

Non-Catalog Model

Frequency Mixer

LRMS-2UJ

Level 7 (LO Power +7 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 : QQQ569

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		6.8	8.0	dB
	Total Range			9.5	dB
LO-RF Isolation	Low Range	40	55		dB
	Mid Range	30	40		dB
	Upper Range	25	30		dB
LO-IF Isolation	Low Range	30	55		dB
	Mid Range	25	35		dB
	Upper Range	22	30		dB
1 dB Comp. Input Power			+1		dBm

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

Mid Range = [10fL to fU/2]

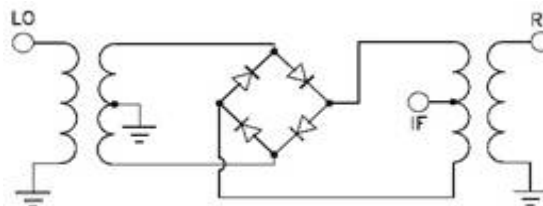
Upper Range = [fU/2 to fU]

Phase detection, positive polarity
Aqueous washable.

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	4
IF	5
GROUND	2, 3, 6

Electrical Schematics



Frequency Mixer

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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
10.0	40.0	5.89	5.69	5.59	10.0	54.1	55.1	56.0	56.6	57.4	57.3
20.0	50.0	6.01	5.78	5.68	20.0	53.0	53.8	54.6	53.6	52.7	52.0
39.1	69.1	6.18	5.90	5.76	39.1	50.7	52.0	51.8	49.0	47.2	47.0
50.0	80.0	6.14	5.88	5.74	50.0	49.5	51.3	50.3	47.0	45.1	45.3
68.2	98.2	6.06	5.83	5.72	68.2	47.9	49.3	48.1	44.4	42.5	42.6
100.0	70.0	5.97	5.82	5.72	100.0	45.5	46.2	45.9	41.7	39.6	39.2
126.5	96.5	6.14	5.90	5.76	126.5	43.9	44.6	44.6	39.8	37.8	37.1
155.6	125.6	6.30	6.04	5.88	155.5	42.7	43.3	43.5	38.4	36.0	34.8
230.0	170.0	6.65	6.28	6.03	200.0	41.6	42.4	43.0	36.8	34.2	33.1
242.9	212.9	6.76	6.39	6.13	242.9	41.4	42.5	43.0	35.7	32.5	30.6
301.2	271.2	7.02	6.60	6.33	301.2	41.4	42.4	43.3	34.4	31.3	29.4
330.3	300.3	6.95	6.58	6.24	330.3	41.6	42.5	42.7	33.9	30.7	28.6
388.5	358.5	7.27	6.70	6.44	388.5	40.9	42.6	42.7	32.3	29.2	27.4
446.8	416.8	7.04	6.58	6.19	446.8	36.9	38.4	39.5	31.2	28.7	27.1
500.0	470.0	7.16	6.61	6.26	500.0	35.5	35.5	36.6	29.6	27.4	26.2
592.4	562.4	7.38	6.89	6.59	592.4	36.0	34.4	33.6	31.1	28.3	26.5
708.8	678.8	7.84	7.34	6.97	708.8	35.4	34.7	33.7	31.8	29.2	28.3
796.2	766.2	8.02	7.61	7.33	796.2	31.9	30.9	30.3	29.2	28.0	28.8
912.6	882.6	8.34	7.98	7.68	912.6	31.4	29.1	27.8	25.6	26.4	30.6
1000.0	970.0	8.63	8.28	8.07	1000.0	31.2	28.2	26.4	22.4	24.1	28.8

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IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS 9100 CERTIFIED • RoHS compliant

