

Non-Catalog Model

Frequency Mixer

Level 7 (LO Power +7 dBm)

SKY-5G

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

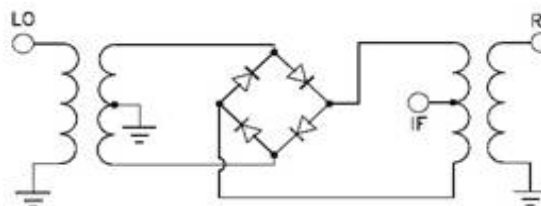
ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		Min.	Typ.	Max.	Units
Frequency	LO (fL to fU)	2000		5000	MHz
	RF (fL to fU)	2000		5000	MHz
	IF	0		1000	MHz
Conversion Loss			6.6	9.5	dB
LO-RF Isolation		20	28		dB
LO-IF Isolation		7	13		dB
1 dB Comp. Input Power			+1		dBm

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	1
RF	5
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
2000.0	2030.0	8.40	7.12	6.56	2000.0	39.3	38.5	36.1	11.1	14.3	16.7
2169.8	2199.8	7.32	6.60	6.24	2169.8	31.5	31.6	32.2	12.0	14.0	14.9
2396.2	2426.2	6.91	6.21	5.96	2396.2	26.7	26.8	26.9	11.7	12.3	12.3
2622.6	2652.6	6.94	6.44	6.20	2622.6	24.8	25.1	25.5	11.4	11.8	11.7
2735.9	2765.9	7.09	6.65	6.46	2735.9	24.1	24.5	24.8	11.6	11.9	11.6
3000.0	3030.0	7.59	7.14	6.87	3000.0	23.5	24.0	24.3	12.5	12.5	12.2
3188.7	3218.7	7.77	7.34	7.08	3188.7	24.0	24.5	25.0	13.5	13.4	13.0
3245.3	3275.3	7.79	7.37	7.10	3245.3	24.3	24.8	25.2	13.8	13.7	13.3
3358.5	3388.5	7.71	7.32	7.06	3358.5	25.0	25.8	26.1	14.6	14.2	13.8
3528.3	3498.3	7.82	7.43	7.15	3528.3	26.5	27.3	28.0	16.1	15.6	15.2
3584.9	3554.9	7.85	7.46	7.19	3584.9	27.5	28.2	28.7	16.8	16.2	15.8
3754.7	3724.7	7.87	7.50	7.18	3754.7	27.3	27.6	27.8	19.4	18.9	18.3
4000.0	3970.0	7.75	7.39	7.11	4000.0	31.7	30.8	29.8	23.1	22.5	22.0
4207.6	4177.6	8.19	7.60	7.17	4207.6	28.7	27.9	27.1	25.0	24.8	24.4
4264.2	4234.2	8.19	7.62	7.20	4264.2	28.2	27.3	26.5	25.4	25.1	24.8
4490.6	4460.6	8.22	7.65	7.17	4490.6	26.4	25.7	24.7	26.1	26.4	26.2
4717.0	4687.0	8.33	7.74	7.31	4717.0	25.7	25.1	24.4	27.1	27.4	27.4
4830.2	4800.2	8.32	7.69	7.37	4830.2	25.3	25.1	24.4	27.7	28.1	28.1
4943.4	4913.4	8.40	7.82	7.48	4943.4	24.8	24.8	24.2	28.4	28.8	28.7
5000.0	4970.0	8.42	7.86	7.53	5000.0	24.9	25.0	24.4	28.9	29.3	29.2

REV. X1
SKY-5G
060615
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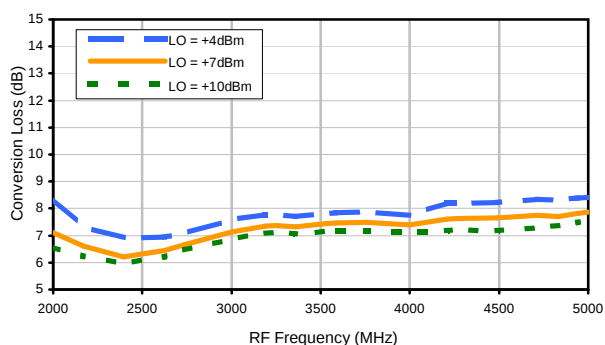


