

Frequency Mixer

ALY-ED7175/1

Level 7 (LO Power +7 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)	2000		5700	MHz
	RF (f _L to f _U)	2000		5700	MHz
	IF	0.1		1000	MHz
Conversion Loss			6.1		dB
LO-RF Isolation			28		dB
LO-IF Isolation			19		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)		
		+4	+7	+10		+4	+7	+10	+4	+7	+10
2000.0	1970.0	7.19	6.53	6.36	1970.0	31.0	30.0	29.5	10.3	11.2	11.7
2200.0	2170.0	6.51	5.58	5.85	2170.0	31.2	30.2	29.2	10.7	11.0	11.0
2400.0	2370.0	6.47	5.81	5.64	2370.0	31.2	30.2	29.0	11.5	11.3	11.0
2600.0	2570.0	6.44	5.94	5.94	2570.0	32.2	31.0	29.7	12.8	12.3	11.7
2800.0	2770.0	6.90	6.40	6.40	2770.0	32.2	31.0	29.8	14.5	13.3	12.5
3000.0	2970.0	7.53	7.03	6.86	2970.0	31.0	30.0	29.0	16.3	14.8	13.8
3200.0	3170.0	7.68	7.18	7.01	3170.0	30.5	29.7	29.3	18.3	16.5	15.2
3400.0	3370.0	7.71	7.38	7.21	3370.0	31.0	30.5	30.3	19.5	18.0	17.2
3600.0	3570.0	7.15	5.82	6.82	3570.0	32.7	31.7	30.8	20.3	19.8	19.7
3800.0	3770.0	6.78	6.44	6.44	3770.0	32.2	31.3	30.5	21.2	22.0	22.3
4000.0	3970.0	6.56	6.23	6.23	3970.0	31.3	30.2	29.2	21.7	23.5	25.2
4200.0	4170.0	6.54	6.37	6.21	4170.0	29.8	28.8	28.2	22.3	23.7	25.3
4400.0	4370.0	6.34	6.01	6.01	4370.0	28.8	27.8	27.2	22.5	23.2	23.5
4600.0	4570.0	7.03	6.69	6.53	4570.0	28.2	27.5	26.8	22.2	21.8	21.3
4800.0	4770.0	6.17	6.00	6.00	4770.0	27.8	26.8	25.8	22.2	21.3	20.7
5000.0	4970.0	5.83	5.66	5.66	4970.0	27.0	25.8	25.0	22.0	21.0	20.7
5200.0	5170.0	5.62	5.45	5.45	5170.0	26.2	25.0	24.0	22.3	21.8	21.7
5400.0	5370.0	5.76	5.42	5.59	5370.0	25.3	24.3	23.3	22.2	22.2	22.5
5600.0	5570.0	5.55	5.22	5.22	5570.0	24.8	24.0	23.0	22.0	22.7	23.2
5700.0	5670.0	5.38	5.05	5.05	5670.0	23.7	23.0	22.2	22.0	22.8	23.3

