Non-Catalog Model

Frequency Mixer RMS-2UH

Level 17 (LO Power +17 dBm)

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 : TT240

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		**Min.**	**Typ.**	**Max.**	**Units**
Frequency	**LO** (fL to fU)	10		1000	MHz
	RF (fL to fU)	10		1000	MHz
	IF	10		750	MHz
Conversion Loss	**mid band**		7.1	9.2	dB
	Total Range			9.9	dB
LO-RF Isolation	**Low Range**	40	50		dB
	Mid Range	30	38		dB
	Upper Range	23	30		dB
LO-IF Isolation	**Low Range**	30	50		dB
	Mid Range	25	40		dB
	Upper Range	22	34		dB
1 dB Comp. Input Power			+14		dBm

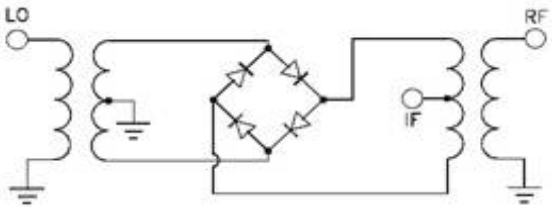
Notes: Low Range = [fL to 10fL] Mid Range = [10fL to fU/2] Upper Range = [fU/2 to fU]
mid band = [2fL to fU/2]

Phase detection, positive polarity.
Units are non-hermetic.

MAXIMUM RATINGS	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	200mW
IF Current	40mA

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

Electrical Schematics



Frequency Mixer RMS-2UH

Typical Performance Data

RF (MHz)	LO (MHz)	CONVERSION LOSS (dB) @LO (dBm)		
		+14	+17	+20
10.0	40.0	7.08	6.57	6.19
20.0	50.0	7.08	6.50	6.13
50.0	80.0	7.01	6.37	5.98
97.4	67.4	6.91	6.33	5.95
100.0	70.0	6.91	6.34	5.96
184.7	154.7	7.06	6.58	6.34
200.0	170.0	7.03	6.61	6.36
272.1	242.1	7.67	7.05	6.61
359.4	329.4	8.57	7.68	6.91
446.8	416.8	9.29	8.11	7.36
475.9	445.9	9.40	8.07	7.24
500.0	470.0	9.46	8.04	7.20
534.1	504.1	9.34	8.08	7.27
621.5	591.5	9.70	8.27	7.45
708.8	678.8	10.44	8.76	7.79
796.2	766.2	10.20	8.91	8.00
883.5	853.5	10.34	9.44	8.77
941.8	911.8	10.27	9.54	8.98
970.9	940.9	9.94	9.32	8.90
1000.0	970.0	10.18	9.47	9.22

LO (MHz)	LO-RF ISOLATION (dB) @LO (dBm)			LO-IF ISOLATION (dB) @LO (dBm)		
	+14	+17	+20	+14	+17	+20
10.0	65.1	63.8	61.3	57.8	57.0	56.1
20.0	60.5	60.6	59.6	56.0	55.1	54.3
50.0	54.1	55.2	55.6	54.7	52.6	50.7
97.4	48.3	50.0	51.1	54.3	49.2	46.4
100.0	48.1	49.8	50.9	54.4	49.2	46.3
184.7	43.5	46.0	46.0	60.4	46.9	42.0
200.0	42.9	44.2	45.3	55.8	46.3	41.5
272.1	40.4	41.6	43.0	45.8	42.3	38.6
359.4	38.0	39.9	41.6	40.2	39.6	36.3
446.8	36.8	39.1	41.1	37.3	36.2	34.5
475.9	37.1	39.7	41.7	36.9	35.2	33.3
500.0	37.1	39.8	42.2	36.3	35.2	33.3
534.1	36.8	39.4	41.7	35.6	35.2	33.5
621.5	36.4	37.9	39.7	34.5	34.6	33.8
708.8	35.9	37.2	38.1	36.5	34.5	33.1
796.2	35.3	36.1	36.4	43.5	36.9	34.2
883.5	36.1	36.2	36.2	40.3	42.6	37.5
941.8	36.5	36.4	36.2	34.5	38.8	37.3
970.9	36.9	36.8	36.4	32.0	35.4	35.5
1000.0	36.4	36.4	36.1	29.8	32.6	33.0

