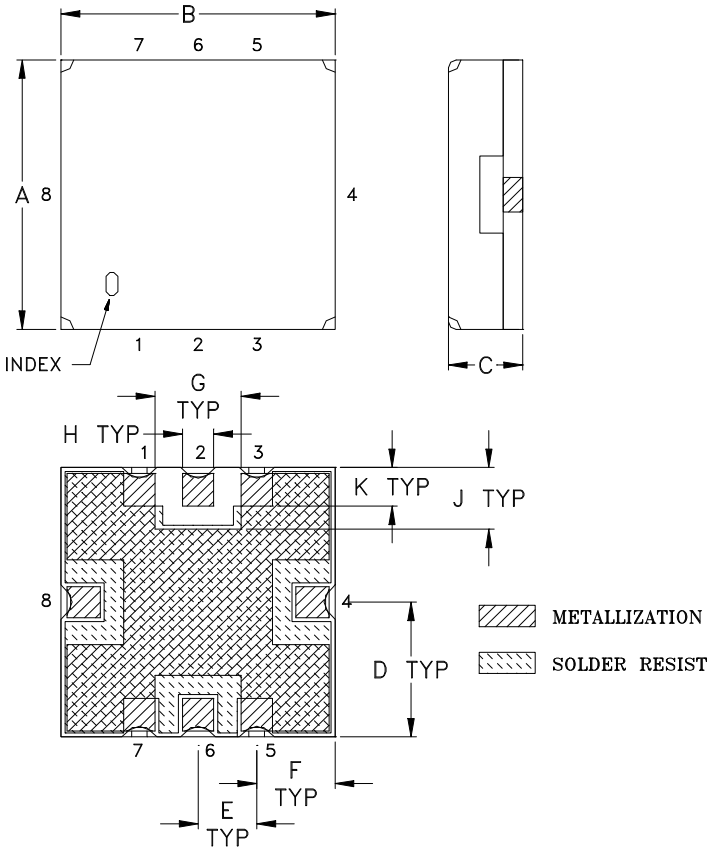


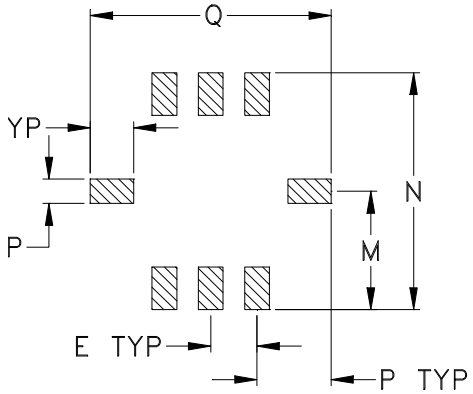
Group Delay



Case Style GP

Outline Dimensions GP731





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

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

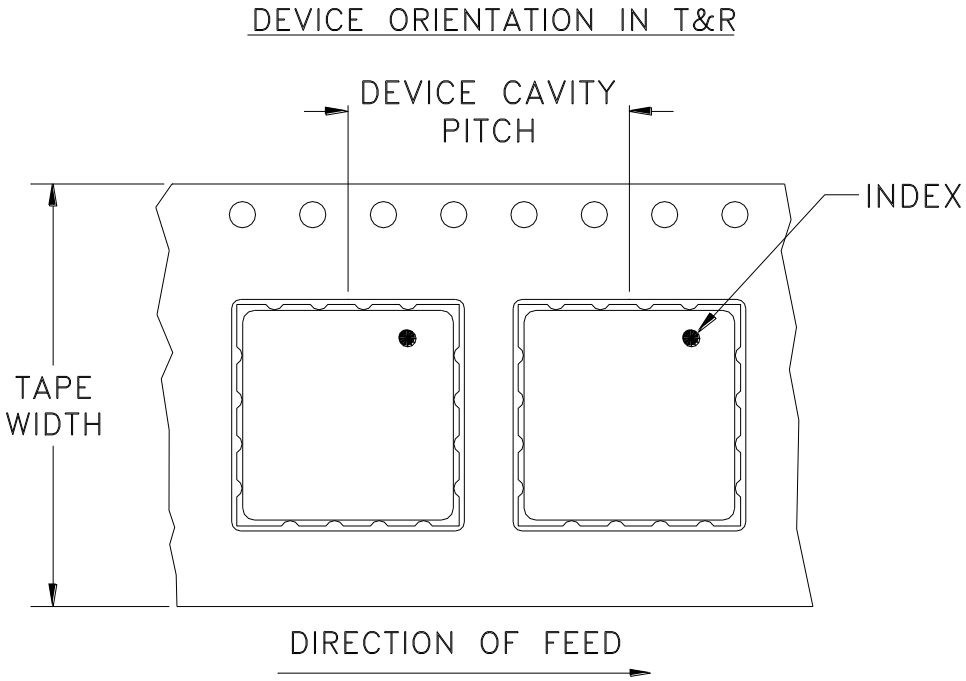
Dimensions are in inches (mm). Tolerances: 2 Pl. ± .03; 3Pl. ± .015

Notes:

1. Case material: Nickel-Silver alloy.
2. Base: Printed wiring laminate.
3. Termination finish:
   For RoHS Case Styles: 3-5 µ inch (.08-.13 microns) Gold over 120-240 µ inch (3.05-6.10 microns) Nickel plate.
   For RoHS-5 Case Styles: Tin-Lead plate.