Typical Performance Data

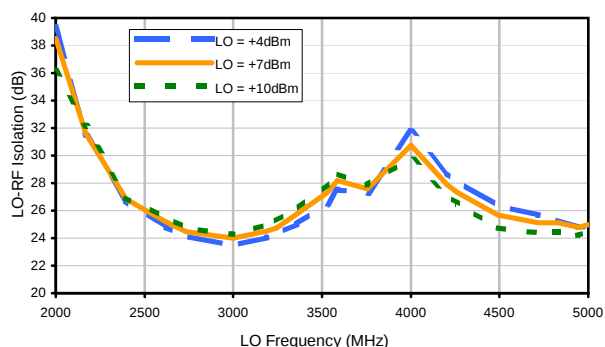
RF/LO (MHz)	RF VSWR (:1)			LO VSWR (:1)			IF (MHz)	IF VSWR (:1)			LO/RF (MHz)	max. DC output (mV)	DC Offset (mV)
	@LO (dBm)			@LO (dBm)				@LO (dBm)			@LO (dBm)		
	+4	+7	+10	+4	+7	+10		+4	+7	+10	+7		
2000.0	4.28	3.49	2.91	4.57	3.54	3.40	1.6	1.49	2.00	2.36	2000.0	217.3	3.43
2169.8	4.32	3.45	2.87	3.95	3.36	3.41	3.3	1.49	2.00	2.35	2157.9	213.9	8.31
2396.2	4.21	3.33	2.79	3.56	3.13	3.38	5.5	1.49	2.00	2.36	2315.8	224.7	19.86
2622.6	3.65	3.05	2.64	2.80	2.57	2.91	7.8	1.49	2.00	2.35	2473.7	208.5	31.76
2735.9	3.26	2.80	2.46	2.42	2.40	2.82	10.0	1.50	2.00	2.36	2631.6	197.8	21.71
3000.0	2.93	2.45	2.13	1.97	2.30	2.90	20.0	1.49	2.00	2.35	2789.5	158.9	13.56
3188.7	2.93	2.49	2.19	1.84	2.32	2.98	40.0	1.49	2.00	2.34	2947.4	152.6	16.32
3245.3	2.86	2.41	2.13	1.83	2.33	3.00	60.0	1.48	1.99	2.33	3105.3	127.6	24.83
3358.5	2.87	2.42	2.12	1.78	2.31	2.95	80.0	1.48	1.97	2.33	3263.2	127.1	17.41
3528.3	2.72	2.32	2.06	1.79	2.38	3.11	100.0	1.47	1.96	2.30	3421.1	97.2	11.24
3584.9	2.84	2.40	2.17	1.75	2.29	2.96	150.0	1.45	1.92	2.25	3579.0	109.1	16.08
3754.7	2.89	2.44	2.17	1.77	2.31	2.98	244.4	1.38	1.81	2.13	3736.8	73.2	16.81
4000.0	3.05	2.58	2.31	1.95	2.47	3.17	338.9	1.29	1.68	1.97	3894.7	72.3	13.57
4207.6	3.40	2.84	2.61	2.33	2.79	3.47	433.3	1.19	1.53	1.80	4052.6	39.9	14.93
4264.2	3.50	2.99	2.67	2.28	2.63	3.07	527.8	1.12	1.37	1.61	4210.5	40.4	16.34
4490.6	3.64	3.16	2.80	2.78	3.06	3.71	622.2	1.12	1.23	1.44	4363.4	14.6	18.19
4717.0	3.76	3.13	2.70	2.85	2.91	3.33	716.7	1.19	1.10	1.28	4526.3	10.3	19.45
4830.2	3.77	3.11	2.70	3.30	3.18	3.54	811.1	1.30	1.03	1.14	4684.2	0.6	20.56
4943.4	3.57	2.90	2.53	4.16	3.79	4.06	905.6	1.42	1.14	1.05	4842.1	-8.8	20.91
5000.0	3.55	2.67	2.43	4.67	4.15	4.29	1000.0	1.54	1.26	1.12	5000.0	-19.8	20.97

