

Frequency Mixer

ALY-ED5505/2

Level 10 (LO Power +10 dBm)

Important Note

This model has been designed, built and tested in our engineering department. Performance data represents model capability. At present it is a non-catalog model. On request, we can supply a final specification sheet, part number and price/delivery information.



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

CASE STYLE : CB518

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		Min.	Typ.	Max.	Units
Frequency	LO (f _L to f _U)	3500		8000	MHz
	RF (f _L to f _U)	3500		8000	MHz
	IF	10		805	MHz
Conversion Loss			6.7		dB
LO-RF Isolation			24		dB
LO-IF Isolation			17		dB

MAXIMUM RATINGS	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C

PIN CONNECTIONS	
LO	1
RF	6
IF	8
GROUND	2, 3, 4, 5, 7, 9, 10

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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)		
		+7	+10	+13		+7	+10	+13	+7	+10	+13
3500.0	3530.0	9.04	8.34	7.94	3530.0	27.2	27.4	27.3	22.4	21.8	20.7
3800.0	3830.0	9.21	8.61	8.21	3830.0	27.0	28.2	28.4	20.2	22.4	23.8
4100.0	4130.0	8.69	7.99	7.59	4130.0	28.3	28.6	27.6	18.5	20.6	20.8
4400.0	4430.0	7.85	7.35	6.95	4430.0	28.5	28.6	27.6	18.2	19.0	18.1
4700.0	4730.0	9.11	8.81	8.61	4730.0	27.9	28.1	27.3	18.4	18.6	17.3
5000.0	5030.0	7.71	7.51	7.41	5030.0	29.2	28.0	26.9	18.9	18.9	17.7
5300.0	5330.0	8.53	8.23	8.23	5330.0	28.3	27.5	26.6	18.5	19.2	18.4
5600.0	5630.0	7.05	6.85	6.85	5630.0	27.7	26.6	25.4	17.8	19.2	19.2
5900.0	5930.0	7.08	6.58	6.48	5930.0	25.0	24.2	22.8	17.3	19.1	19.8
6200.0	6230.0	6.04	5.74	5.84	6230.0	24.8	23.6	22.2	16.7	18.4	19.5
6500.0	6530.0	5.81	5.41	5.41	6530.0	23.0	22.0	20.4	15.8	16.6	16.9
6800.0	6830.0	5.92	5.42	5.42	6830.0	21.6	21.3	20.0	14.9	14.8	13.8
7000.0	7030.0	5.72	5.42	5.42	7030.0	20.2	20.7	20.0	14.3	14.0	12.7
7100.0	7130.0	5.79	5.49	5.39	7130.0	20.2	20.6	19.9	14.3	13.4	12.4
7400.0	7430.0	5.80	5.60	5.50	7430.0	19.4	20.2	20.4	14.6	14.0	13.2
7500.0	7530.0	5.91	5.71	5.61	7530.0	19.2	20.6	20.5	15.0	14.9	13.6
7700.0	7730.0	6.23	5.93	5.83	7730.0	19.0	20.1	20.9	15.5	15.2	14.5
7900.0	7930.0	6.34	6.04	6.04	7930.0	18.5	20.4	21.2	15.8	15.7	15.0
8000.0	8030.0	6.63	6.23	6.13	8030.0	18.0	19.6	20.8	15.9	16.3	15.3