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Frequency Mixer

LRMS-2UJ

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
10.0	1.79	1.73	1.67	1.70	2.45	3.47	10.0	1.71	1.65	1.65
20.0	1.70	1.63	1.56	1.76	2.59	3.63	20.0	1.38	1.34	1.35
39.1	1.69	1.61	1.54	1.72	2.49	3.54	39.1	1.25	1.20	1.21
50.0	1.71	1.63	1.56	1.69	2.47	3.48	50.0	1.23	1.17	1.19
68.2	1.75	1.67	1.59	1.68	2.44	3.43	68.2	1.21	1.14	1.16
100.0	1.80	1.72	1.63	1.69	2.43	3.38	100.0	1.20	1.12	1.14
155.6	1.91	1.81	1.73	1.74	2.44	3.25	155.6	1.18	1.11	1.15
184.7	1.98	1.87	1.78	1.68	2.40	3.15	184.7	1.16	1.11	1.16
200.0	1.99	1.89	1.80	1.70	2.35	3.15	200.0	1.15	1.11	1.17
242.9	2.09	1.97	1.88	1.70	2.33	3.12	242.9	1.13	1.12	1.19
301.2	2.27	2.12	2.02	1.71	2.29	3.02	301.2	1.11	1.16	1.25
359.4	2.40	2.25	2.13	1.74	2.25	2.92	359.4	1.12	1.22	1.32
388.5	2.47	2.31	2.19	1.75	2.23	2.89	388.5	1.14	1.26	1.36
446.8	2.67	2.47	2.33	1.77	2.21	2.84	446.8	1.21	1.36	1.48
500.0	2.39	2.20	2.06	1.84	2.29	2.91	500.0	1.37	1.54	1.65
534.1	2.61	2.43	2.31	1.85	2.28	2.87	534.1	1.39	1.56	1.68
592.4	2.76	2.57	2.45	1.86	2.29	2.89	592.4	1.53	1.71	1.83
737.9	3.00	2.83	2.74	1.92	2.31	2.86	737.9	2.04	2.24	2.39
854.4	3.18	3.03	2.91	2.02	2.30	2.82	854.4	2.48	2.68	2.81
1000.0	3.52	3.42	3.27	2.17	2.32	2.72	1000.0	3.14	3.24	3.30

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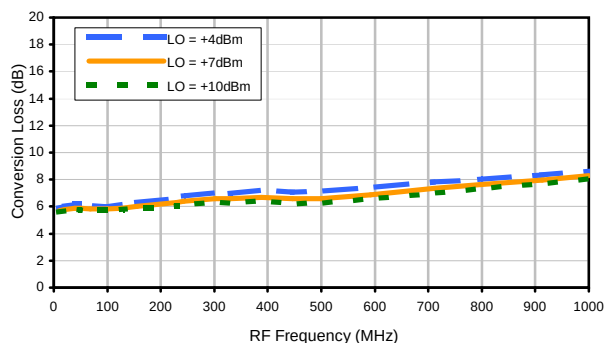


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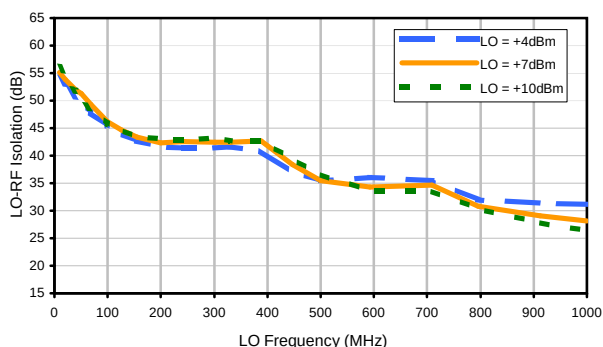


Typical Performance Curves

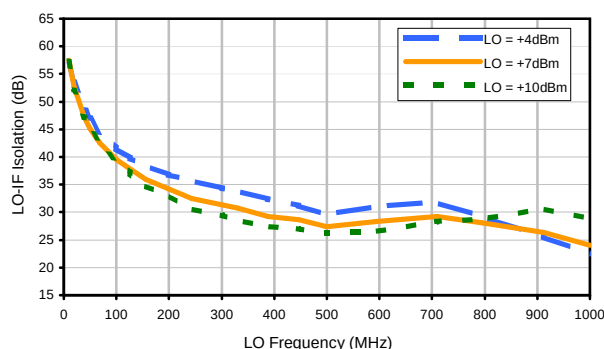
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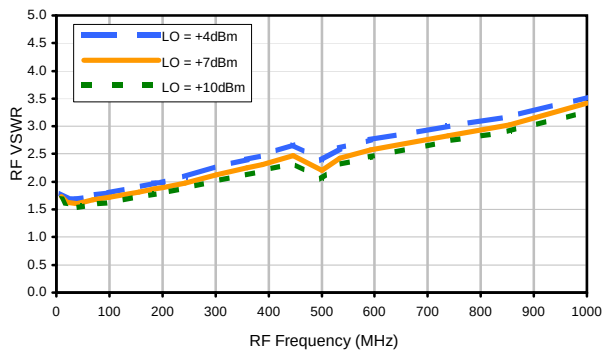
LO-RF Isolation



