

Surface Mount Bandpass Filter

SXBP-1430-75+

75Ω 950 to 2150 MHz

Maximum Ratings

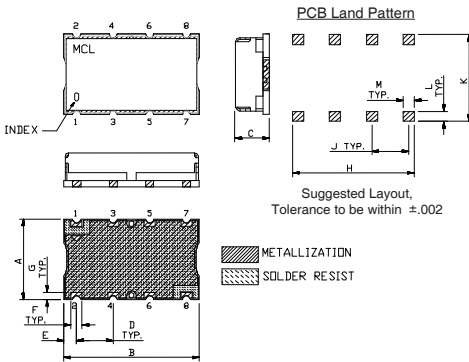
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.5W Max.

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

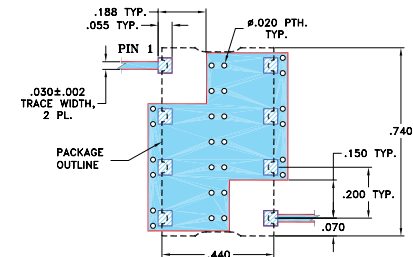


Outline Dimensions (inch/mm)

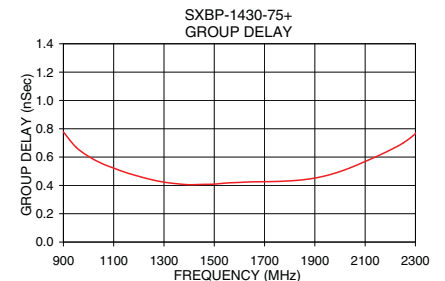
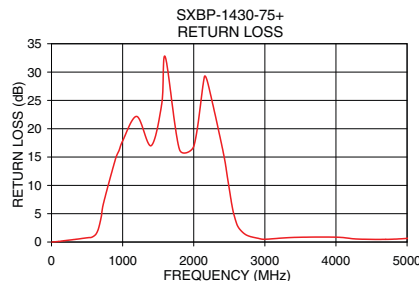
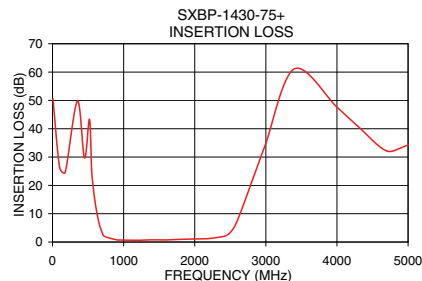
A	B	C	D	E	F	
.44	.74	.19	.200	.07	.060	
11.18	18.80	4.83	5.08	1.78	1.52	
G	H	J	K	L	M	wt.
.040	.660	.200	.470	.055	.060	grams
1.02	16.76	5.08	11.94	1.40	1.52	3.0

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

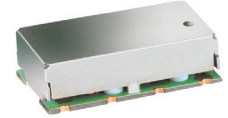
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- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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Features

- 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

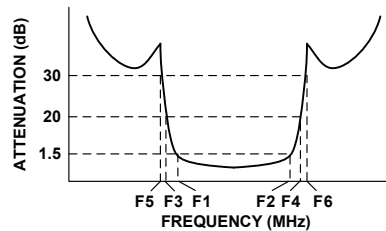
+RoHS Compliant

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

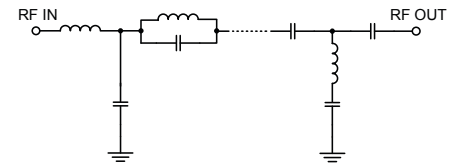
Bandpass Filter Electrical Specifications (T_{AMB} = 25°C)

