

Non-Catalog Model

Frequency Mixer

Level 7 (LO Power +7 dBm)

SKY-53R

Important Note

This is a non-catalog model and can be manufactured on specific request.
Pricing and delivery information can be supplied upon request.



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

CASE STYLE : BJ398

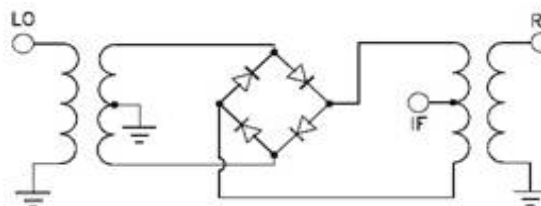
ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		Min.	Typ.	Max.	Units
Frequency	LO (fL to fU)	2800		5300	MHz
	RF (fL to fU)	2800		5300	MHz
	IF	0		500	MHz
Conversion Loss			5.7	9.5	dB
LO-RF Isolation		15	28		dB
LO-IF Isolation		8	12		dB
1 dB Comp. Input Power			+1		dBm

Note: Non-hermetic

MAXIMUM RATINGS	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	50mW
IF Current	40mA

PIN CONNECTIONS	
LO	5
RF	1
IF	7
GROUND	2, 3, 4, 6, 8

Electrical Schematics



Typical Performance Data

RF (MHz)	LO (MHz)	CONVERSION LOSS (dB)			LO (MHz)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)		
		@LO (dBm)				@LO (dBm)			@LO (dBm)		
		+4	+7	+10		+4	+7	+10	+4	+7	+10
2800.0	2830.0	7.45	7.12	6.92	2800.0	24.1	24.1	23.4	15.1	13.9	12.4
3000.0	3030.0	7.22	6.88	6.69	3000.0	23.3	23.7	23.6	13.0	12.6	11.6
3224.5	3254.5	6.57	6.25	6.09	3224.5	21.9	22.6	22.6	11.9	12.0	11.4
3413.2	3443.2	6.32	6.05	5.92	3413.2	22.2	23.6	24.3	11.2	11.7	11.4
3601.9	3631.9	6.44	6.11	5.95	3601.9	23.1	24.8	25.9	10.5	11.2	11.3
3649.1	3679.1	6.54	6.24	6.06	3649.1	23.6	25.1	26.2	10.4	11.2	11.3
3837.7	3867.7	6.75	6.61	6.49	3837.7	24.6	26.0	27.3	10.9	11.7	11.7
4000.0	4030.0	6.96	7.06	7.03	4000.0	26.3	28.4	30.2	11.6	12.7	13.0
4120.8	4090.8	7.08	7.21	7.18	4120.8	24.9	27.4	29.6	12.4	13.5	14.1
4215.1	4185.1	7.16	7.34	7.35	4215.1	26.2	28.5	30.1	12.9	14.0	14.8
4356.6	4326.6	7.09	7.24	7.74	4356.6	33.2	38.8	40.6	13.4	14.5	15.5
4498.1	4468.1	7.04	6.98	7.36	4498.1	38.3	43.8	39.8	13.8	15.0	16.0
4639.6	4609.6	7.11	6.95	7.18	4639.6	35.0	37.0	36.2	14.9	16.1	17.2
4781.1	4751.1	7.33	7.19	7.38	4781.1	32.9	34.5	33.7	16.4	17.7	18.9
4828.3	4798.3	7.41	7.25	7.42	4828.3	32.4	33.7	32.9	16.9	18.2	19.5
5000.0	4970.0	7.97	7.82	7.97	5000.0	30.5	30.6	29.3	19.2	20.4	21.8
5111.3	5081.3	8.36	8.17	8.34	5111.3	30.3	30.1	28.7	20.3	21.6	23.0
5158.5	5128.5	8.55	8.26	8.42	5158.5	30.1	29.7	28.3	20.8	22.1	23.5
5252.8	5222.8	8.92	8.57	8.71	5252.8	29.6	29.0	27.6	21.6	22.9	24.2
5300.0	5270.0	9.13	8.76	8.92	5300.0	29.5	28.5	27.0	22.0	23.3	24.5