Typical Performance Data

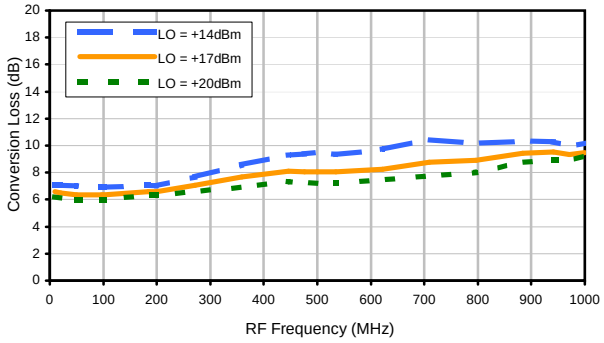
RF/LO (MHz)	RF VSWR (:1) @LO (dBm)			LO VSWR (:1) @LO (dBm)		
	+14	+17	+20	+14	+17	+20
10	1.49	1.46	1.45	1.54	1.86	2.56
20	1.29	1.25	1.23	1.26	1.74	2.49
50	1.26	1.20	1.16	1.16	1.80	2.56
100	1.41	1.34	1.30	1.17	1.68	2.34
115	1.46	1.39	1.35	1.18	1.68	2.35
190	1.83	1.73	1.69	1.44	1.64	2.11
200	1.90	1.80	1.75	1.49	1.64	2.08
280	2.34	2.19	2.11	1.68	1.58	1.87
370	3.00	2.71	2.54	1.85	1.52	1.68
460	3.18	2.81	2.58	1.82	1.40	1.50
490	3.21	2.82	2.56	1.82	1.36	1.45
500	3.17	2.77	2.52	1.82	1.33	1.49
550	2.97	2.53	2.26	1.70	1.29	1.47
640	2.49	2.14	1.96	1.54	1.25	1.56
730	2.29	2.01	1.85	1.41	1.35	1.78
820	2.57	2.28	2.13	1.49	1.58	1.98
910	3.14	2.83	2.64	1.78	1.83	2.19
970	3.81	3.45	3.21	2.12	2.04	2.34
985	4.26	3.82	3.54	2.28	2.11	2.34
1000	4.39	3.91	3.67	2.49	2.20	2.35

IF (MHz)	IF VSWR (:1) @LO (dBm)		
	+14	+17	+20
10	1.85	1.80	1.80
20	1.43	1.40	1.44
50	1.21	1.12	1.19
100	1.24	1.05	1.10
115	1.27	1.09	1.11
190	1.43	1.24	1.18
200	1.46	1.26	1.19
280	1.60	1.35	1.23
370	1.69	1.38	1.21
460	1.60	1.30	1.13
490	1.57	1.28	1.14
500	1.54	1.26	1.14
550	1.46	1.33	1.35
640	1.37	1.46	1.60
730	1.50	1.78	2.02
820	1.87	2.24	2.56
910	2.26	2.59	2.92
970	2.52	2.82	3.11
985	2.64	2.93	3.21
1000	2.65	2.91	3.16

