

Surface Mount Bandpass Filter

SXBP-1430-75+

75Ω 950 to 2150 MHz

Maximum Ratings

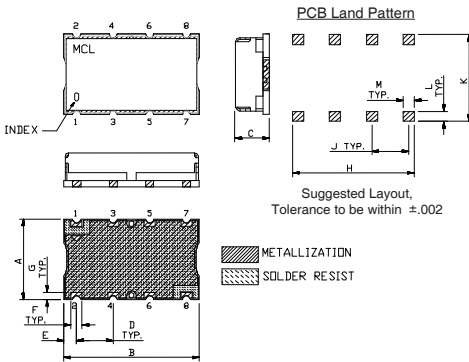
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.5W Max.

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

Pin Connections

INPUT	1
OUTPUT	8
GROUND	2, 3, 4, 5, 6, 7

Outline Drawing

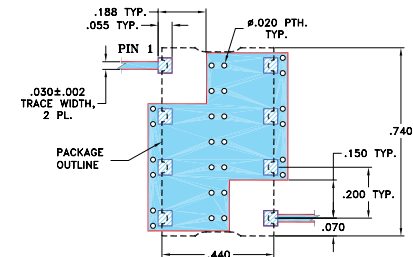


Outline Dimensions (inch/mm)

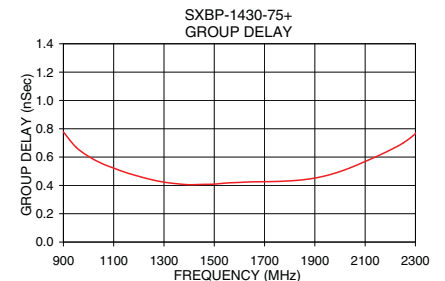
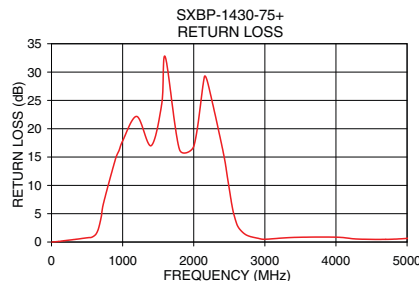
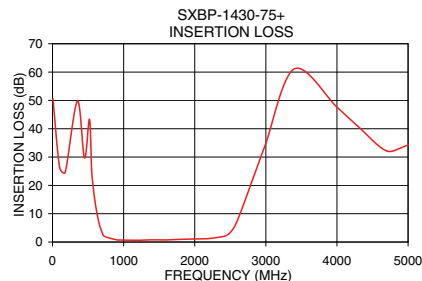
A	B	C	D	E	F	
.44	.74	.19	.200	.07	.060	
11.18	18.80	4.83	5.08	1.78	1.52	
G	H	J	K	L	M	wt.
.040	.660	.200	.470	.055	.060	grams
1.02	16.76	5.08	11.94	1.40	1.52	3.0

Note: Please refer to case style drawing for details

Demo Board MCL P/N: TB-683+ Suggested PCB Layout (PL-281)



- TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030"±.002". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
 - BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
-



Notes

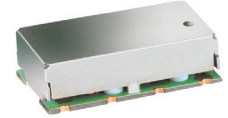
- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- 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

Features

- Wideband, 950 to 2150 MHz
- Flat group delay @ passband, 0.6 nsec typ.
- Good VSWR, 1.3:1 typ @ passband
- Aqueous washable

Applications

- L-band
- Receivers/ Transmitters
- Wireless communication system



Generic photo used for illustration purposes only
CASE STYLE: HF1317

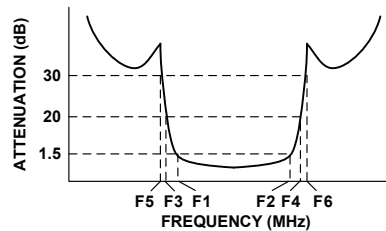
+RoHS Compliant

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

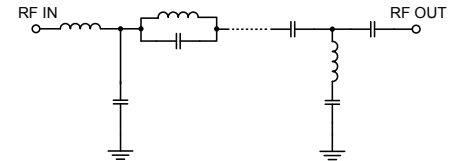
Bandpass Filter Electrical Specifications (T_{AMB} = 25°C)