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Typical Performance Data

RF/LO (MHz)	RF VSWR (:1)			LO VSWR (:1)			IF (MHz)	IF VSWR (:1)		
	@LO (dBm)			@LO (dBm)				@LO (dBm)		
	+7	+10	+13	+7	+10	+13		+7	+10	+13
3530.0	1.89	1.92	1.96	2.23	1.90	2.26	10.0	1.67	1.52	1.40
3830.0	2.80	2.72	2.65	2.67	2.28	2.72	30.0	1.68	1.52	1.40
4130.0	3.86	3.57	3.38	2.65	2.48	2.90	66.7	1.70	1.54	1.43
4430.0	3.38	3.16	3.11	2.65	2.95	3.86	70.0	1.70	1.54	1.43
4730.0	2.88	2.72	2.68	2.36	2.86	3.75	123.3	1.75	1.60	1.48
5030.0	3.26	3.01	2.88	2.14	2.80	3.73	180.0	1.84	1.67	1.56
5330.0	3.79	3.64	3.64	2.18	2.92	3.96	200.0	1.88	1.71	1.60
5630.0	3.86	3.71	3.57	2.65	3.49	4.79	236.7	1.94	1.78	1.67
5930.0	2.96	2.88	2.88	2.48	2.75	3.36	293.3	2.10	1.92	1.78
6230.0	2.10	2.06	2.06	2.10	2.02	2.24	350.0	2.27	2.08	1.96
6530.0	1.94	2.08	2.23	2.30	1.86	1.84	406.7	2.49	2.27	2.14
6830.0	1.71	1.96	2.14	2.36	1.54	1.12	463.3	2.72	2.46	2.37
7030.0	1.81	2.04	2.27	2.22	1.55	1.43	500.0	2.92	2.65	2.49
7130.0	1.87	2.08	2.32	2.13	1.65	1.71	520.0	2.96	2.68	2.58
7430.0	2.30	2.37	2.46	2.32	2.39	2.78	576.7	3.26	2.96	2.88
7530.0	2.43	2.49	2.58	2.43	2.66	3.24	633.3	3.57	3.21	3.16
7730.0	2.25	2.25	2.25	2.57	3.04	3.88	690.0	3.79	3.44	3.44
7930.0	2.27	2.23	2.23	2.62	3.27	4.14	746.7	4.22	3.79	3.79
8030.0	2.27	2.20	2.20	2.83	3.50	4.29	803.3	4.53	4.12	4.03



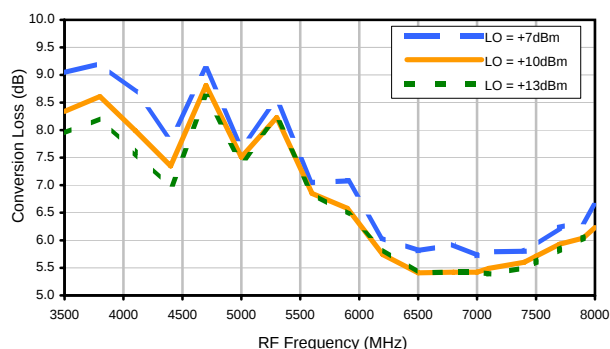
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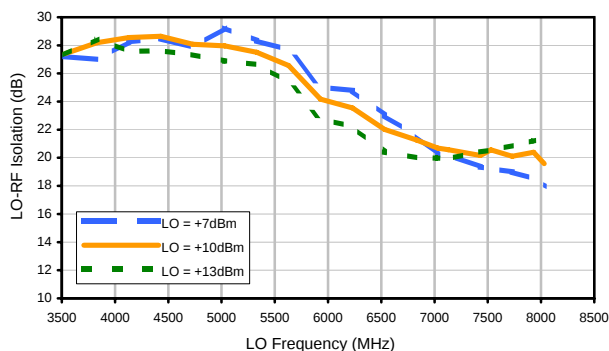
REV. X1
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Typical Performance Curves