CENTER FREQ. (MHz)	PASSBAND (MHz) (Loss < 1.5dB)	STOPBANDS (MHz)				VSWR (:1)		
		Loss > 20dB	Loss 30dB Typ.	F3	F4	F5	F6	Passband Typ.
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
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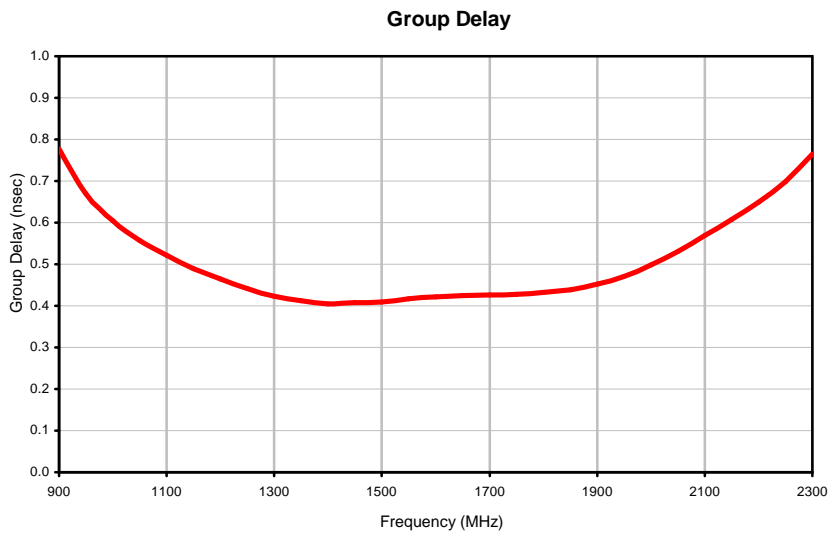
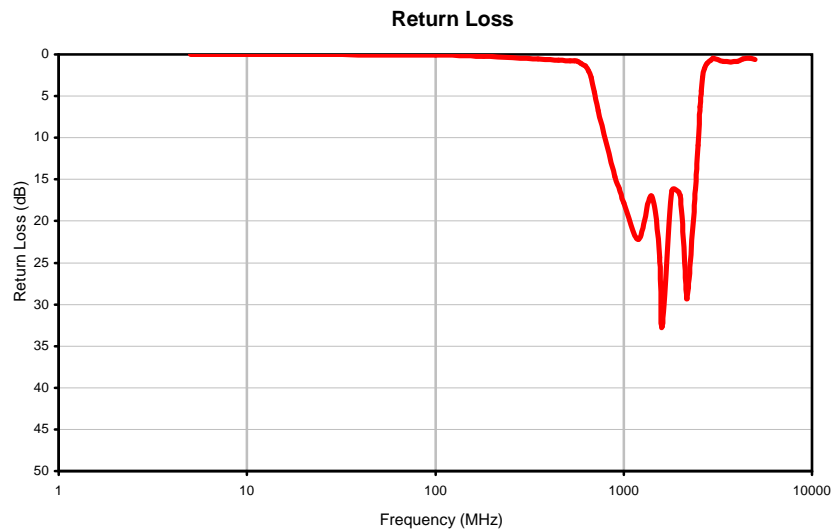
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Surface Mount Band Pass Filter