CENTER FREQ. (MHz)	PASSBAND (MHz) (Loss < 1.5dB)	STOPBANDS (MHz)				VSWR (:1)		
		Loss > 20dB		Loss 30dB Typ.		Passband		Stopband
Fc	F1 - F2	F3	F4	F5	F6	Typ.	Max.	Typ.
1430	950 - 2150	540	2950	530	3000 - 5000	1.3	1.9	20

Typical Frequency Response



Functional Schematic



Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)		Return Loss (dB)	Frequency (MHz)	Group Delay (nSec)
	\bar{x}	σ			
5.0	50.63	0.39	0.01	900.0	0.78
530.0	35.18	2.03	0.77	950.0	0.67
540.0	29.53	1.19	0.77	1000.0	0.61
580.0	17.63	0.45	0.94	1100.0	0.52
630.0	9.50	0.26	1.47	1200.0	0.46
680.0	4.50	0.14	3.30	1300.0	0.42
725.0	2.17	0.06	6.37	1400.0	0.41
780.0	1.15	0.04	10.96	1430.0	0.41
950.0	0.56	0.02	20.73	1450.0	0.93
1430.0	0.60	0.03	18.82	1500.0	0.94
2150.0	0.97	0.02	24.15	1600.0	0.87
2425.0	1.65	0.06	20.56	1700.0	0.92
2500.0	2.50	0.28	17.51	1800.0	0.97
2575.0	6.28	0.86	5.39	1900.0	0.98
2650.0	13.27	1.06	2.06	2000.0	1.00
2800.0	29.07	1.38	1.11	2100.0	1.12
2850.0	36.43	1.93	1.05	2150.0	1.10
5000.0	38.05	1.34	0.63	2200.0	1.09

Surface Mount Band Pass Filter

SXBP-1430-75+

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)	FREQUENCY (MHz)	GROUP DELAY (nsec)
5.0	50.63	0.01	900.0	0.78
530.0	35.18	0.77	950.0	0.67
540.0	29.53	0.77	1000.0	0.61
580.0	17.63	0.94	1100.0	0.52
630.0	9.50	1.47	1200.0	0.46
680.0	4.50	3.30	1300.0	0.42
725.0	2.17	6.37	1400.0	0.41
780.0	1.15	10.96	1430.0	0.41
950.0	0.72	16.16	1500.0	0.41
1430.0	0.77	17.48	1600.0	0.42
2150.0	1.14	29.16	1700.0	0.43
2400.0	1.94	16.33	1800.0	0.43
2500.0	3.36	9.10	1900.0	0.45
2600.0	7.67	3.36	2000.0	0.50
2720.0	15.65	1.33	2100.0	0.57
2950.0	31.18	0.60	2150.0	0.61
3000.0	34.86	0.48	2200.0	0.65
5000.0	34.22	0.64	2300.0	0.77

REV. X1
SXBP-1430-75+
080113
Page 1 of 1



IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS 9100 CERTIFIED RoHS compliant
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661