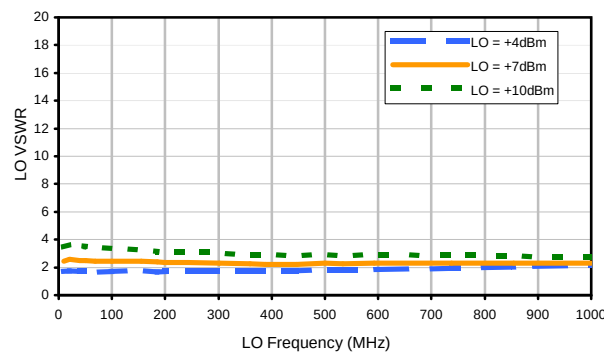
LO-IF Isolation



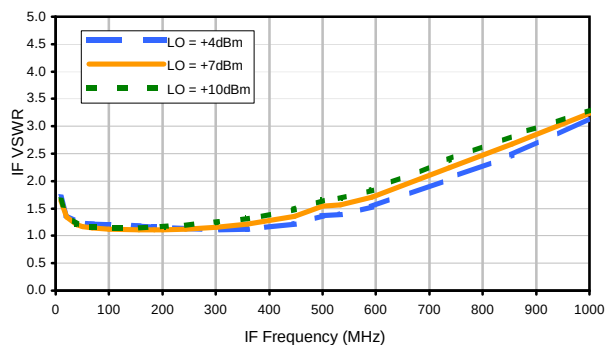
RF VSWR



LO VSWR



IF VSWR

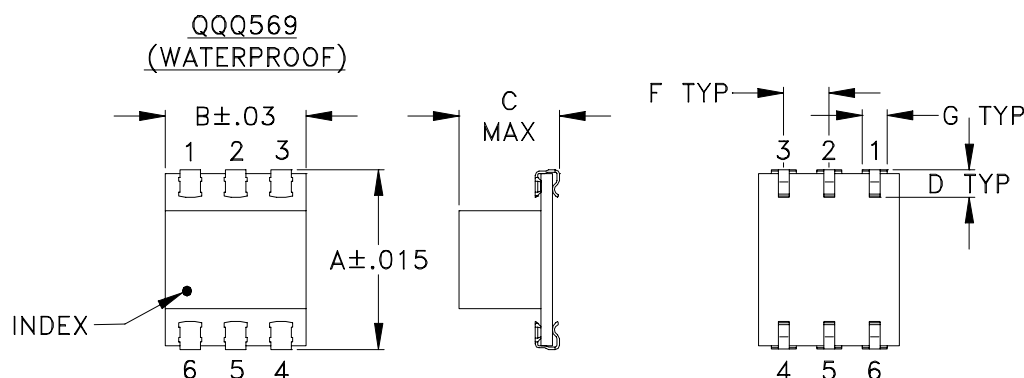


Case Style

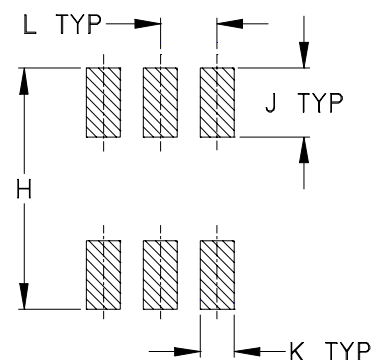
QQQ

QQQ569 (waterproof)

Outline Dimensions



PCB Land Pattern



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

CASE#	A	B	C	D	E	F	G	H	J	K	L	M	WT, GRAM
QQQ569	.390 (9.90)	.31 (7.87)	.225 (5.72)	.060 (1.52)	-	.100 (2.54)	.045 (1.14)	.420 (10.67)	.120 (3.05)	.060 (1.52)	.100 (2.54)	-	.50

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

Notes:

- Case material: Ceramic.
- Termination finish:
 - For RoHS Case Styles: Tin plate over Nickel plate.
 - For RoHS-5 Case Styles: Tin-Lead plate.