Frequency Mixer

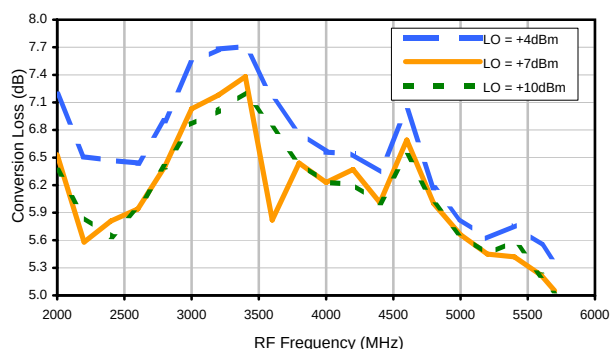
ALY-ED7175/1

Typical Performance Data

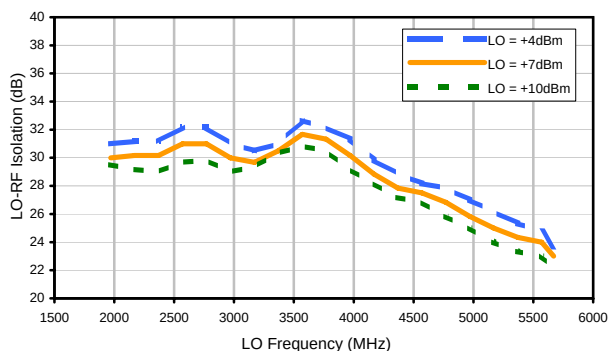
RF/LO (MHz)	RF VSWR (:1)			LO VSWR (:1)			IF (MHz)	IF VSWR (:1)		
	@LO (dBm)			@LO (dBm)				@LO (dBm)		
	+4	+7	+10	+4	+7	+10		+4	+7	+10
1970.0	3.17	3.01	3.01	4.26	2.93	3.01	100.0	1.55	1.39	1.29
2170.0	2.61	2.46	2.36	3.57	2.67	2.67	159.5	1.69	1.52	1.45
2370.0	2.46	2.32	2.24	3.01	2.41	2.56	200.0	1.81	1.65	1.58
2570.0	2.46	2.32	2.24	2.56	2.24	2.51	300.0	2.13	1.92	1.90
2770.0	2.37	2.28	2.20	2.51	2.28	2.67	309.0	2.13	1.92	1.92
2970.0	1.98	1.95	1.90	2.24	2.24	2.80	458.5	2.61	2.24	2.37
3170.0	1.92	1.85	1.78	1.98	2.17	2.67	500.0	2.73	2.36	2.56
3370.0	1.90	1.81	1.73	1.65	1.98	2.67	608.0	3.01	2.56	2.80
3570.0	2.32	2.17	2.04	1.58	1.85	2.46	700.0	3.26	2.80	2.94
3770.0	2.80	2.61	2.41	1.71	2.10	2.61	757.5	3.36	2.86	3.01
3970.0	2.93	2.67	2.46	1.81	2.28	2.67	800.0	3.47	2.86	3.09
4170.0	2.56	2.32	2.17	1.78	2.51	3.18	907.0	3.68	3.01	3.01
4370.0	2.10	1.90	1.74	1.71	2.46	3.26	1000.0	3.57	3.01	2.93
4570.0	2.17	1.95	1.81	1.54	2.13	2.86	1056.5	3.57	2.86	2.80
4770.0	2.41	2.20	2.01	1.61	2.20	2.94	1200.0	3.57	2.93	2.73
4970.0	2.20	1.98	1.76	1.74	2.32	3.09	1206.0	3.69	3.01	2.73
5170.0	1.95	1.77	1.59	1.81	2.32	3.01	1300.0	3.57	2.86	2.67
5370.0	2.13	1.98	1.85	2.04	2.61	3.26	1355.5	3.57	2.93	2.67
5570.0	1.90	1.76	1.67	2.24	2.67	3.09	1400.0	3.47	2.80	2.56
5670.0	1.73	1.64	1.62	2.41	2.80	3.09	1500.0	2.86	2.46	2.20