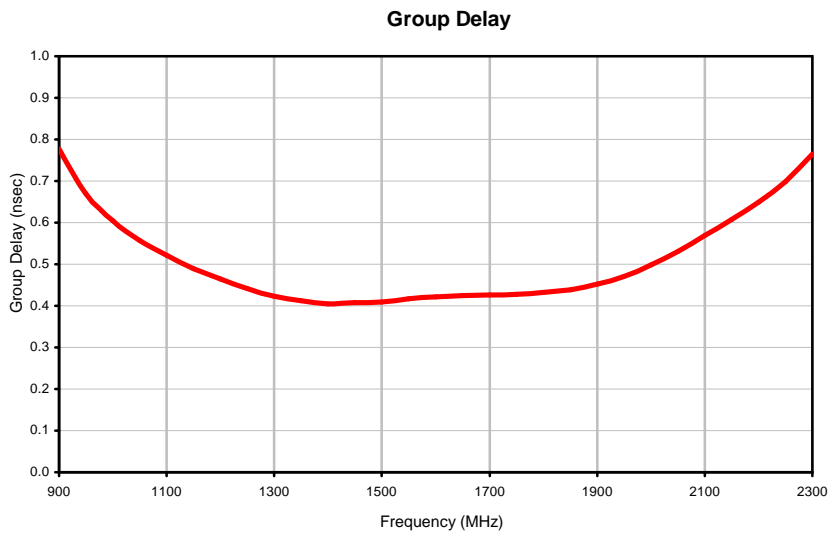
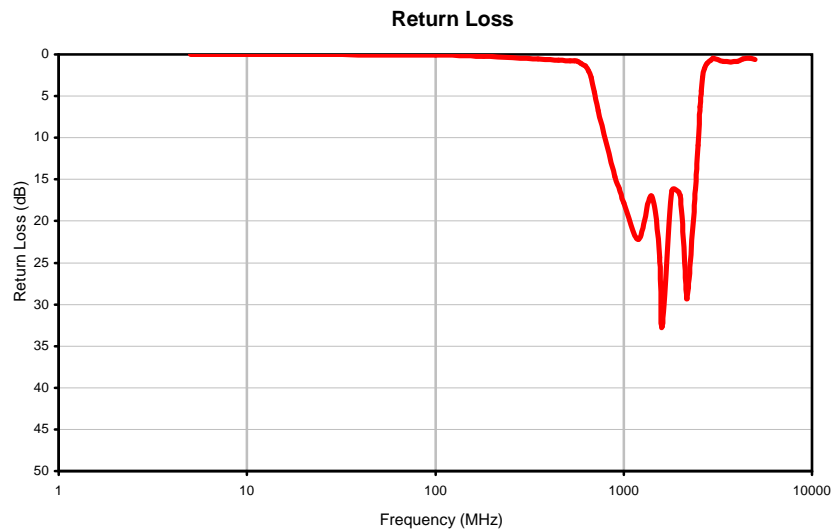
The Design Engineers Search Engine finds the model you need, Instantly • For detailed performance specs & shopping online see



Surface Mount Band Pass Filter

SXBP-1430-75+

Typical Performance Curves



REV. X1
SXBP-1430-75+
080113
Page 1 of 1



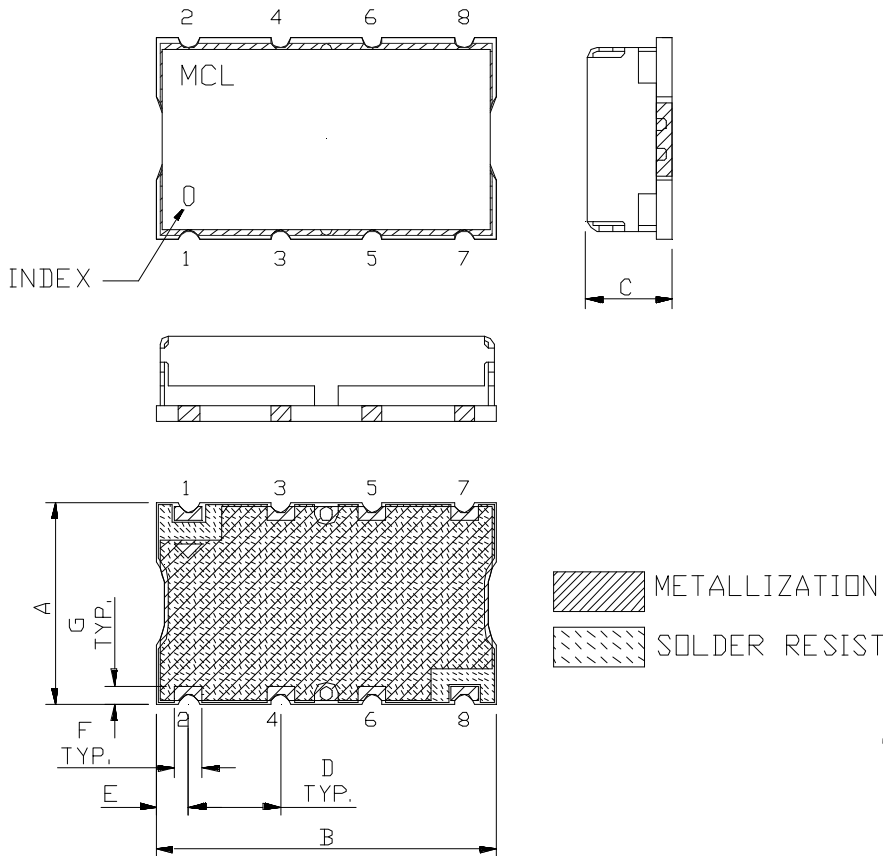
IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS 9100 CERTIFIED RoHS compliant
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661