Typical Performance Curves

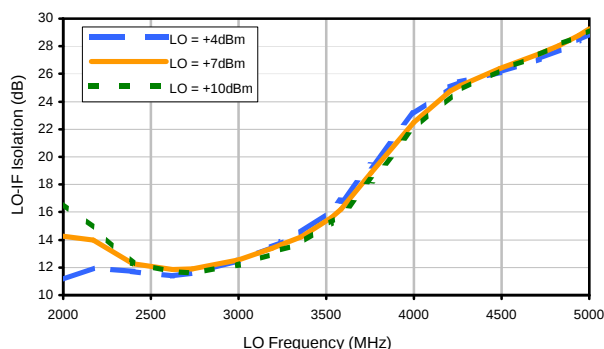
Conversion Loss



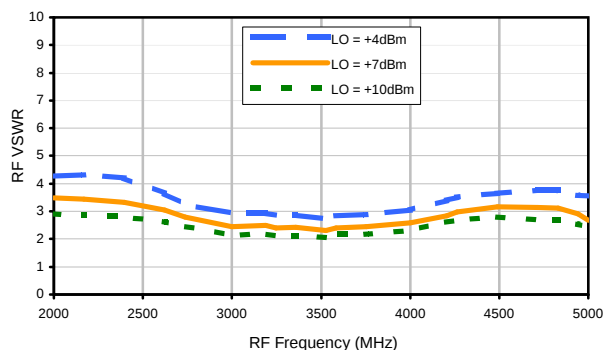
LO-RF Isolation



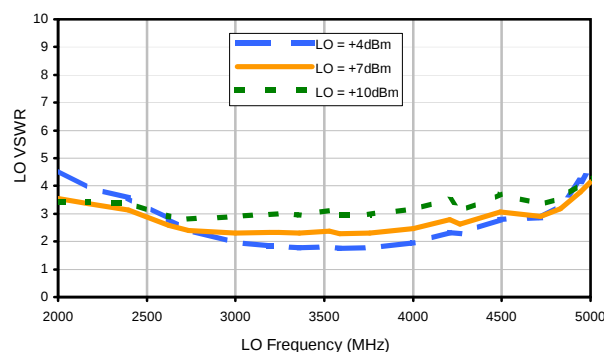
LO-IF Isolation



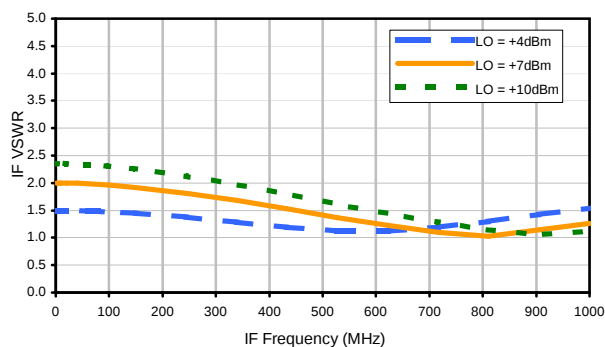
RF VSWR



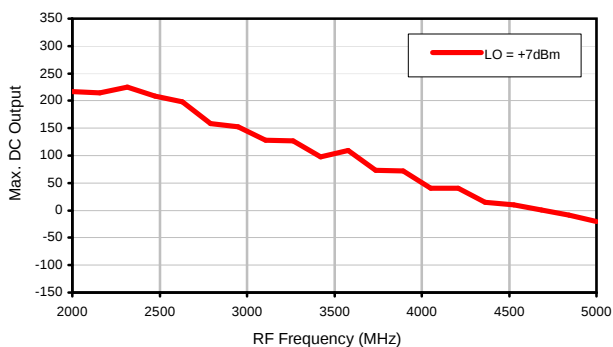
LO VSWR



IF VSWR



Max. DC Output



REV. X1

SKY-5G

060615

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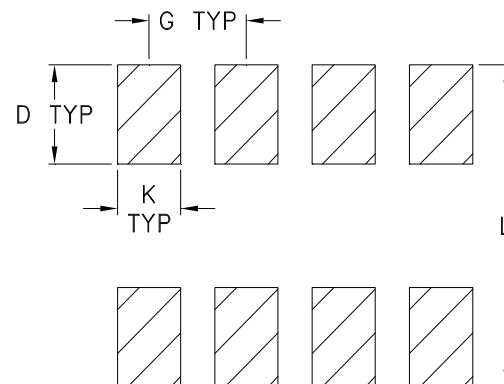
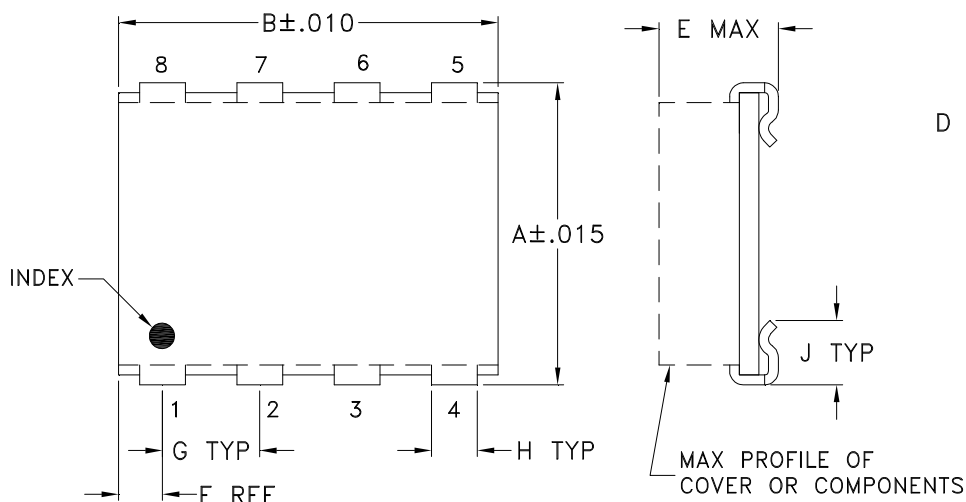