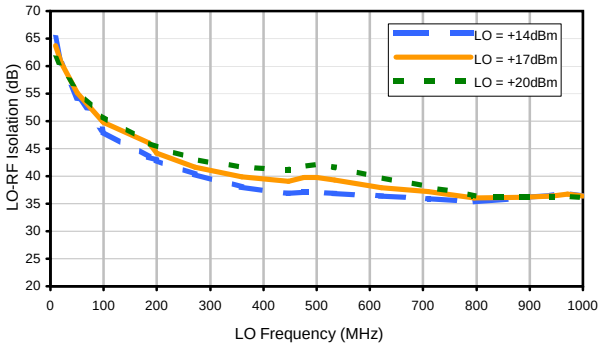
Frequency Mixer RMS-2UH+

Typical Performance Curves

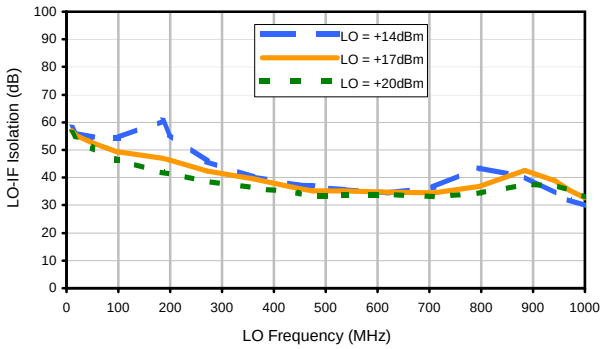
Conversion Loss



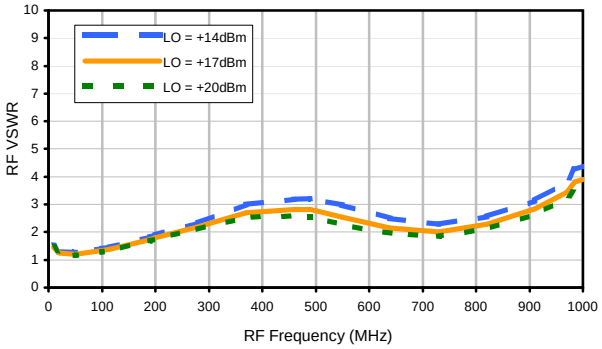
LO-RF Isolation



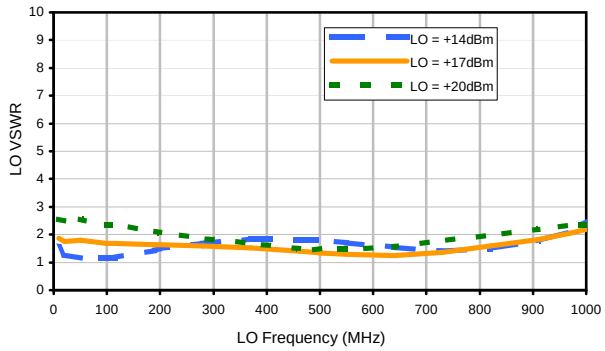
LO-IF Isolation



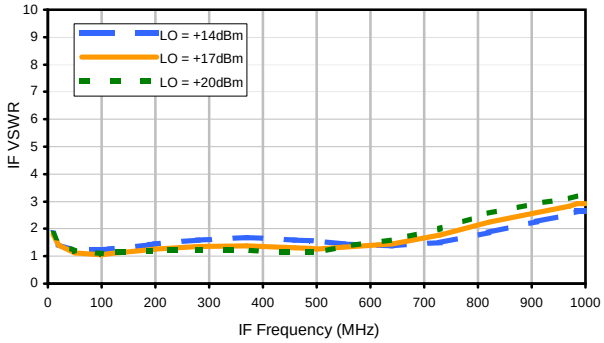
RF VSWR



LO VSWR



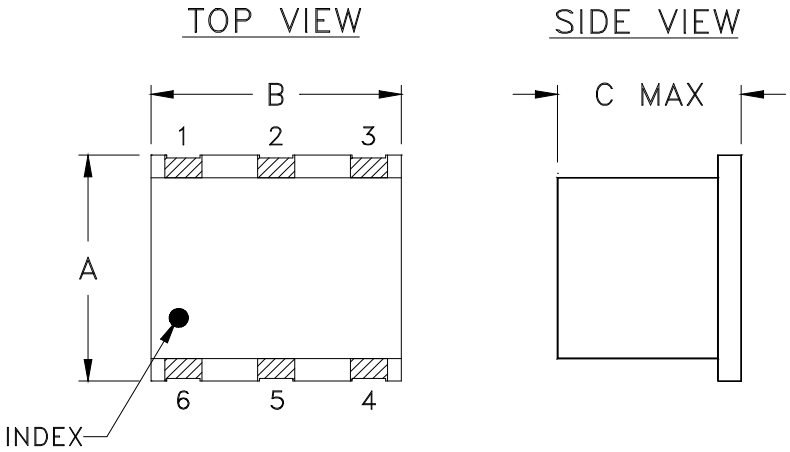
IF VSWR

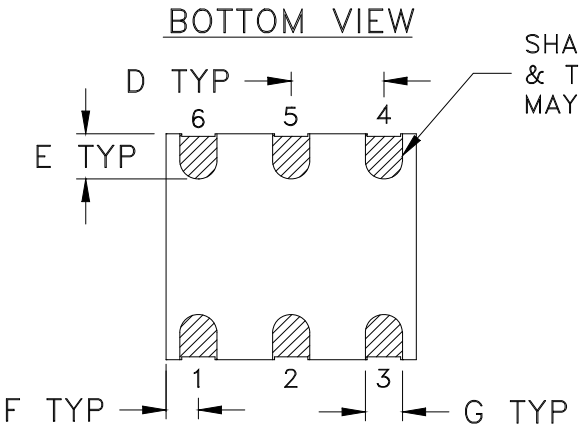


Case Style TT

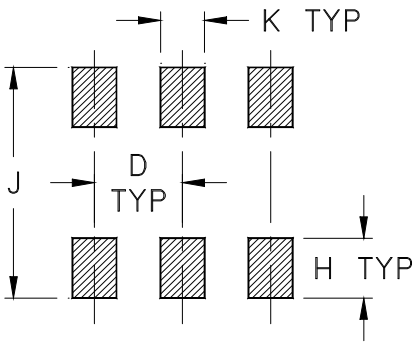
TT240

Outline Dimensions





PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

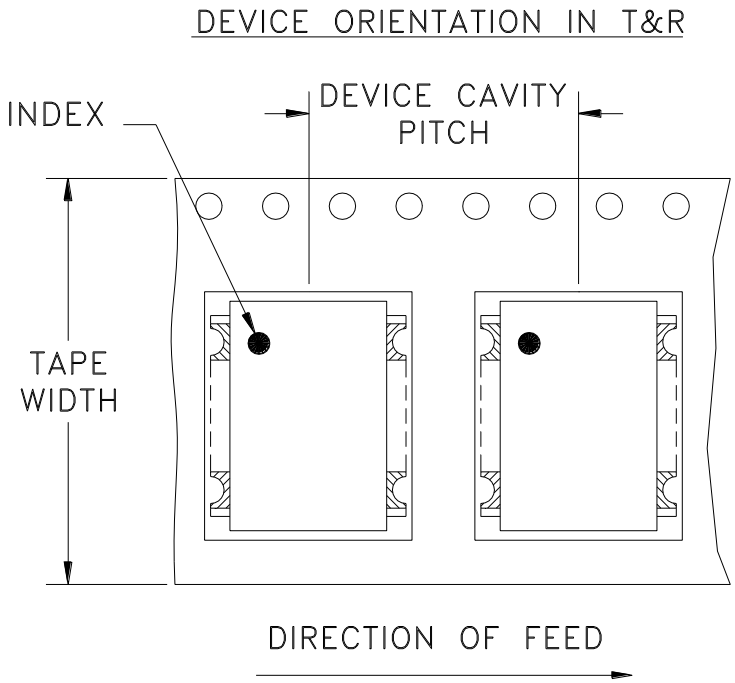
CASE #	A	B	C	D	E	F	G	H	J	K	WT. GRAM
TT240	.250 (6.35)	.31 (7.87)	.20 (5.08)	.100 (2.54)	.050 (1.27)	.055 (1.40)	.040 (1.02)	.070 (1.78)	.270 (6.86)	.050 (1.27)	.50

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

Notes:

1. Case material: Ceramic.
2. Termination finish:
   For RoHS Case Styles: 2-10µ inch (.05-.25 microns) Gold plate over 100-300 µ inch (2.54-7.62 microns) Nickel plate. All models, (+) suffix.
   For RoHS-5 Case Styles: Tin-Lead plate. All models, no (+) suffix.

Tape & Reel Packaging TR-F2



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

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.