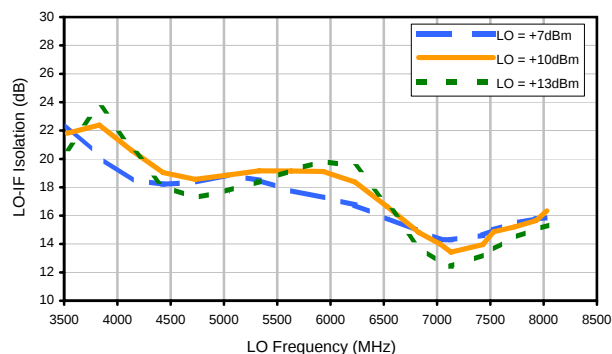
Conversion Loss



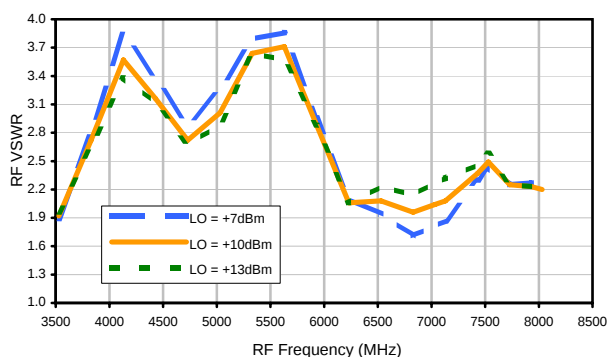
LO-RF Isolation



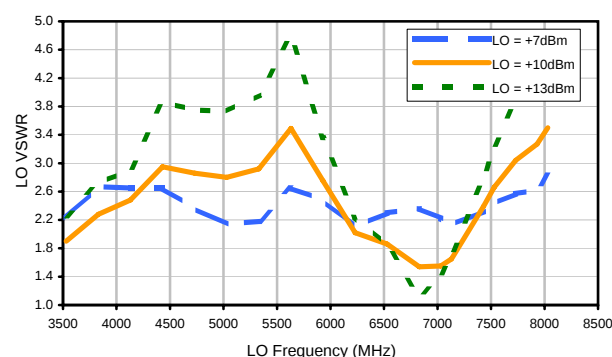
LO-IF Isolation



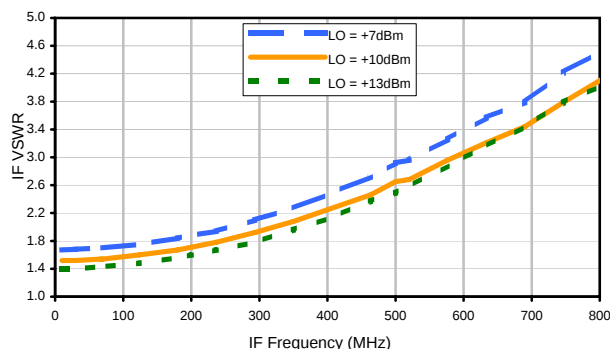
RF VSWR



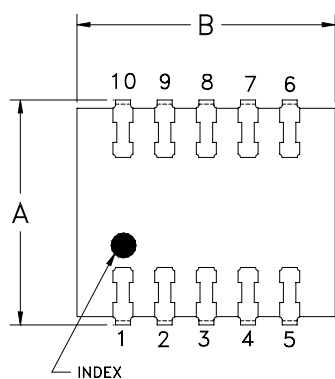
LO VSWR



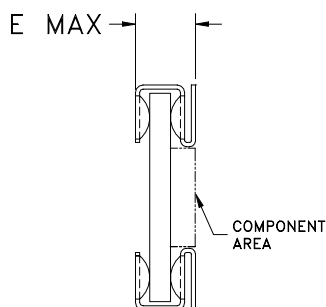
IF VSWR



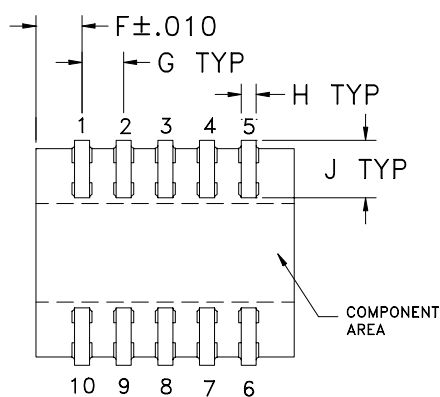
Outline Dimensions



TOP VIEW

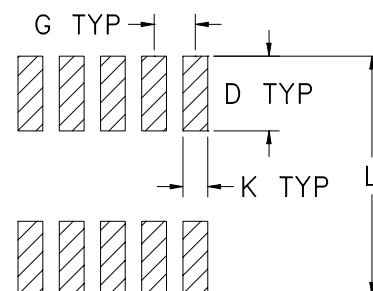


SIDE VIEW



BOTTOM VIEW

PCB Land Pattern



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

CASE #	A	B	C	D	E	F	G	H	J	K	L	WT. GRAM
CB518	.27 (6.86)	.31 (7.87)	-	.090 (2.29)	.080 (2.03)	.055 (1.40)	.050 (1.27)	.018 (0.46)	.074 (1.88)	.030 (0.76)	.290 (7.37)	.3
CB539	.29 (7.36)	.30 (7.62)	-		.085 (2.16)	.050 (1.27)			.067 (1.70)		.315 (8.00)	.3

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

Notes:

1. Open style, ceramic base.
2. 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.



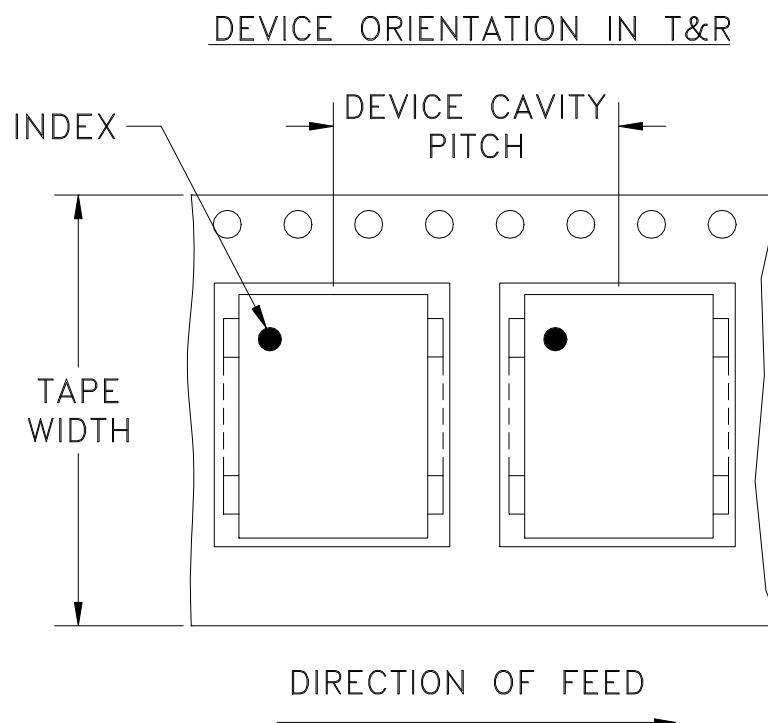
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Tape & Reel Packaging TR-F24



Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel
16	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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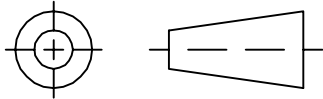
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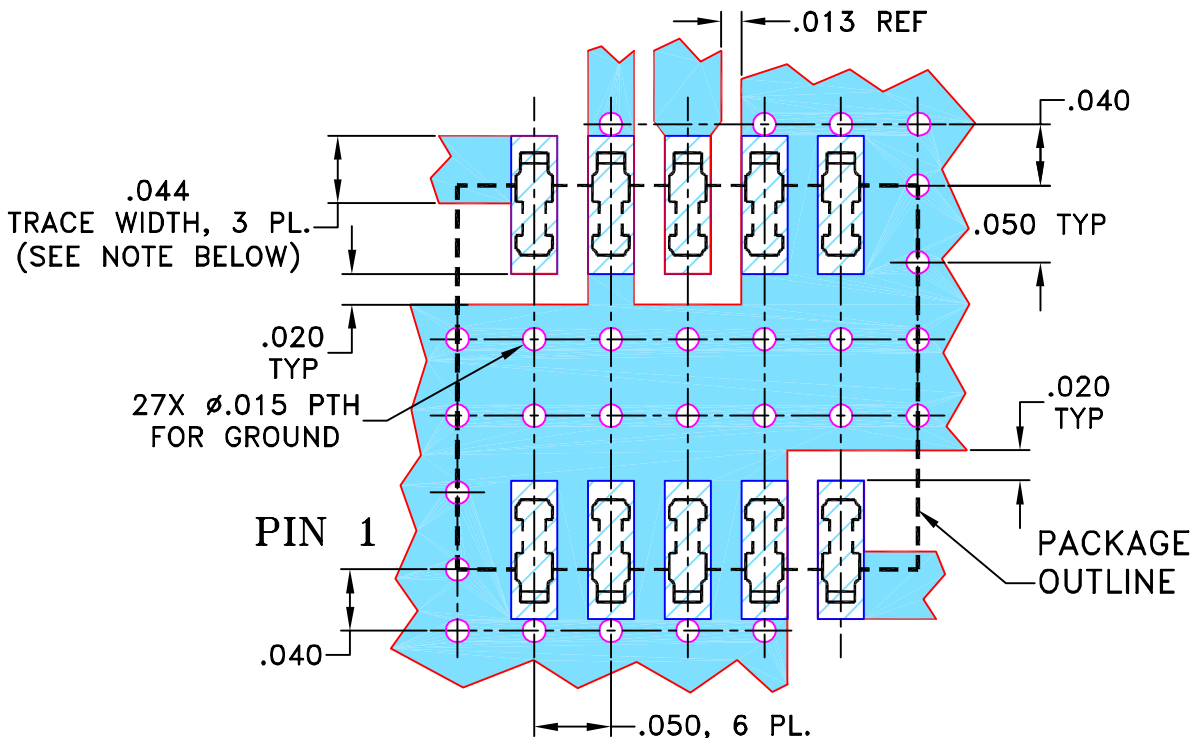
THIRD ANGLE PROJECTION



REVISIONS

REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	M88235	NEW RELEASE	08/06/03	AV	WL
A	M102713	ADDED "...WITH SMOBC"	01/16/08	GF	IL

SUGGESTED MOUNTING CONFIGURATION FOR CB539 CASE STYLE, "jx" PIN CONNECTION

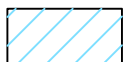


NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS 0.020" $\pm$ 0.0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.