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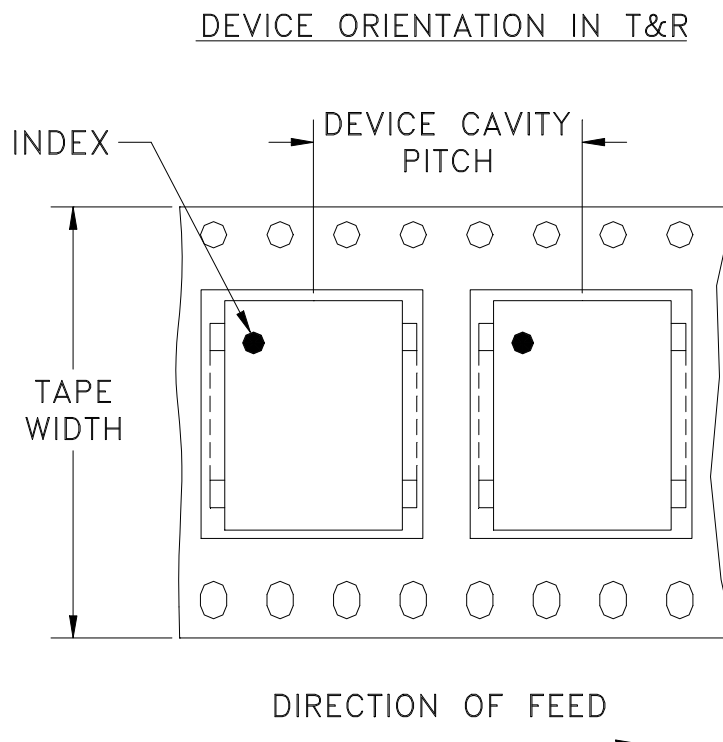
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Tape & Reel Packaging TR-F5



Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel
32	16	13	500

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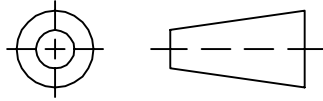
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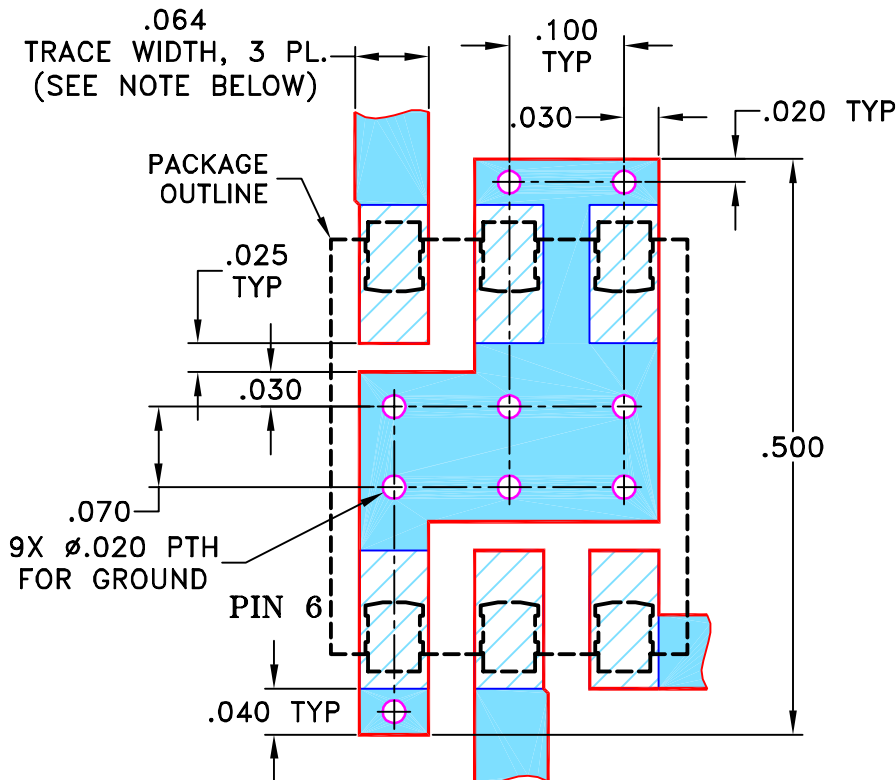
THIRD ANGLE PROJECTION



