High IP3

Frequency Mixer

ADE-751MH+

Level 13 (LO Power +13 dBm) 20 to 750 MHz



Generic photo used for illustration purposes only

CASE STYLE: CD541

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Maximum Ratings

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

Permanent damage may occur if any of these limits are exceeded.

Pin Connections

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

Features

- high IP3, 26 dBm typ.
- low conversion loss, 6.6 dB typ.
- good L-R isolation, 42 dB typ.
- low profile package
- aqueous washable
- protected by U.S. Patent 6,133,525

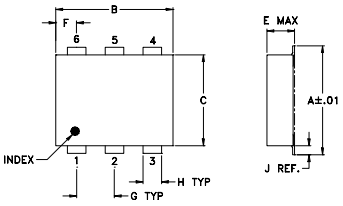
Applications

- cellular

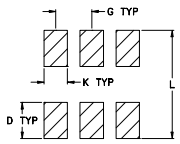
Available Tape and Reel at no extra cost

Reel Size	Devices/Reel
7"	20, 50, 100, 200
13"	500,1000

Outline Drawing



PCB Land Pattern



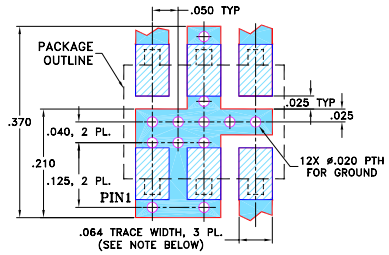
Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch / mm)

A	B	C	D	E	F	G
.272	.310	.220	.100	.082	.055	.100
6.91	7.87	5.59	2.54	2.08	1.40	2.54

H	J	K	L	wt
.030	.026	.065	.300	grams
0.76	0.66	1.65	7.62	0.15

Demo Board MCL P/N: TB-02+
Suggested PCB Layout (PL-051)



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

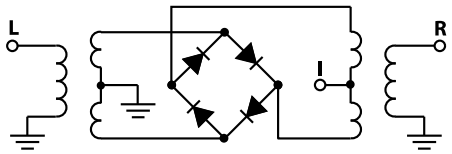
Electrical Specifications at 25°C

Parameter	Min.	Typ.	Max.	Unit
Frequency Range, RF	20	—	750	MHz
Frequency Range, LO	50	—	780	MHz
Frequency Range, IF	DC	—	250	MHz
Conversion Loss	—	6.6	8.2	dB
LO to RF Isolation	28	42	—	dB
LO to IF Isolation	27	40	—	dB
IP3	—	26	—	dBm
RF Input Power at 1 dB Compression	—	+9	—	dBm

Typical Performance Data

Frequency (MHz)		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)	IP3 (dBm)
RF	LO	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm
20.10	50.10	6.93	60.76	55.47	1.34	1.66	28.44
50.10	80.10	6.88	56.69	55.03	1.32	1.72	35.88
100.10	130.10	6.90	52.19	54.66	1.32	1.62	31.42
150.10	180.10	6.78	48.80	53.10	1.30	1.65	33.64
200.10	230.10	6.70	47.06	52.49	1.29	1.60	39.63
250.10	280.10	6.60	45.46	51.28	1.27	1.69	29.76
300.10	330.10	6.52	44.41	50.47	1.26	1.68	27.42
350.10	380.10	6.45	43.32	48.63	1.25	1.77	29.22
400.10	430.10	6.44	42.55	48.18	1.24	1.74	25.94
450.10	480.10	6.42	42.02	45.27	1.23	1.86	33.16
500.10	530.10	6.43	41.52	46.06	1.23	1.80	30.52
550.10	580.10	6.34	40.75	42.85	1.19	1.88	25.31
600.10	630.10	6.42	41.02	40.16	1.17	1.89	30.05
650.10	680.10	6.43	40.62	39.98	1.16	2.03	27.89
700.10	730.10	6.48	40.11	40.27	1.15	2.05	29.10
710.10	740.10	6.43	40.00	40.09	1.13	2.07	28.51
720.10	750.10	6.41	39.86	40.01	1.12	2.07	28.59
730.10	760.10	6.43	39.68	39.84	1.11	2.07	28.40
740.10	770.10	6.44	39.52	39.59	1.11	2.09	27.29
750.10	780.10	6.44	39.32	39.39	1.10	2.08	25.42