This document and its contents are the property of Mini-Circuits.

Tape & Reel Packaging TR-F78



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

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

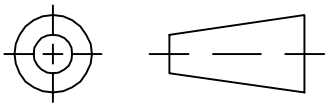
Mini-Circuits carrier tape materials provide protection from ESD (Electro-Static Discharge) during handling and transportation. Tapes are static dissipative and comply with industry standards EIA-481/EIA-541.

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

Mini-Circuits®
INTERNET http://www.minicircuits.com
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661
Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010
Mini-Circuits ISO 9001 & ISO 14001 Certified

This document and its contents are the property of Mini-Circuits.

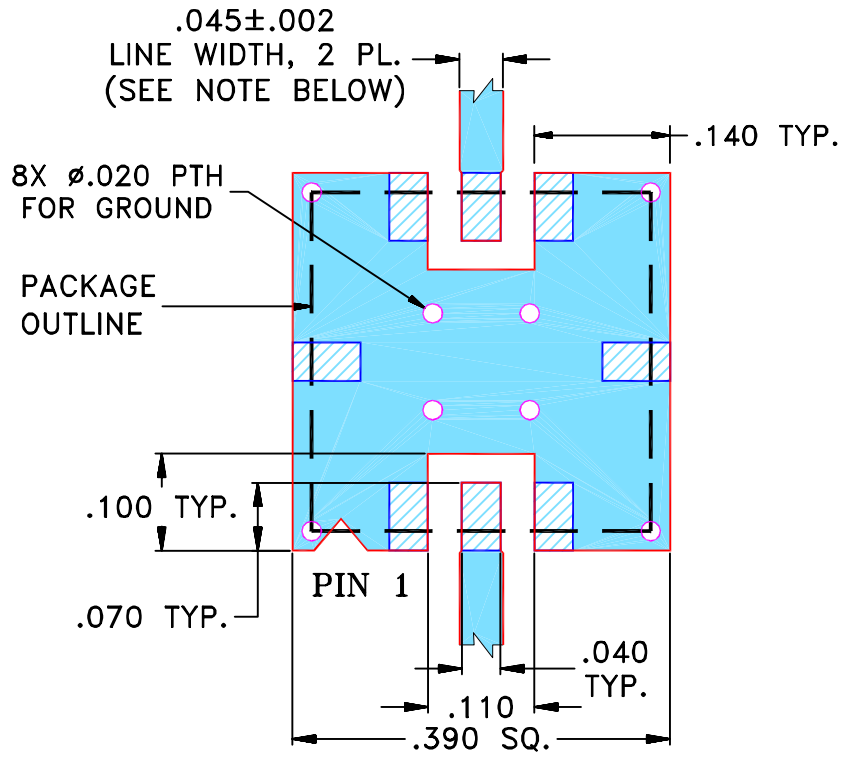
THIRD ANGLE PROJECTION



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.			
B	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 PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

UNLESS OTHERWISE SPECIFIED		INITIALS	DATE
DIMENSIONS ARE IN INCHES	DRAWN	DK (RAVON)	10 FEB 05
TOLERANCES ON:	CHECKED	RZ (RAVON)	10 FEB 05
2 PL DECIMALS ±	APPROVED	HH (RAVON)	10 FEB 05
3 PL DECIMALS ± .005			
ANGLES ±			
FRACTIONS ±			

Mini-Circuits®
THIS DOCUMENT AND ITS CONTENTS ARE THE PROPERTY OF MINI-CIRCUITS. EXCEPT FOR USE EXPRESSLY GRANTED, IN WRITING, TO ITS VENDORS, VENDEE AND THE UNITED STATES GOVERNMENT, MINI-CIRCUITS RESERVES ALL PROPRIETARY DESIGN, USE , MANUFACTURING AND REPRODUCTION RIGHTS THERETO. THESE CONTENTS SHALL NOT BE USED, DUPLICATED OR DISCLOSED TO ANY OUTSIDE PARTY, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION OF MINI-CIRCUITS.