Typical Performance Curves

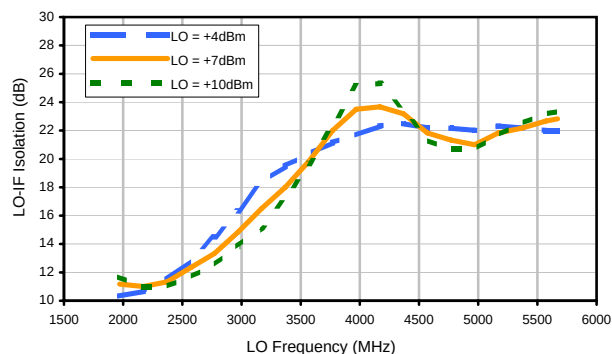
Conversion Loss



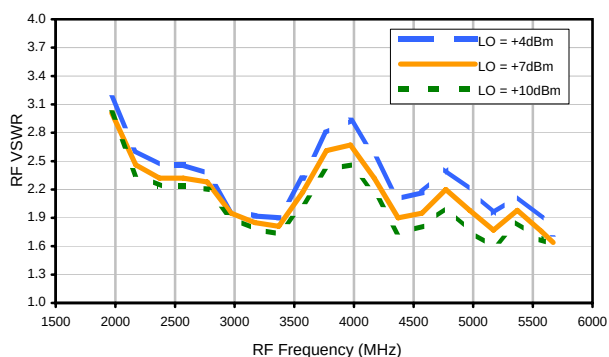
LO-RF Isolation



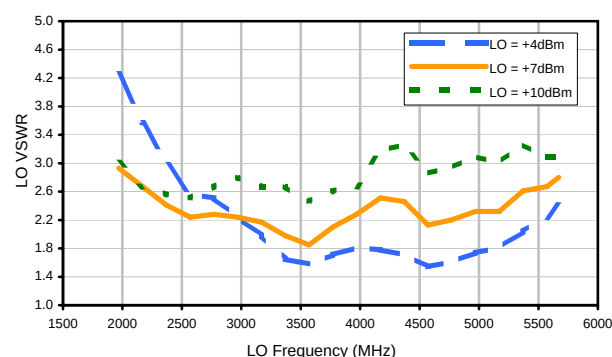
LO-IF Isolation



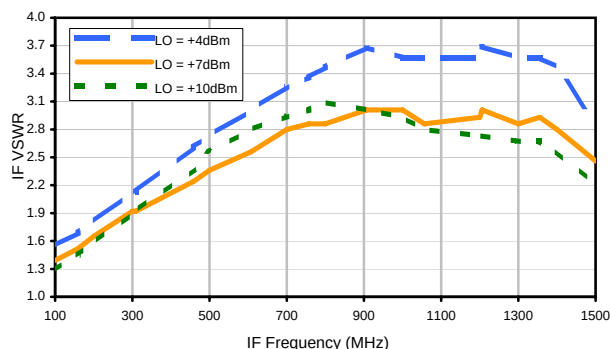
RF VSWR



LO VSWR

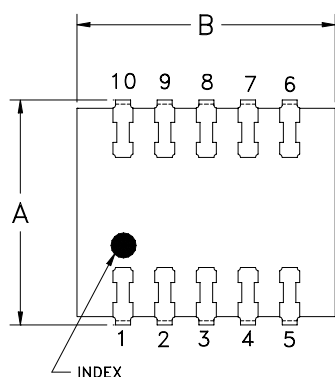


IF VSWR

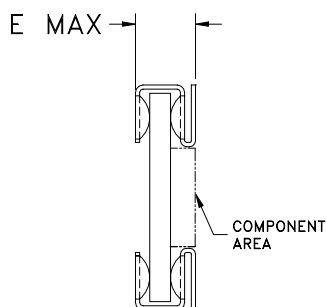


CB518
CB539

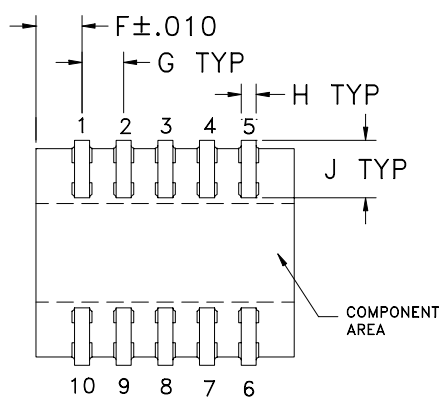
Outline Dimensions



TOP VIEW

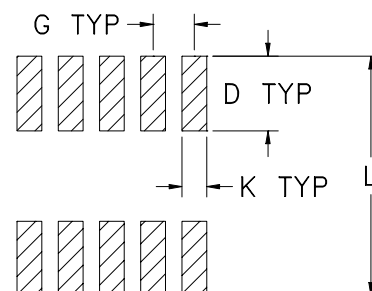


SIDE VIEW



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:

- Open style, ceramic base.
- 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.



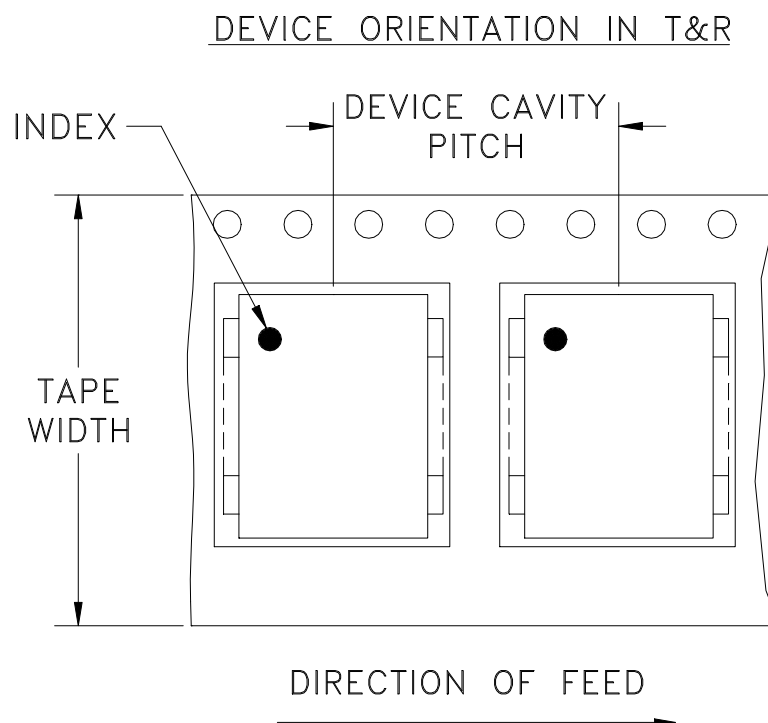
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Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel
16	12	13	500