Frequency Mixer

SKY-53R

Typical Performance Data

RF/LO (MHz)	RF VSWR (:1)			LO VSWR (:1)			IF (MHz)	IF VSWR (:1)			LO/RF (MHz)	max. DC output (mV)	DC Offset (mV)
	@LO (dBm)			@LO (dBm)				@LO (dBm)			@LO (dBm)		
	+4	+7	+10	+4	+7	+10		+4	+7	+10	+7		
2800.0	3.77	3.53	3.39	1.63	1.24	1.42	1.6	1.46	1.26	1.10	2800.0	214.3	-4.49
3000.0	2.83	2.79	2.83	1.50	1.18	1.39	3.3	1.46	1.26	1.10	2931.6	185.7	-1.78
3224.5	2.15	2.34	2.45	1.44	1.12	1.37	5.5	1.46	1.26	1.10	3063.2	183.1	-6.74
3413.2	1.93	2.15	2.39	1.39	1.09	1.36	7.8	1.47	1.26	1.10	3194.7	165.1	-15.27
3601.9	1.91	2.21	2.47	1.29	1.06	1.39	10.0	1.47	1.26	1.10	3326.3	164.0	-17.99
3649.1	1.93	2.24	2.50	1.26	1.06	1.42	12.0	1.47	1.26	1.10	3457.9	157.6	1.03
3837.7	2.14	2.46	2.74	1.22	1.10	1.43	34.0	1.46	1.26	1.11	3589.5	157.7	-5.33
4000.0	2.26	2.55	2.81	1.39	1.25	1.45	56.0	1.47	1.27	1.11	3721.1	144.7	-8.70
4120.8	2.36	2.66	2.91	1.45	1.28	1.44	78.0	1.48	1.28	1.12	3852.6	140.1	-7.82
4215.1	2.50	2.82	3.06	1.50	1.29	1.44	100.0	1.49	1.29	1.14	3984.2	149.5	-0.54
4356.6	2.68	2.97	3.24	1.51	1.28	1.45	150.0	1.51	1.31	1.18	4115.8	127.7	-7.20
4498.1	2.83	3.09	3.27	1.64	1.41	1.60	188.9	1.52	1.34	1.22	4247.4	85.3	-13.62
4639.6	3.13	3.40	3.62	1.81	1.58	1.72	227.8	1.55	1.37	1.24	4379.0	66.0	-5.33
4781.1	3.60	3.65	3.89	2.34	1.86	1.87	266.7	1.58	1.40	1.28	4510.5	94.7	-1.82
4828.3	3.61	3.87	4.08	2.34	1.83	1.81	305.6	1.61	1.44	1.32	4642.1	72.3	-6.98
5000.0	4.21	4.43	4.62	2.47	1.82	1.61	344.4	1.63	1.46	1.34	4773.7	34.1	-9.93
5111.3	4.72	4.90	5.07	2.28	1.69	1.48	383.3	1.66	1.50	1.39	4905.3	37.1	-10.08
5158.5	4.97	5.18	5.30	2.30	1.67	1.46	422.2	1.69	1.53	1.42	5036.8	56.3	-10.09
5252.8	5.28	5.41	5.51	2.17	1.57	1.42	461.1	1.73	1.57	1.45	5168.4	16.5	-10.65
5300.0	5.68	5.62	5.70	2.06	1.53	1.42	500.0	1.75	1.59	1.48	5300.0	-12.5	-10.49

REV. X1
SKY-53R
060615
Page 2 of 2



IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS9100 CERTIFIED RoHS compliant

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

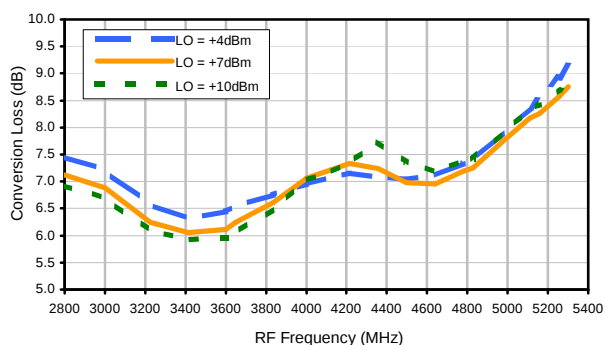


The Design Engineers Search Engine finds the model you need, Instantly • For detailed performance specs & shopping online see