SXBP-1430-75+

Typical Performance Curves



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SXBP-1430-75+
080113
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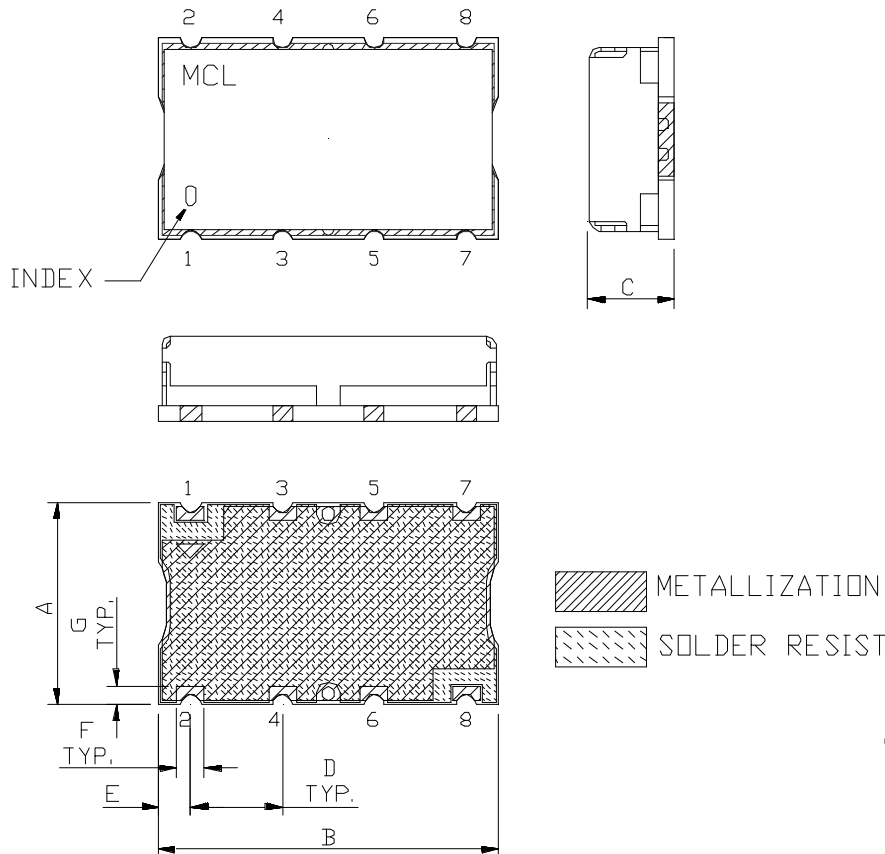
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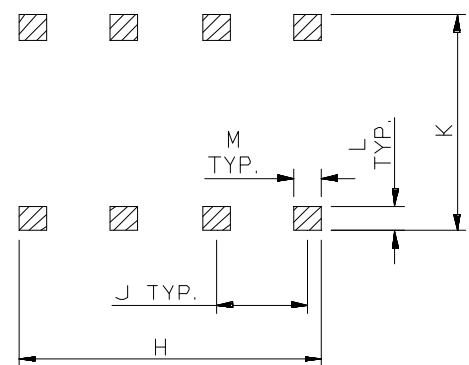
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Outline Dimensions



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.



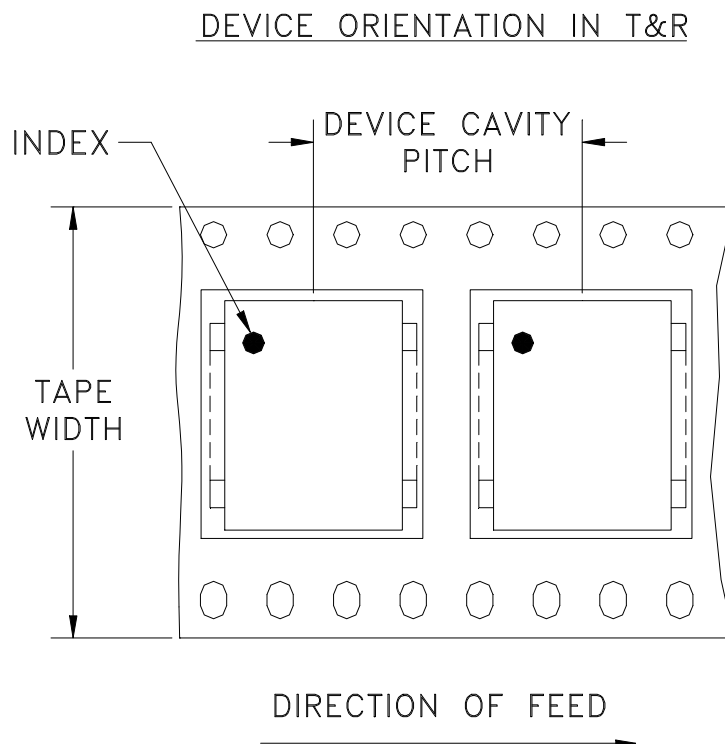
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RF/IF MICROWAVE COMPONENTS