REVISIONS

REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	M82272	NEW RELEASE	08/02/02	AV	DJ
A	M102713	UPDATED NOTES	01/14/06	GF	IL

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



NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.030" $\pm$ 0.002"; 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

AV

07/19/02

TOLERANCES ON:

CHECKED

WL

08/02/02

2 PL DECIMALS $\pm$

APPROVED

DJ

08/02/02

3 PL DECIMALS $\pm$.005

ANGLES $\pm$

FRACTIONS $\pm$

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



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PL, w, QQQ569, LRMS-J, TB-44

SIZE

A

CODE IDENT

15542

DRAWING NO:

98-PL-083

REV:

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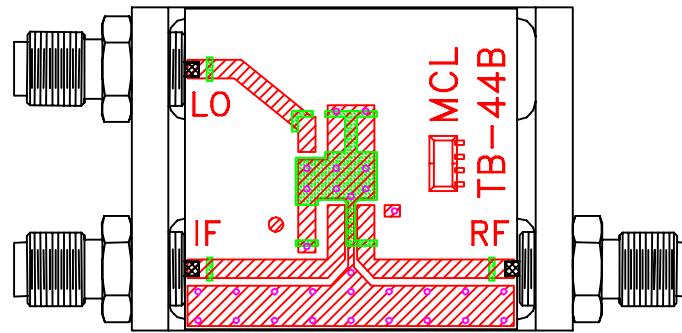
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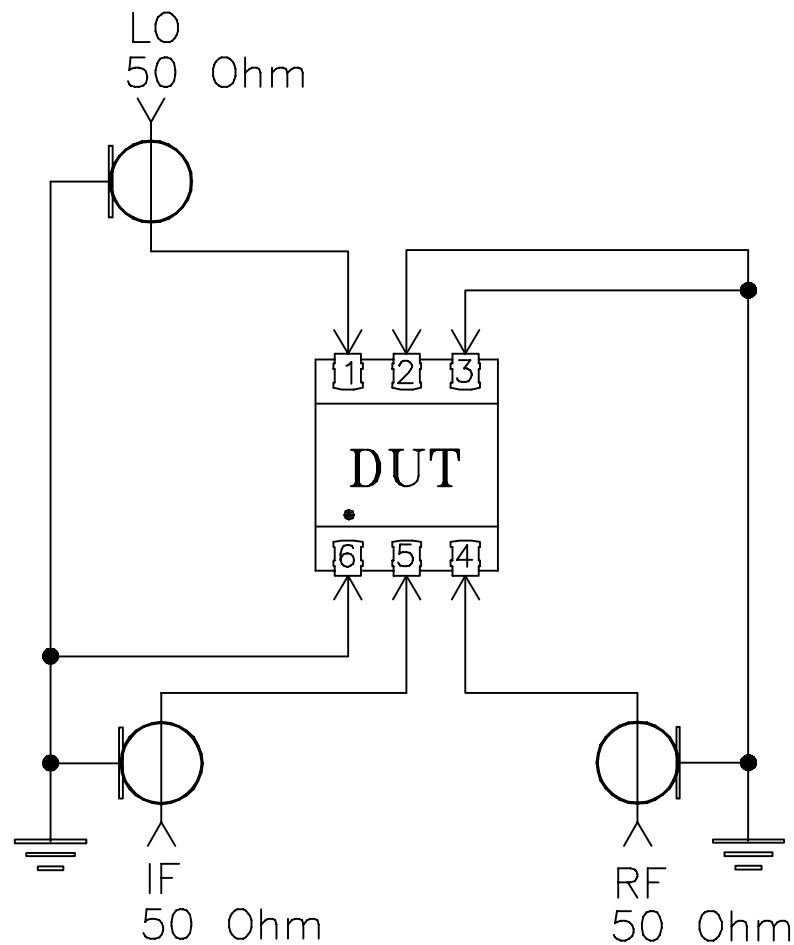
SHEET:

1 OF 1

Evaluation Board and Circuit



TB-44+



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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