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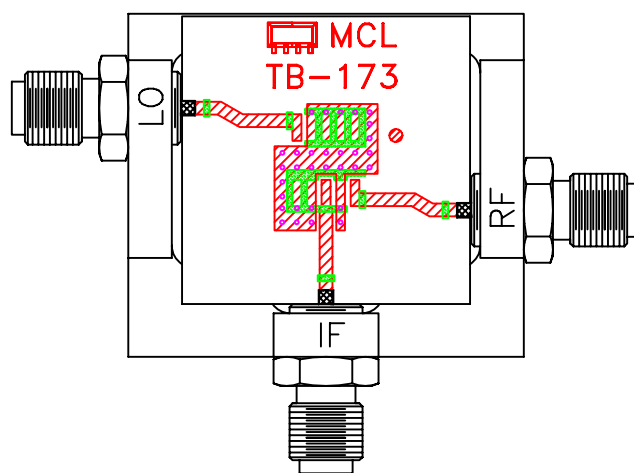
REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	M88235	NEW RELEASE	08/06/03	AV	WL
A	M102713	ADDED"...WITH SMOBC"	01/16/06	GF	IL

 DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

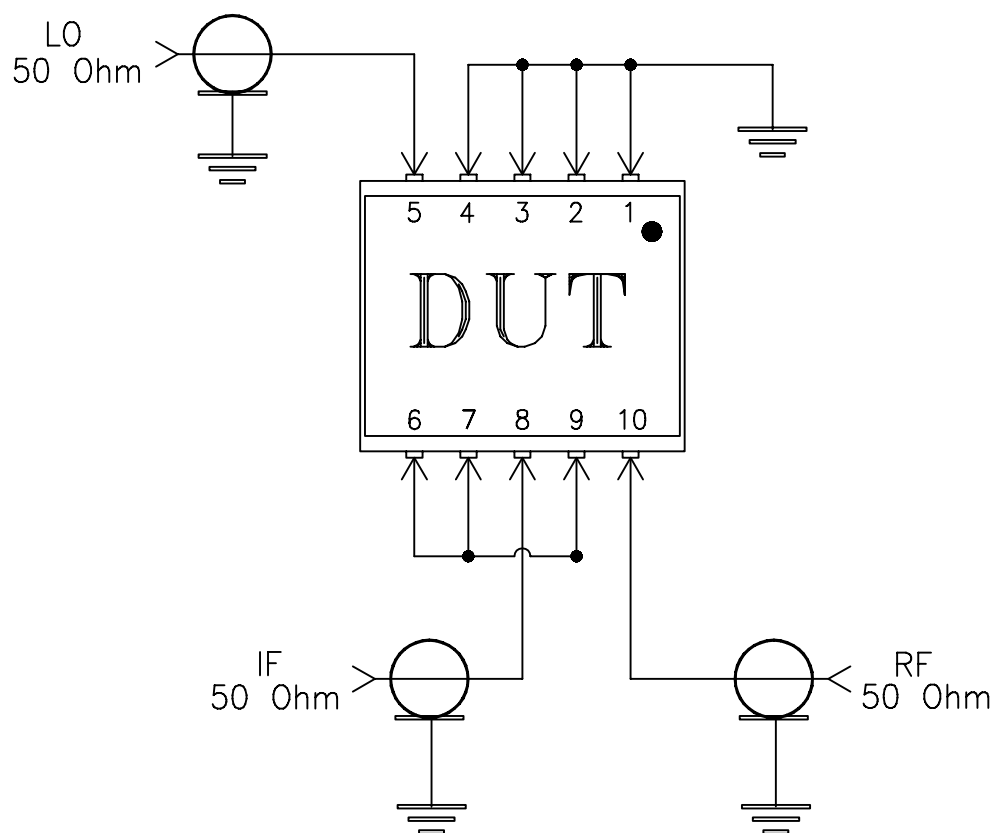
 DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

SHEET:	1 OF 1
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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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