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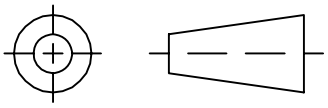
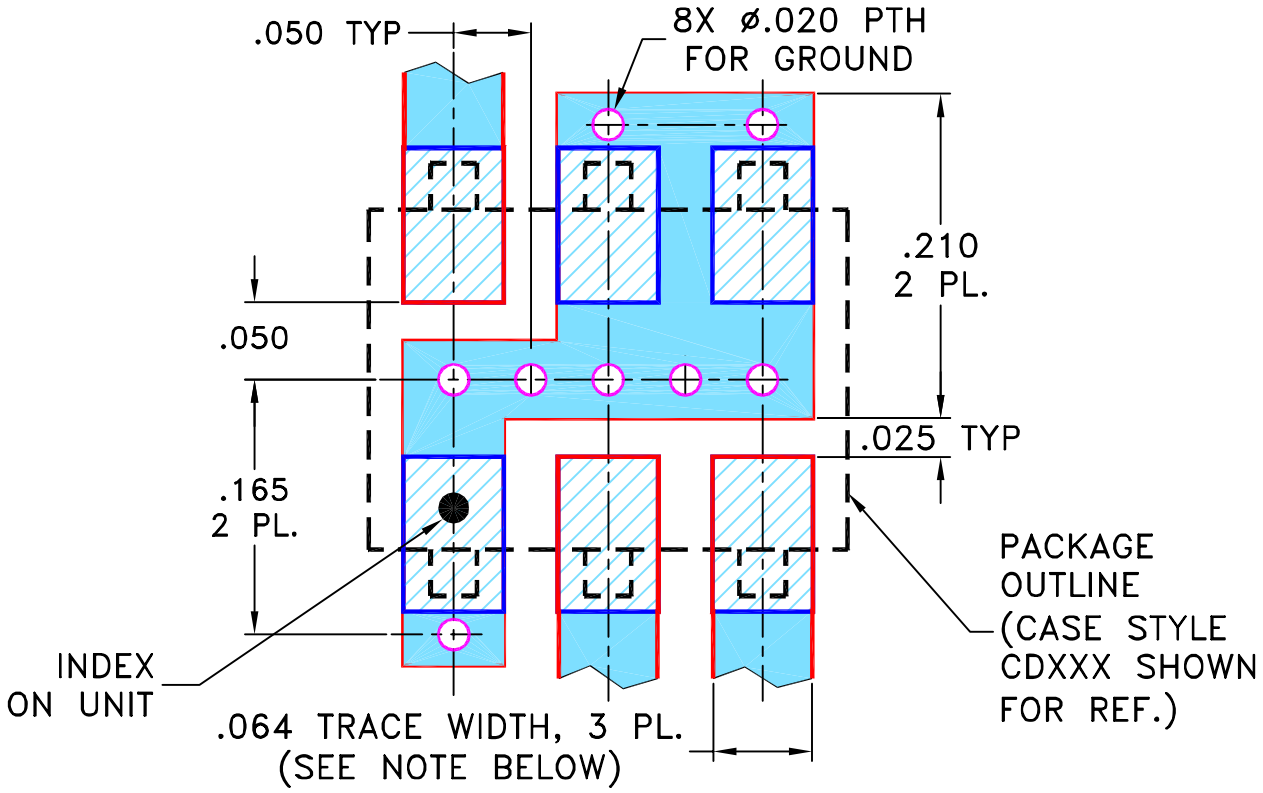
THIRD ANGLE PROJECTION



REVISIONS

REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
A	M101143	ADDED "gk" PIN CONNECTION,	10/10/05	MMG	DJ
		TT100 CASE STYLE & NOTE 2			
B	M102713	ADDED "...WITH SMOBC"	01/17/06	MMG	IL
C	M108637	REMOVED "PIN 1" , ADDED INDEX ON UNIT	12/01/06	MYG	FL

SUGGESTED MOUNTING CONFIGURATION FOR BH292, CD541/542/636/637, TT100/240 CASE STYLES, "gk", "ht", "hu", "nd", "w" PIN CONNECTIONS