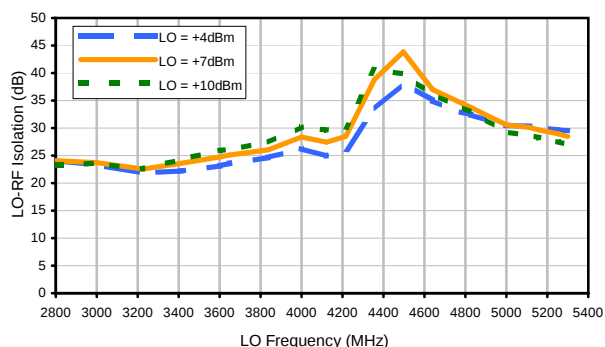


Typical Performance Curves

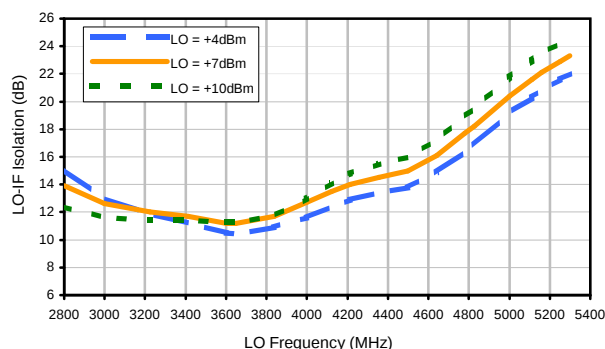
Conversion Loss



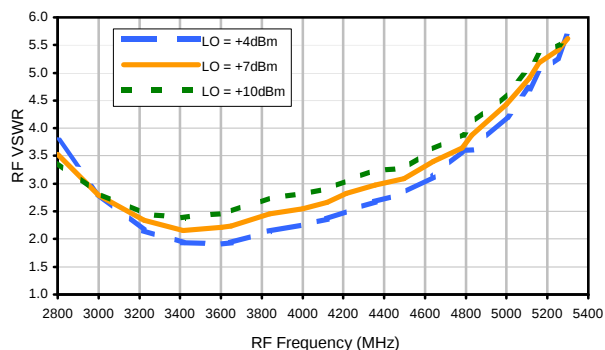
LO-RF Isolation



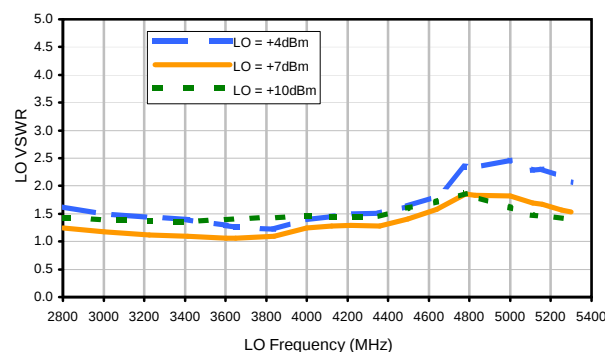
LO-IF Isolation



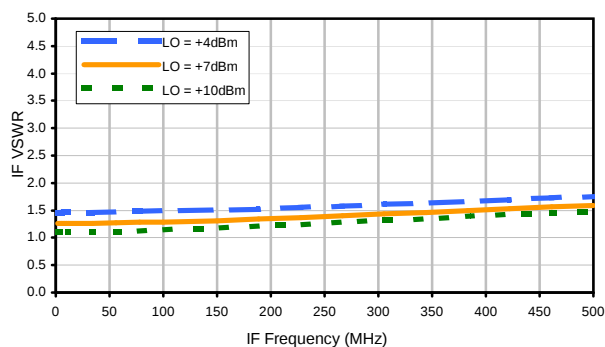
RF VSWR



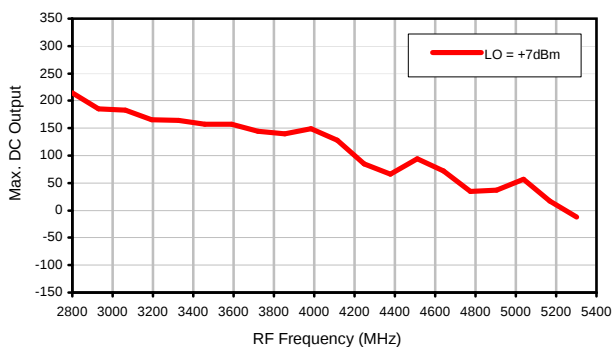
LO VSWR



IF VSWR



Max. DC Output



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



REV. X1

SKY-53R

060615

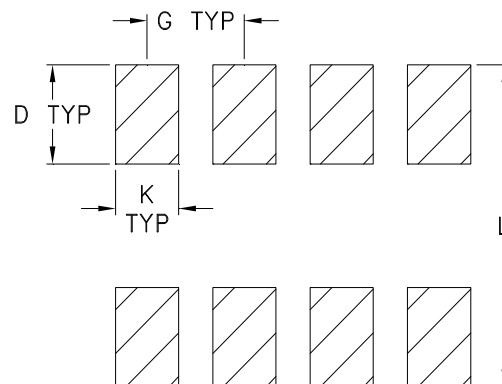
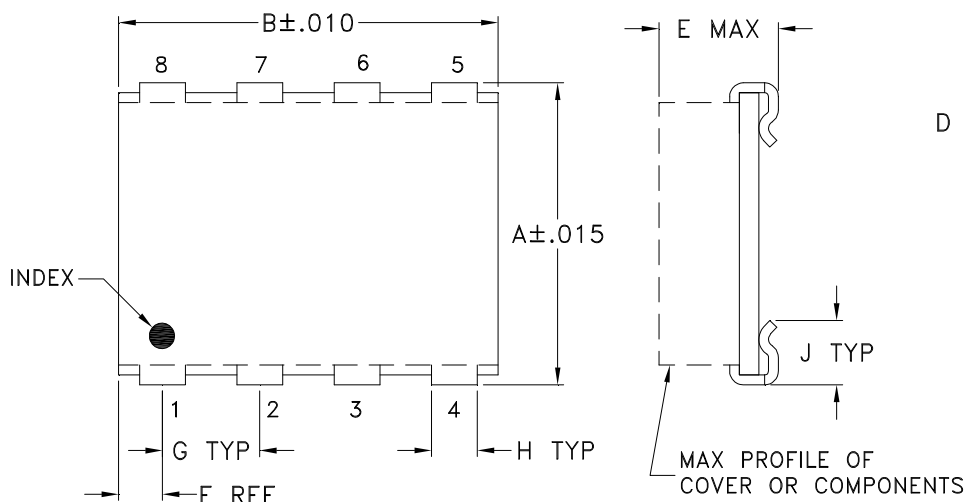
Page 1 of 1

Outline Dimensions

BJ293

BJ398

PCB Land Pattern



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

CASE#	A	B	C	D	E	F	G	H	J	K	L	WT. GRAMS
BJ293	.395 (10.03)	.500 (12.70)	-- --	.100 (2.54)	.230 (5.84)	.100 (2.54)	.100 (2.54)	.047 (1.19)	.065 (1.65)	.065 (1.65)	.425 (10.80)	.80
BJ398	.305 (7.75)	.390 (9.91)	-- --	.100 (2.54)	.105 (2.67)	.045 (1.14)	.100 (2.54)	.047 (1.19)	.065 (1.65)	.065 (1.65)	.325 (8.26)	.20

Dimensions are in inches (mm). Tolerances: 2Pl. $\pm .01$; 3Pl. $\pm .005$

Notes:

- Case material: Plastic.
- Base material: Printed wiring laminate.
- Termination finish:
For RoHS Case Styles: Tin plate over Nickel plate. All models, (+) suffix.
For RoHS-5 Case Styles: Tin-Lead plate. All models, no (+) suffix.