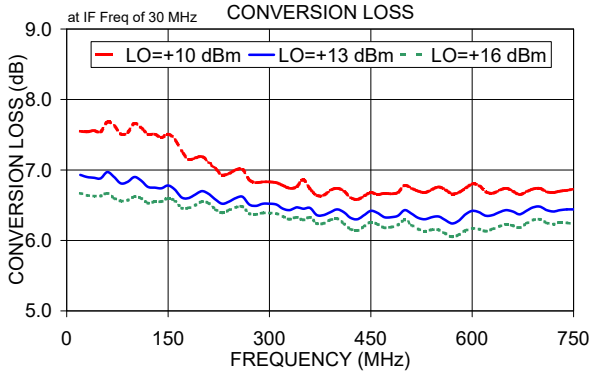
Electrical Schematic



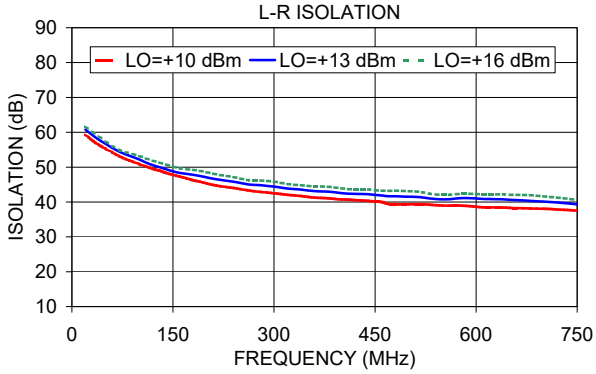
Notes

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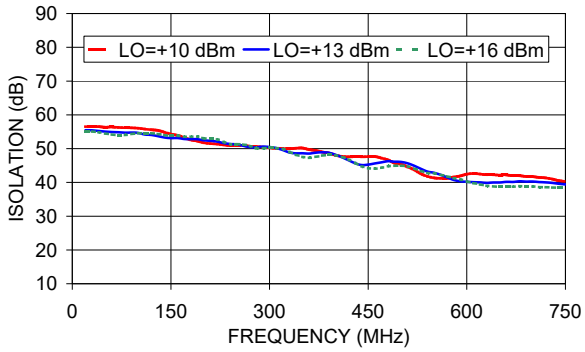
ADE-751MH+
CONVERSION LOSS



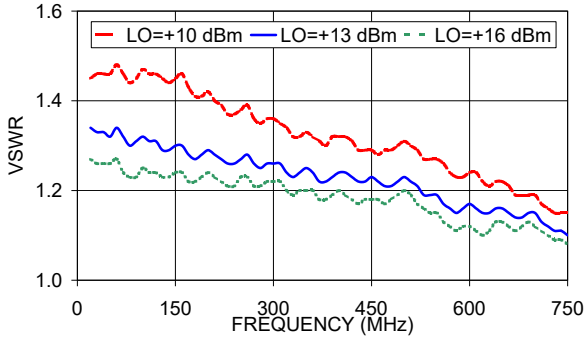
ADE-751MH+
L-R ISOLATION



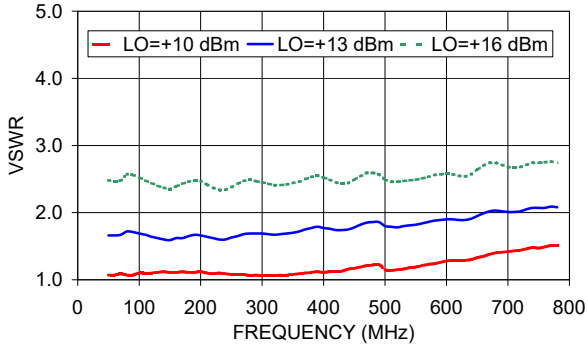
ADE-751MH+
L-I ISOLATION



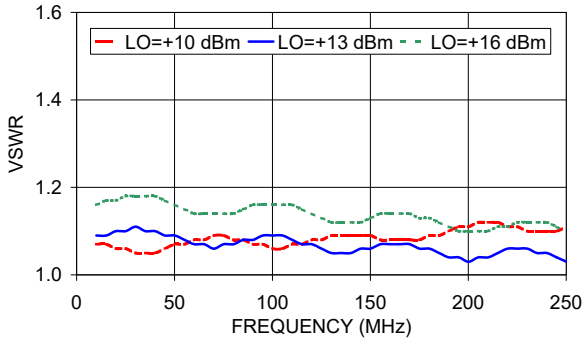
ADE-751MH+
RF VSWR



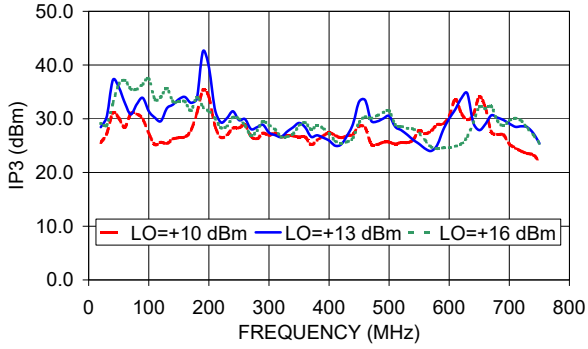
ADE-751MH+
LO VSWR



ADE-751MH+
IF VSWR



ADE-751MH+
IP3



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