ASHEETA1.DWG REV:A DATE:01/12/95

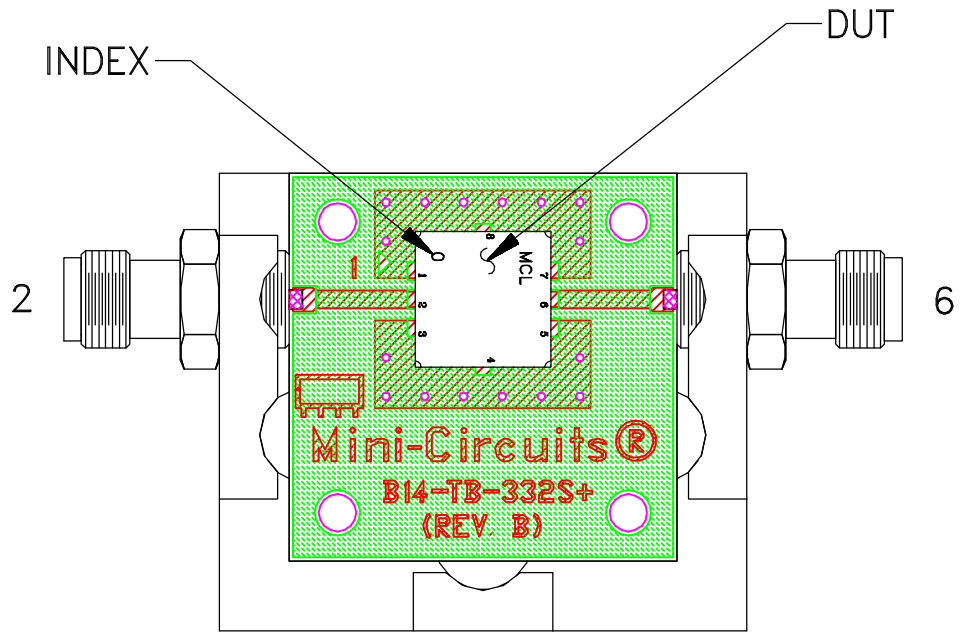
Mini-Circuits® 13 Neptune Avenue Brooklyn NY 11235

PL, qf, GP731, RBP, TB-332

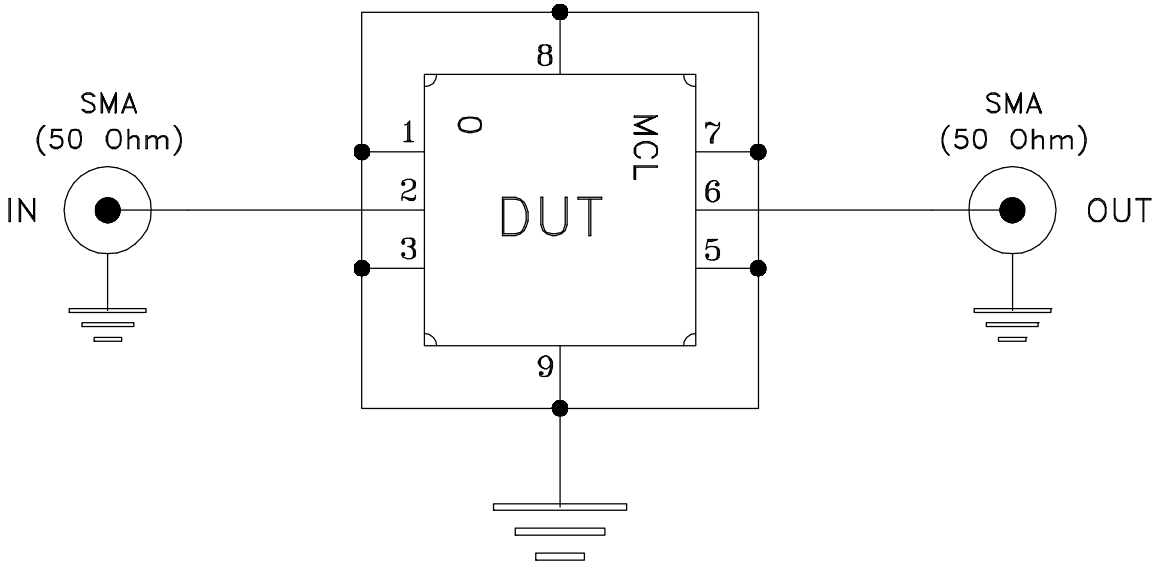
SIZE	CODE IDENT	DRAWING NO:	REV:
A	15542	98-PL-176	B

FILE:	SCALE:	SHEET:
98PL176	5:1	1 OF 1

Evaluation Board and Circuit



TB-332



Schematic Diagram

Notes:

1. 50 Ohm SMA Female connectors.
2. PCB Material: RO4350 or equivalent, Dielectric Constant=3.5, Thickness=.020 inch.

Mini-Circuits®

THIS DOCUMENT AND ITS CONTENTS ARE THE PROPERTY OF MINI-CIRCUITS.

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

This document and its contents are the property of Mini-Circuits.