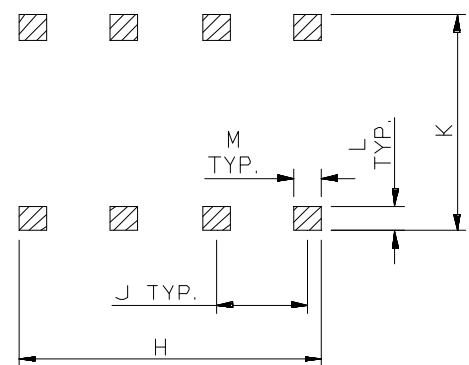
The Design Engineers Search Engine finds the model you need, Instantly • For detailed performance specs & shopping online see



Outline Dimensions



PCB Land Pattern



Suggested Layout,
Tolerance to be within $\pm.002$

CASE #	A	B	C	D	E	F	G	H	J	K	L	M	WT. GRAMS
HF1317	.44 (11.18)	.74 (18.80)	.19 (4.83)	.200 (5.08)	.07 (1.78)	.060 (1.52)	.040 (1.02)	.660 (16.76)	.200 (5.08)	.470 (11.94)	.055 (1.40)	.060 (1.52)	3.0

Dimensions are in inches (mm). Tolerances: 2 Pl. $\pm.015$ "; 3 Pl. $\pm.01$ "

Notes:

- Case material: Nickel-Silver alloy.
- Base: Printed wiring laminate.
- Termination finish:
 - For RoHS Case Styles: 2-5 μ inch (.05-.13 microns) Gold over 120-240 μ inch (3.05-6.10 microns) Nickel plate.
 - For RoHS-5 Case Styles: Tin-Lead plate.



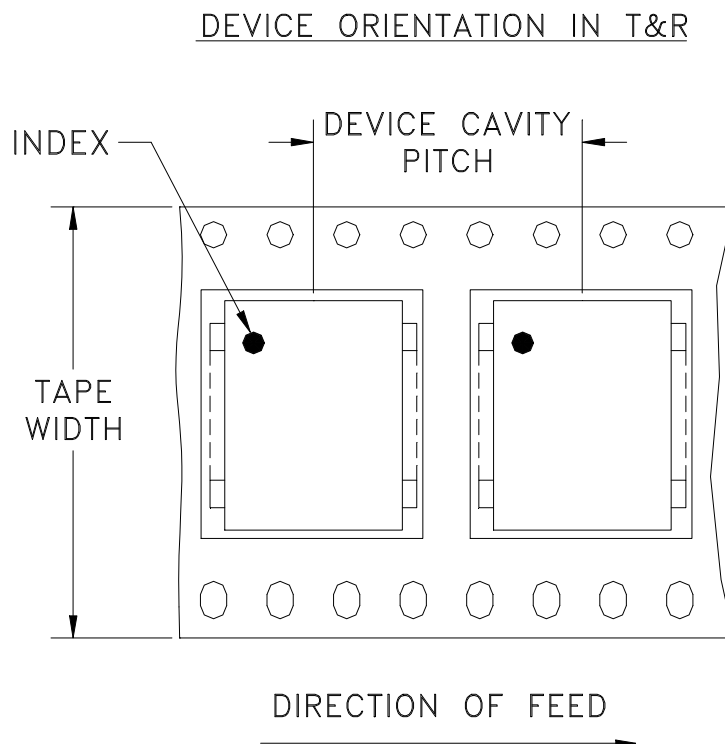
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