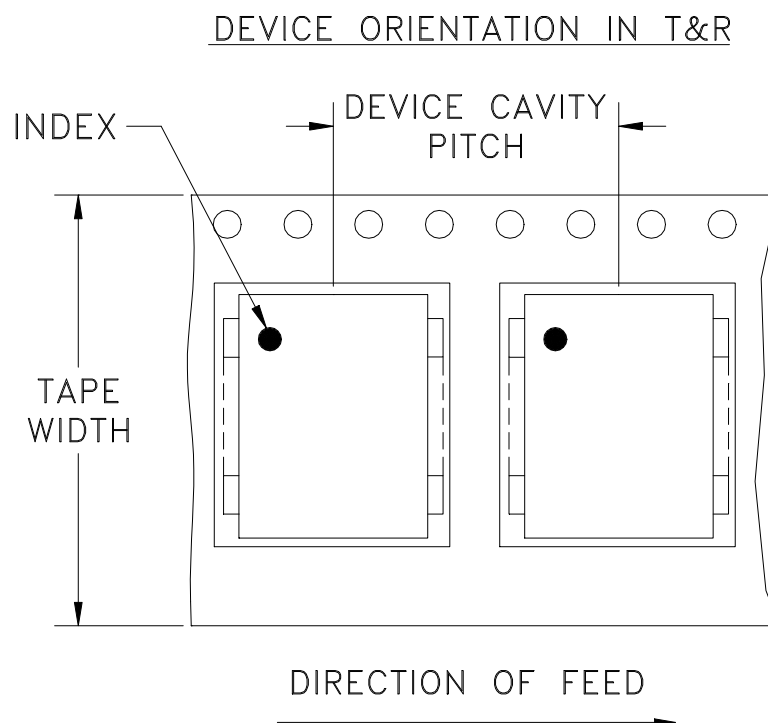
INTERNET <http://www.minicircuits.com>

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

Tape & Reel Packaging TR-F29



Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel
24	12	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



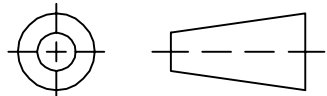
INTERNET <http://www.minicircuits.com>

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

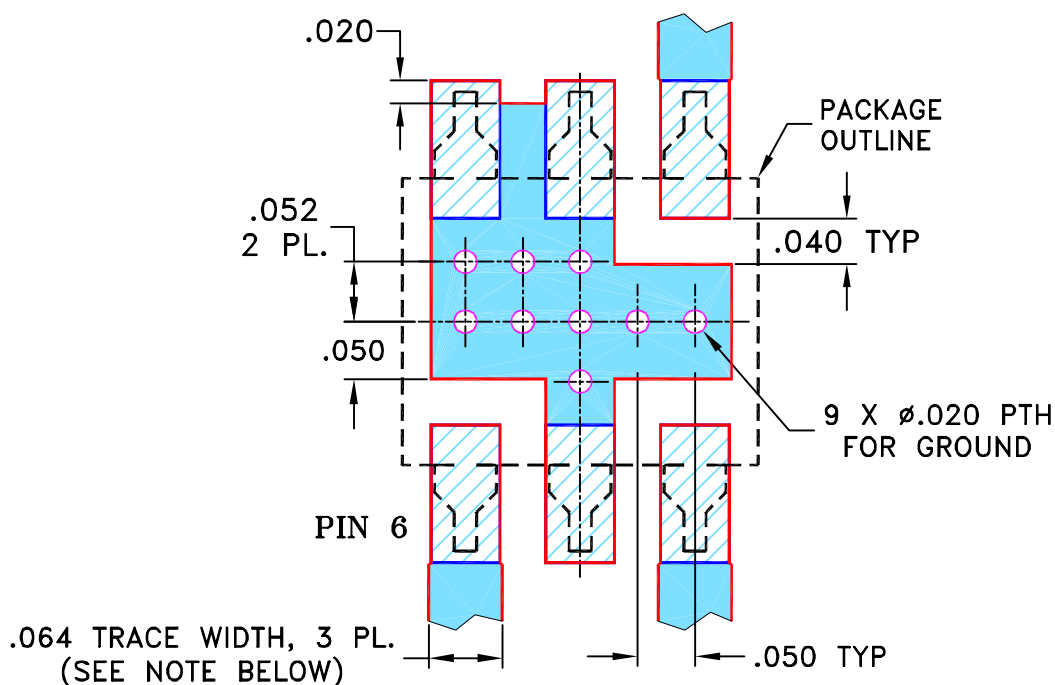
THIRD ANGLE PROJECTION



REVISIONS

REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	M82272	NEW RELEASE	08/05/02	GF	DJ
A	M102713	ADDED NOTE 2 & "...WITH SMOBC", QQQ130/828 WAS QQQ569/828 CASE STYLE	01/18/06	MMG	LC

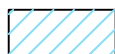
SUGGESTED MOUNTING CONFIGURATION FOR QQQ130/828 CASE STYLE, "gn" PIN CONNECTION



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" $\pm$.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 $\pm$ 3 PL DECIMALS $\pm$.005ANGLES $\pm$ FRACTIONS $\pm$

DRAWN

GF

07/17/02

CHECKED

HY

08/01/02

APPROVED

DJ

08/05/02



Mini-Circuits®

13 Neptune Avenue
Brooklyn NY 11235

PL, gn, QQQ130/828, LRPS/SCL, TB-100

SIZE
A

CODE IDENT
15542

DRAWING NO:

98-PL-057

REV:

A

FILE:

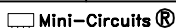
98PL057

SCALE:

6:1

SHEET:

1 OF 1

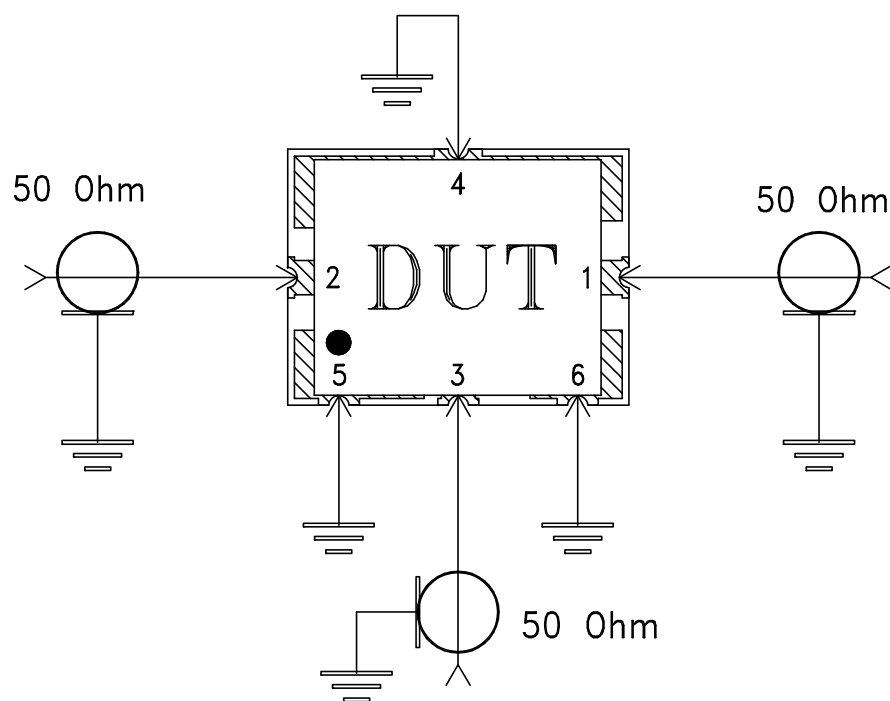
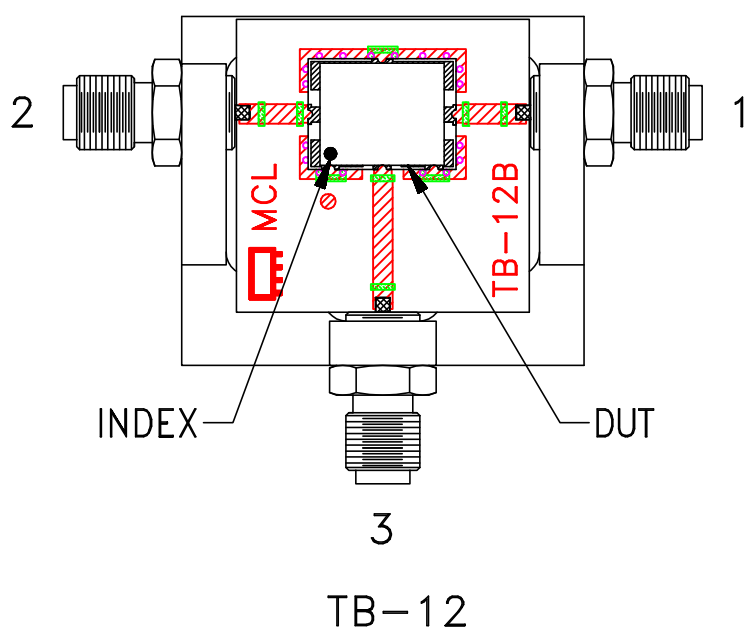


THIS DOCUMENT AND ITS CONTENTS ARE THE PROPERTY OF MINI-CIRCUITS. EXCEPT FOR USE EXPRESSLY GRANTED, IN WRITING, TO ITS VENDORS, VENDEE AND THE UNITED STATES GOVERNMENT, MINI-CIRCUITS RESERVES ALL PROPRIETARY DESIGN, USE, MANUFACTURING AND REPRODUCTION RIGHTS THERETO. THESE CONTENTS SHALL NOT BE USED, 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

Evaluation Board and Circuit

For Pin Connections Refer to Data Sheet of the DUT



Schematic Diagram

Notes:

1. SMA Female connectors.
2. PCB Material: Rogers R04350 or equivalent, Dielectric Constant=3.5, Thickness=.030 inch.

 **Mini-Circuits®**