NOTES:
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	DRAWN	MMG	07/17/02
TOLERANCES ON:	CHECKED	WL	08/02/02
2 PL DECIMALS ±	APPROVED	DJ	08/05/02
3 PL DECIMALS ± .005			
ANGLES ±			
FRACTIONS ±			

Mini-Circuits®

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

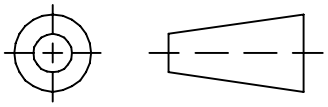
Mini-Circuits®
13 Neptune Avenue
Brooklyn NY 11235

PL, gk/ht/hu/nd/w, BH292, CD541/542/636/637, TT100/240, TB-03

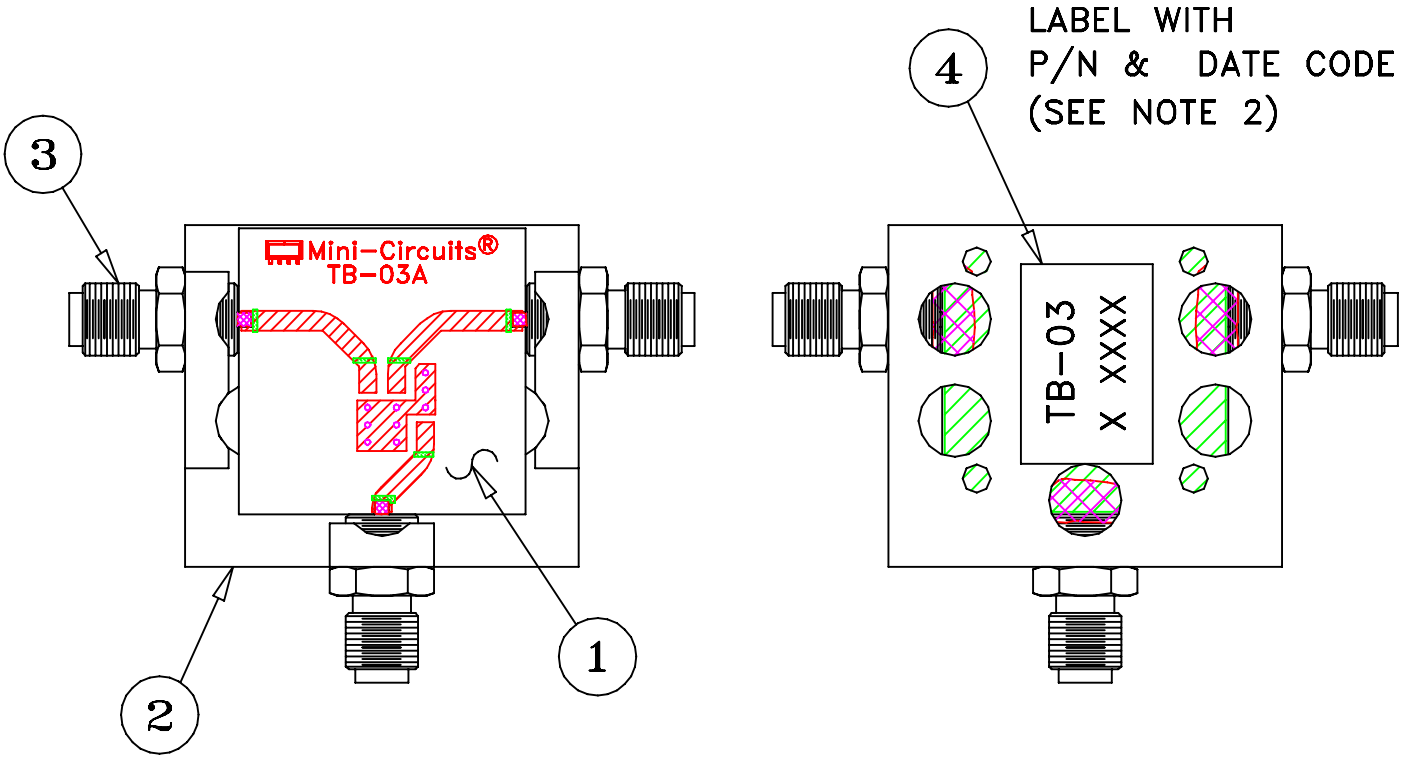
SIZE	CODE IDENT	DRAWING NO:	REV:
A	15542	98-PL-052	C