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

RFIIF MICROWAVE COMPONENTS

Tape & Reel Packaging TR-F5



Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel
32	16	13	500

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



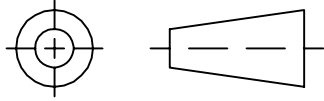
Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010

Mini-Circuits ISO 9001 & ISO 14001 Certified

INTERNET <http://www.minicircuits.com>

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

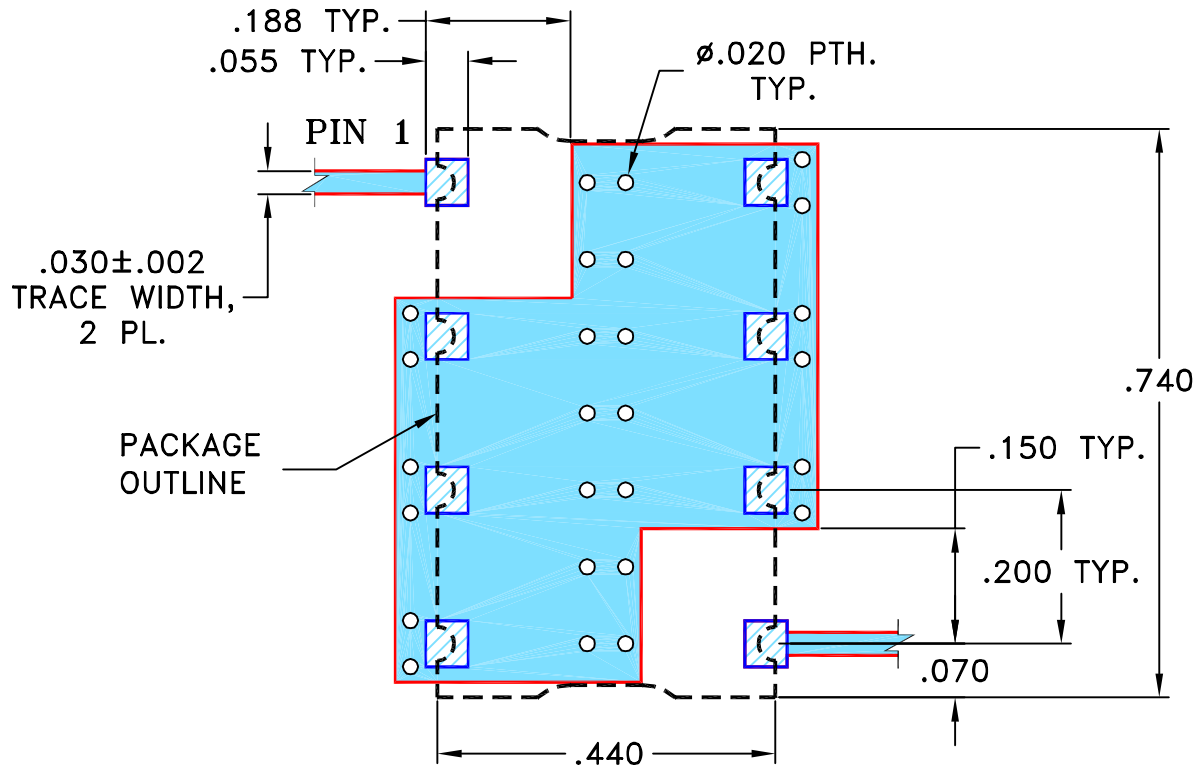
THIRD ANGLE PROJECTION



REVISIONS

REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	M114157	NEW RELEASE (FROM RAVON)	10/07	DK	HH
OR	R70641	NEW RELEASE (FROM RAVON)	10/07	DK	HH