Tape & Reel Packaging TR-F5



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

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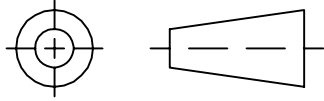
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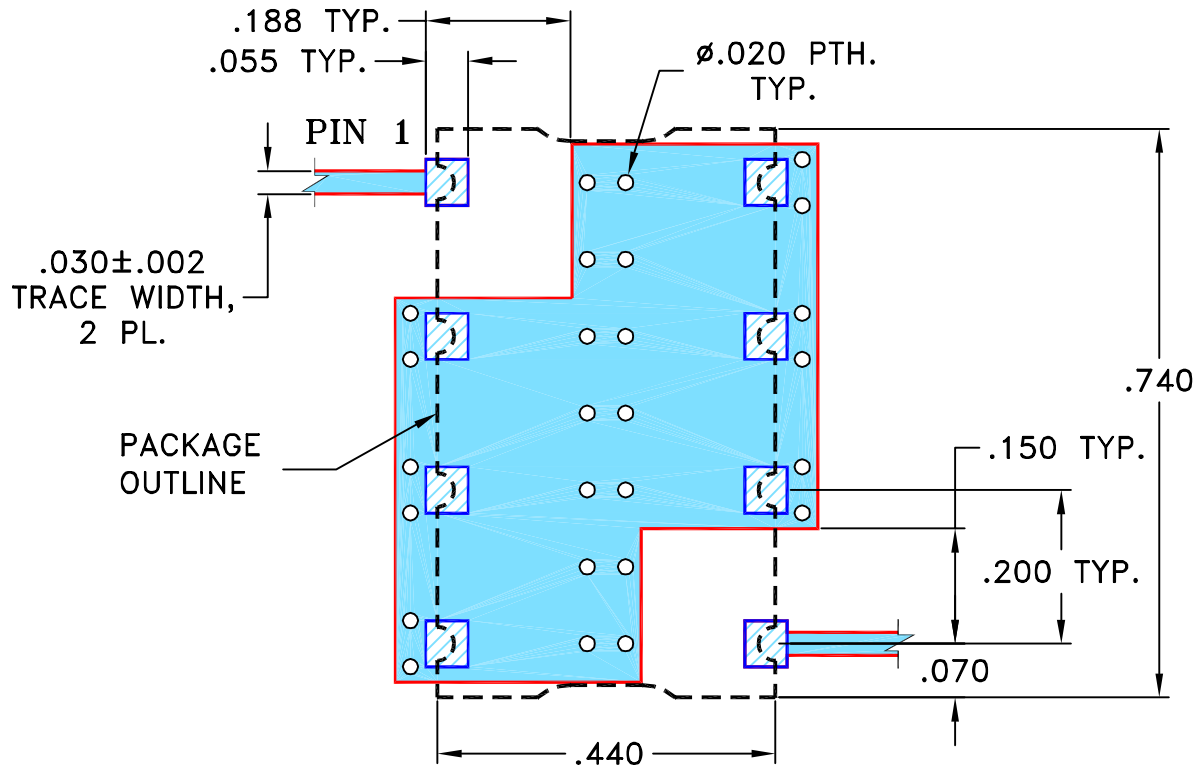
THIRD ANGLE PROJECTION