FILE:	SCALE:	SHEET:
98PL052	8:1	1 OF 1

THIRD ANGLE PROJECTION



REVISIONS					
REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
E	**M119737**	**UPDATED PCB**	**10.08**	**MF**	**AD**
F	M127659	UPDATED CARR	06.10	SW	SG
G	M127846	UPDATED SCHEMATIC DIAGRAM	06.10	SW	SG
H	M131840	UPDATED DWG	05.11	MF	AD



NOTES:

1. REFER TO -09 PAGE FOR ITEM DESCRIPTIONS. DESIGNATION NUMBERS ON -20 PAGE CORRESPOND TO THE NUMBERS ON -09 PAGE.
2. FOR TEXT HEIGHT & STYLE ON THE LABEL REFER TO: D3-G209.

UNLESS OTHERWISE SPECIFIED		INITIALS	DATE
DIMENSIONS ARE IN INCHES	DRAWN	S.WOLYNSKI	06.29.99
TOLERANCES ON:	CHECKED	SG	07.06.99
2 PL DECIMALS ±	APPROVED	MG	07.10.99
3 PL DECIMALS ±			
ANGLES ±			
FRACTIONS ±			

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

Mini-Circuits® 13 Neptune Avenue Brooklyn NY 11235

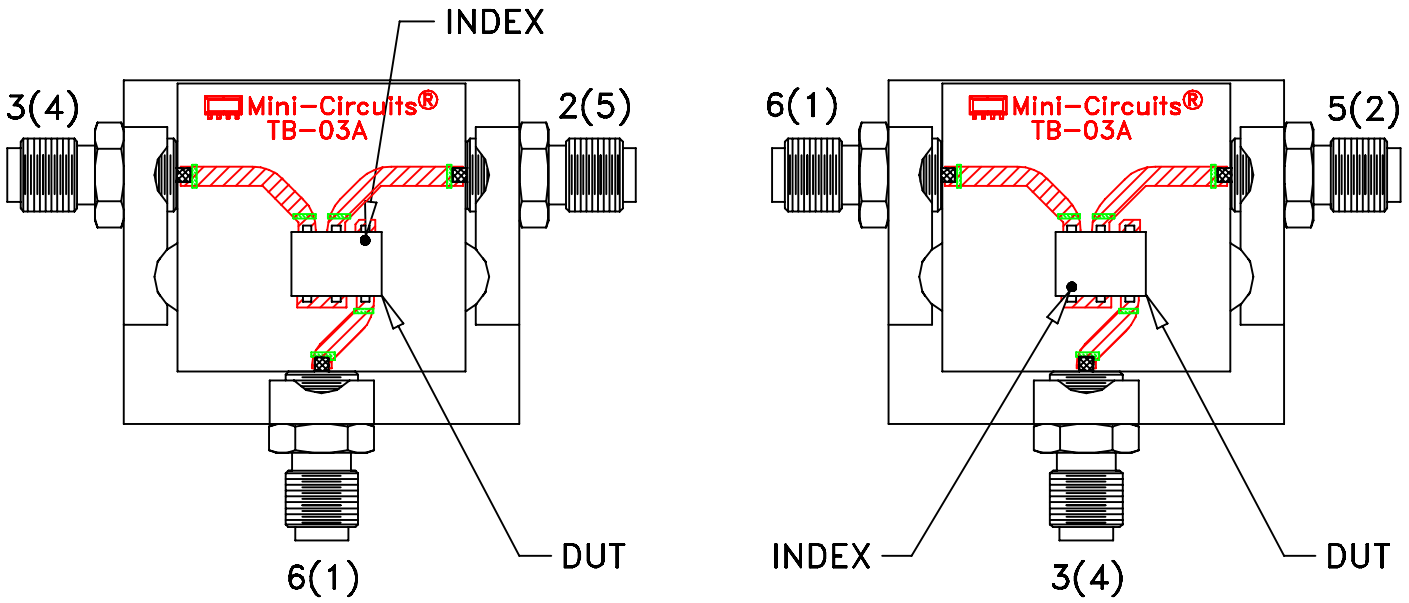
TB,ADE,CD542/636,06MX01,50

SIZE	CODE IDENT	DRAWING NO:	REV:
A	15542	TB-03-20	H

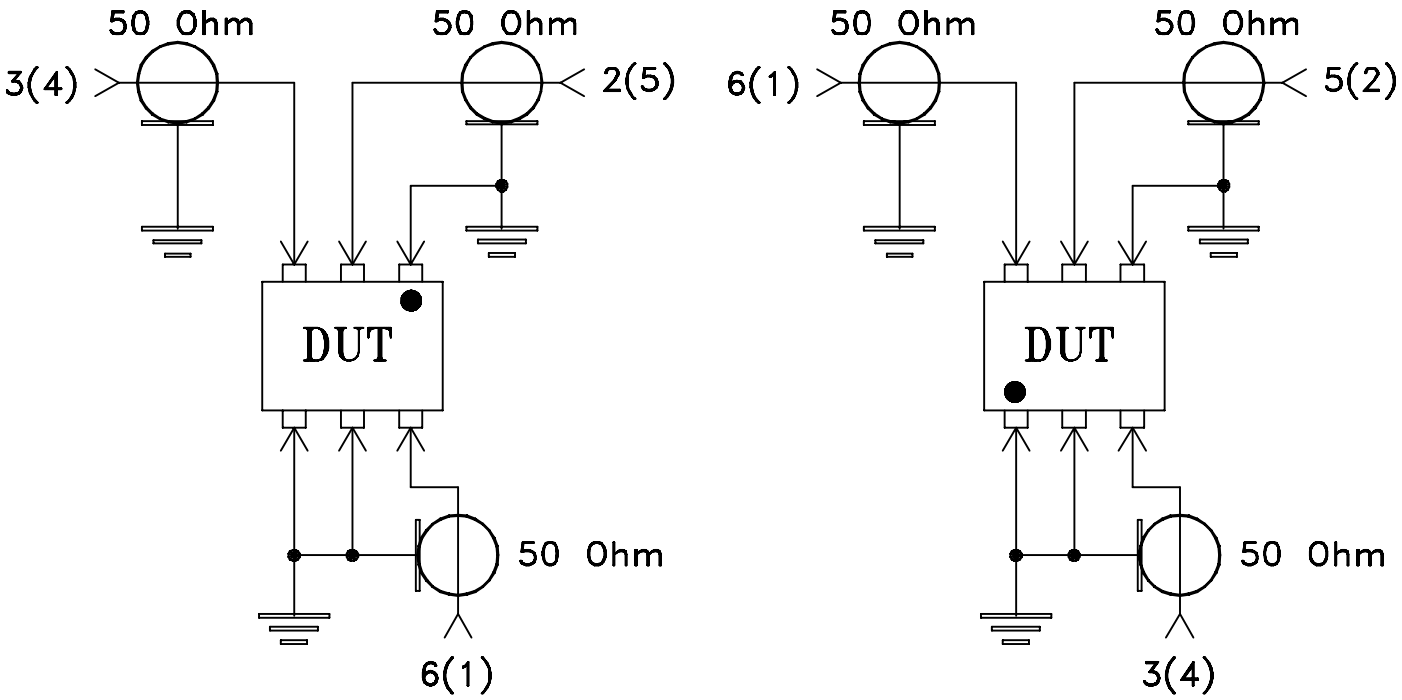
FILE:	SCALE:	SHEET:
WTB-03	1.5:1	1 OF 2

Evaluation Board and Circuit

For Pin Connections and DUT Orientation Refer to Data Sheet of the DUT



TB-03



Schematic Diagram

Notes:

1. 50 Ohm SMA Female connectors.
2. PCB Material: Rogers RO4350 or equivalent, Dielectric Constant=3.5, Thickness=.030 inch.

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