SUGGESTED MOUNTING CONFIGURATION
 FOR HF1317 CASE STYLE, cr PIN CONNECTION, 75 OHM



NOTE:

1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030"±.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 TOLERANCES ON: 2 PL DECIMALS ± 3 PL DECIMALS ± .005 ANGLES ± FRACTIONS ±	DRAWN	DK (RAVON) 29 OCT 07
	CHECKED	RZ (RAVON) 29 OCT 07
	APPROVED	HH (RAVON) 29 OCT 07

Mini-Circuits® 13 Neptune Avenue
 Brooklyn NY 11235

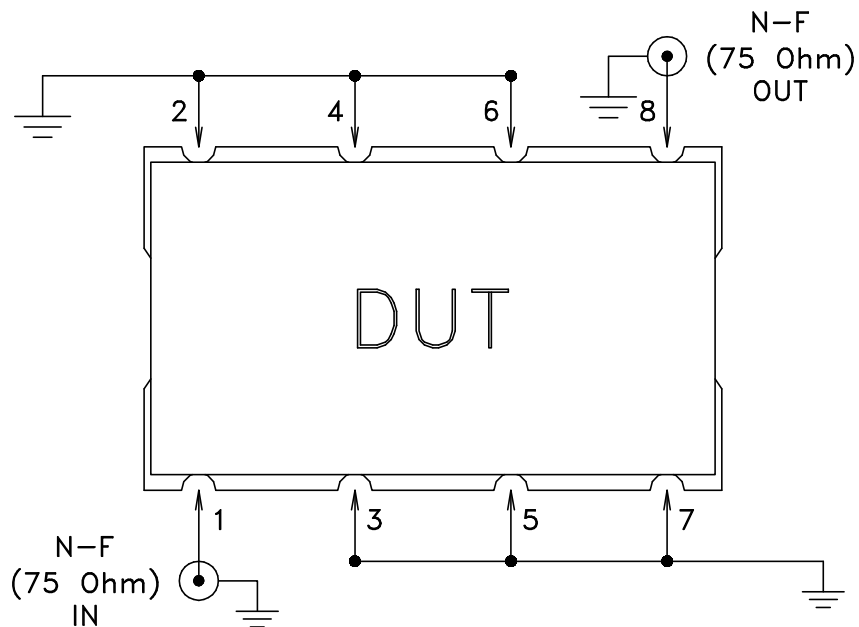
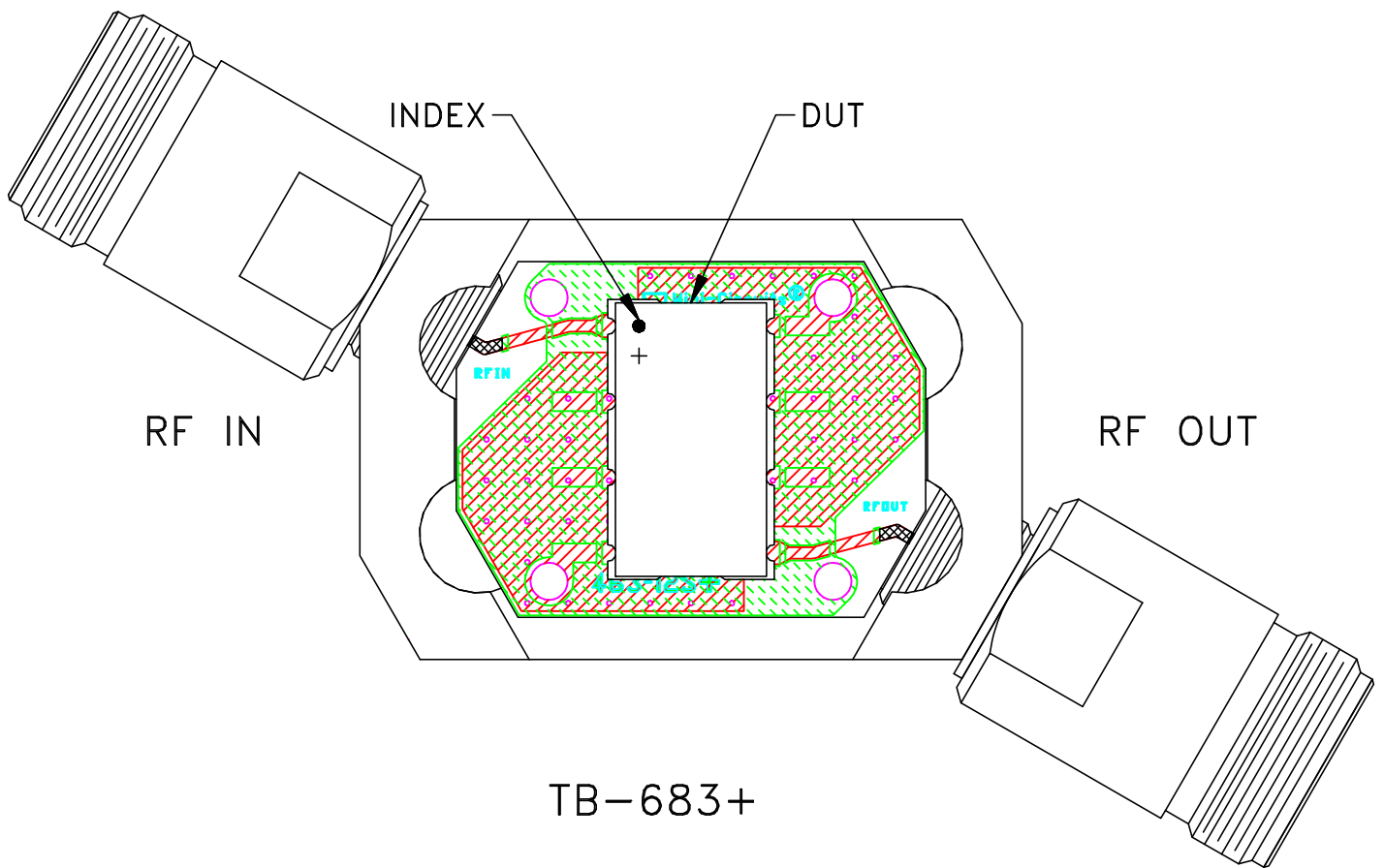
PL,cr,HF1317,SXBP,TB-466+,75 OHM

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

SIZE A	CODE IDENT 15542	DRAWING NO: 98-PL-281	REV: OR
FILE: 98PL281	SCALE: 4:1	SHEET: 1 OF 1	

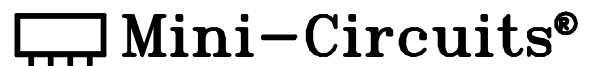
Evaluation Board and Circuit



Schematic Diagram

Notes:

1. 75 Ohm N Female connectors.
2. PCB Material: ROGERS (R04350B) OR Equivalent
Dielectric Constant=3.48±.05, Thickness=.030 inch.





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
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 Eutetic Process: 225°C peak Pb-Free Process 245° - 250°C peak	J-STD-020, Table 4-1, 4-2 and 5-2, Figure 5-1
Solderability	10X Magnification	J-STD-002, 95% Coverage
Vibration (High Frequency)	20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)	MIL-STD-202, Method 204, Condition D
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