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

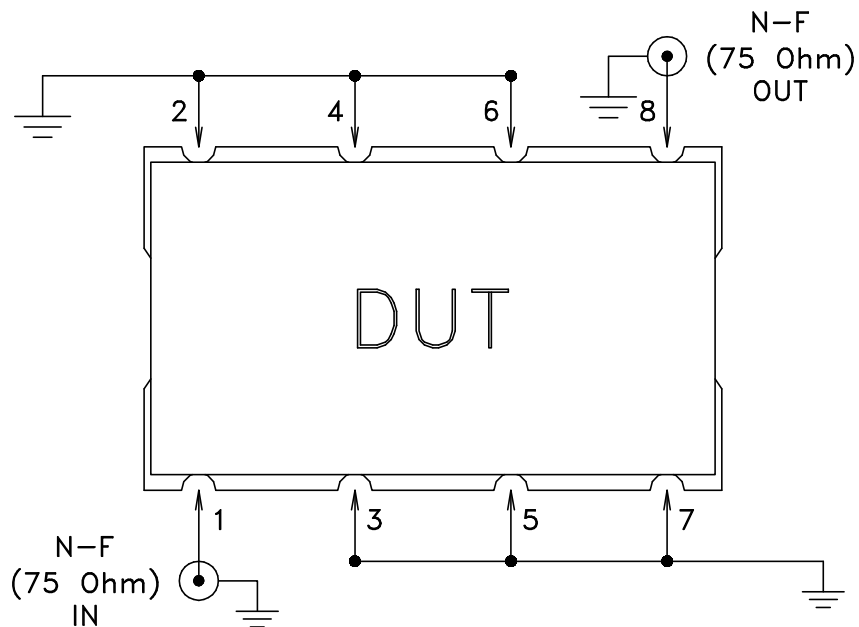
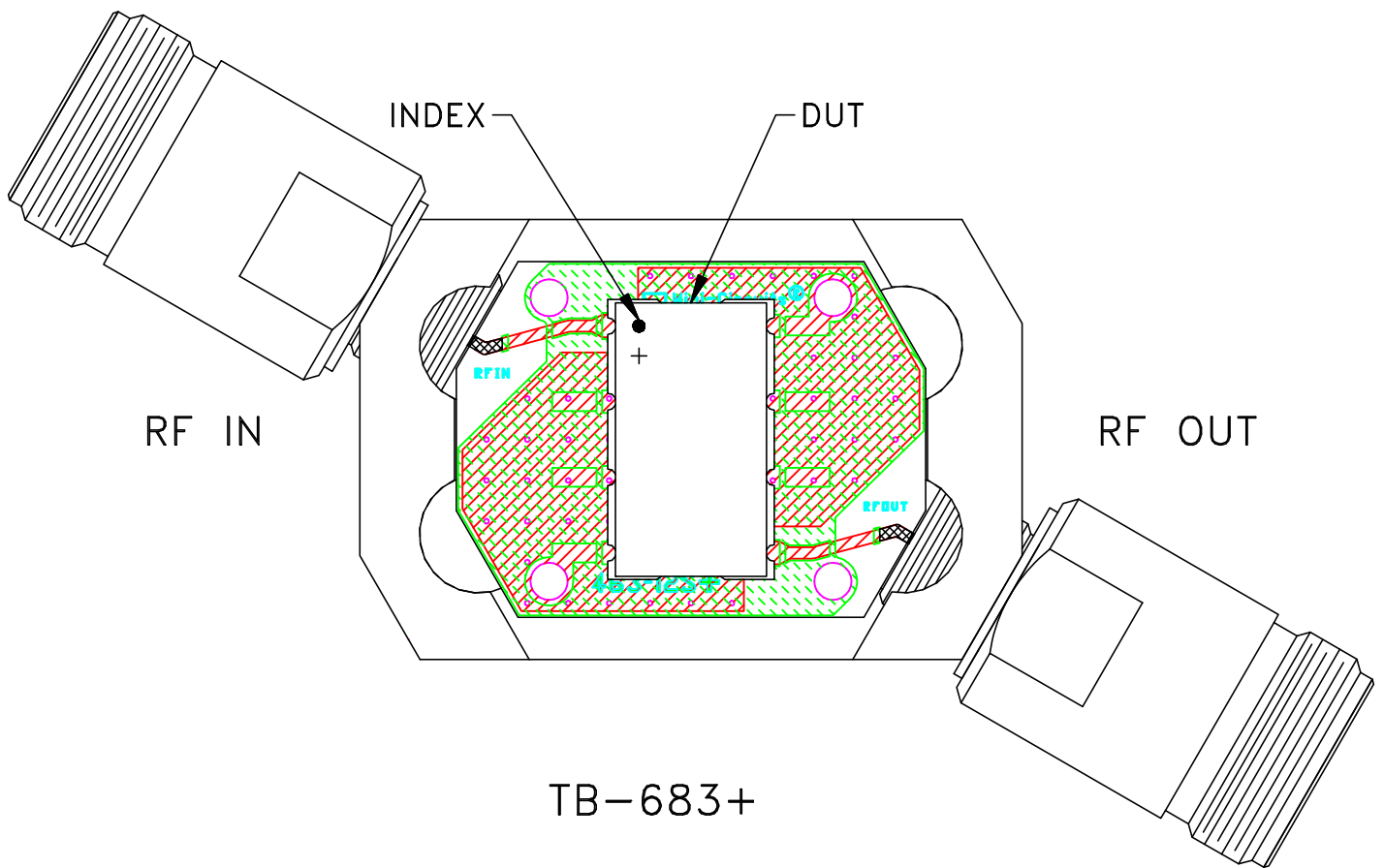
 **Mini-Circuits®** 13 Neptune Avenue
 Brooklyn NY 11235

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

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

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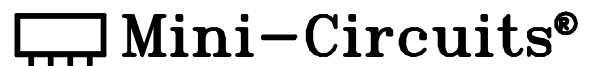
Evaluation Board and Circuit



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