Outline Dimensions

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.



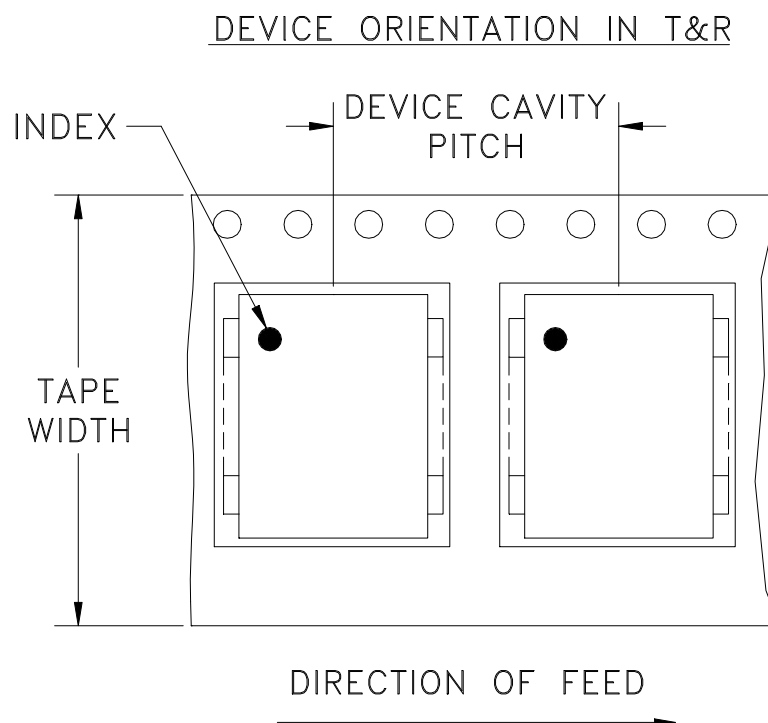
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Tape & Reel Packaging TR-F29



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.

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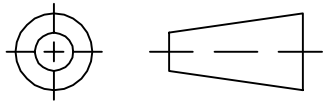
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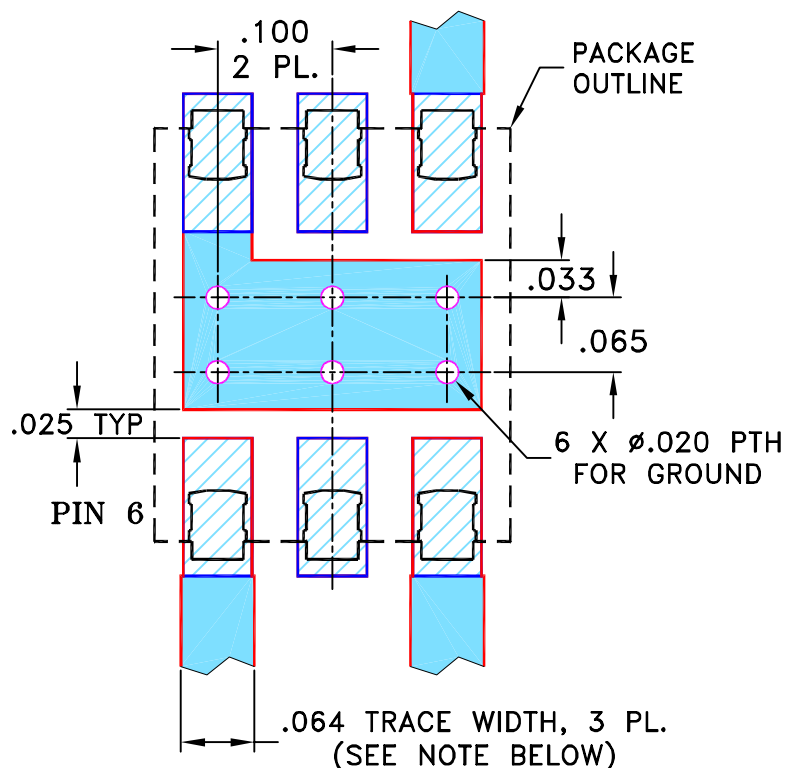
THIRD ANGLE PROJECTION