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

AV

07/30/02

TOLERANCES ON:

CHECKED

IL

08/06/03

2 PL DECIMALS $\pm$.005

APPROVED

WL

08/06/03

ANGLES $\pm$

FRACTIONS $\pm$

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



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Brooklyn NY 11235

PL, jx, CB539, ALY, TB-173

SIZE

A

CODE IDENT

15542

DRAWING NO:

98-PL-134

REV:

A

FILE: 98PL134

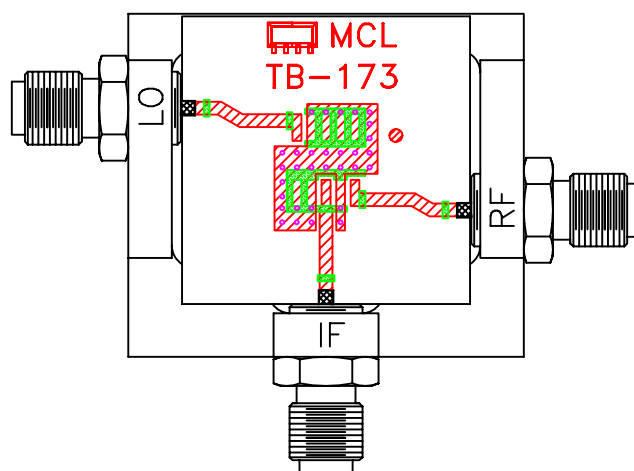
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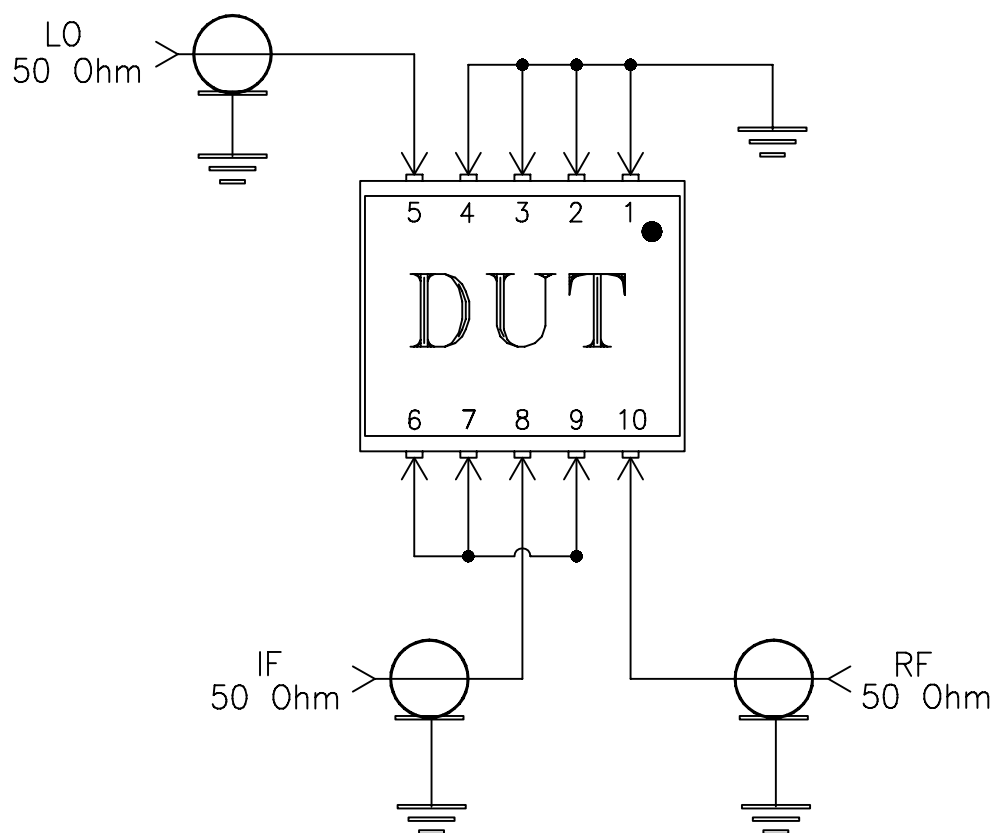
SHEET:

1 OF 1

Evaluation Board and Circuit



TB-173



Schematic Diagram

Notes:

1. SMA Female connectors.
2. PCB Material: Rogers R04350 or equivalent,
Dielectric Constant=3.5, Thickness=.020 inch.

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