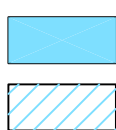
REVISIONS

REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	M82272	NEW RELEASE	08/06/02	GF	DJ
A	M102713	ADDED NOTE 2 & "...WITH SMOBC"	01/18/06	MMG	IL

SUGGESTED MOUNTING CONFIGURATION FOR QQQ569 CASE STYLE, "am" PIN CONNECTION



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B 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 $\pm .005$ ANGLES $\pm$ FRACTIONS $\pm$

DRAWN

GF

07/18/02

CHECKED

HY

08/06/02

APPROVED

DJ

08/06/02



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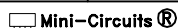
PL, am, QQQ569, LRPS-J, TB-94

SIZE
ACODE IDENT
15542DRAWING NO:
98-PL-058REV:
A

FILE: 98PL058

SCALE: 6:1

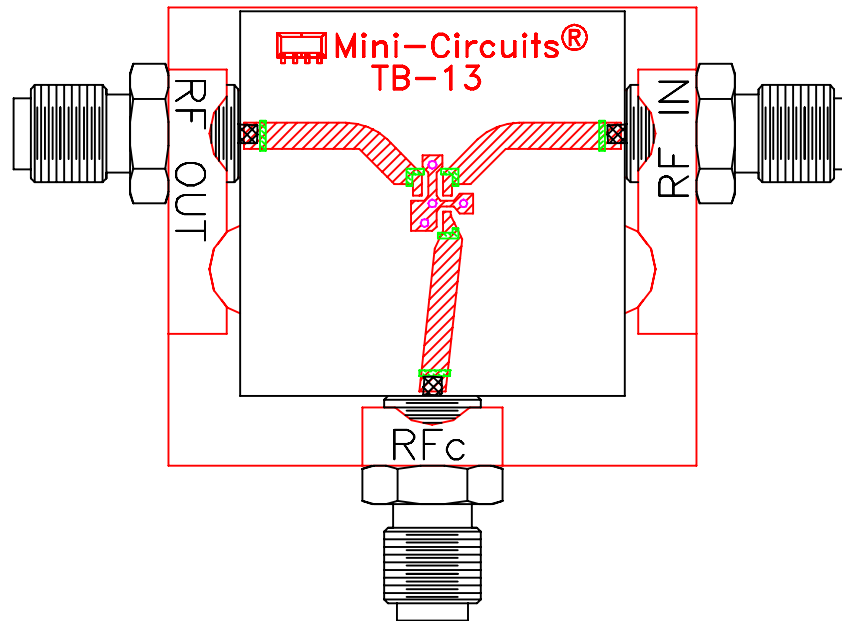
SHEET: 1 OF 1



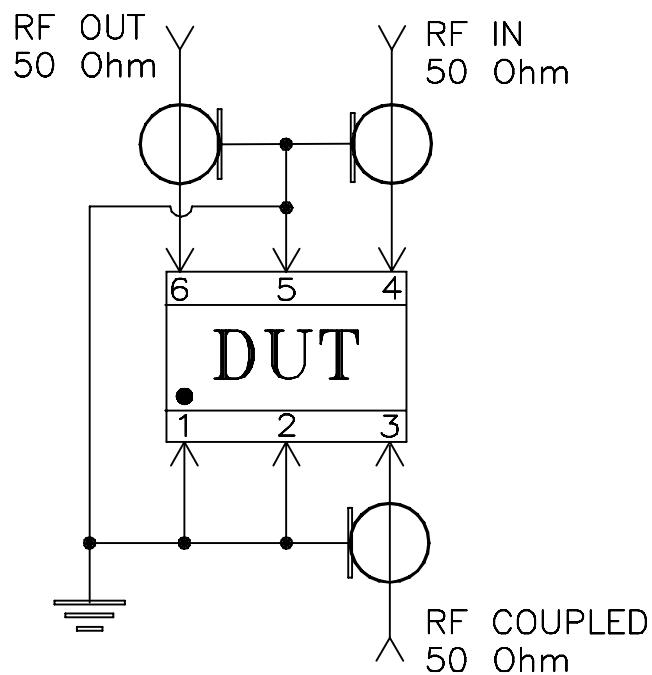
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ASHEETA1.DWG REV:A DATE:01/12/95

Evaluation Board and Circuit



TB-13



Schematic Diagram

Notes:

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

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