Surface Mount

High Reliability Mixer

ADE-R20LH+

Level 10 (LO Power +10 dBm) 1500 to 2800 MHz

CASE STYLE: CD542
PRICE: $5.35 ea. QTY. (10-49)

+ RoHS compliant in accordance with EU Directive (2002/95/EC)

The +Suffix has been added in order to identify 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	50mW
IF Current	40mA

Pin Connections

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

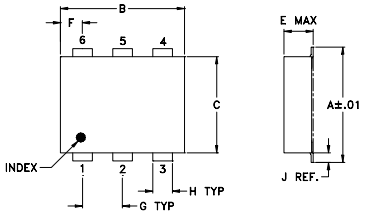
Features

- hermetically sealed ceramic quad
- low conversion loss, 6.0 dB typ.
- excellent isolation, 32 dB typ.
- low profile package
- aqueous washable
- protected by US Patent 6,133,525

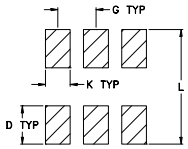
Applications

- digital cellular
- digital cordless phone
- PCN

Outline Drawing



PCB Land Pattern



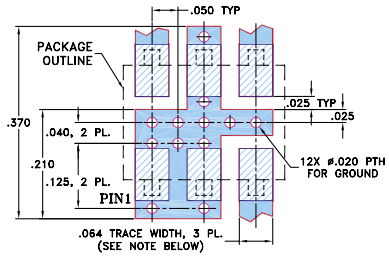
Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch / mm)

A	B	C	D	E	F	G
.272	.310	.220	.100	.112	.055	.100
6.91	7.87	5.59	2.54	2.84	1.40	2.54

H	J	K	L	wt
.030	.026	.065	.300	grams
0.76	0.66	1.65	7.62	0.20

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

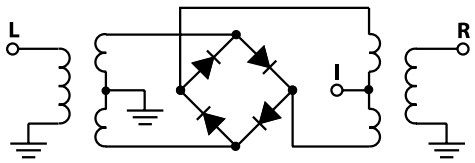
FREQUENCY (MHz) LO/RF	IF	CONVERSION LOSS (dB)			LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3 at center band (dBm)
f_L-f_U		$\overline{X}$	σ	Max.	Typ.	Min.	Typ.	Min.	Typ.
1500-2800	DC-500	6.0	0.10	8.2	32	23	26	15	14

1 dB COMP.: +5 dBm typ.

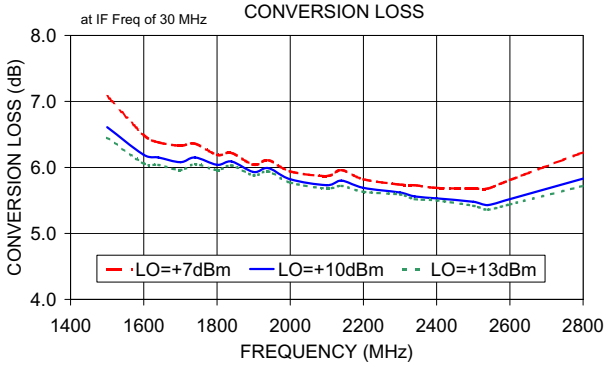
Typical Performance Data

Frequency (MHz) RF	LO	Conversion Loss (dB) LO +10dBm	Isolation L-R (dB) LO +10dBm	Isolation L-I (dB) LO +10dBm	VSWR RF Port (:1) LO +10dBm	VSWR LO Port (:1) LO +10dBm
1500.00	1530.00	6.61	41.83	20.90	1.53	2.03
1600.00	1630.00	6.19	39.95	23.30	1.41	1.98
1640.00	1670.00	6.15	38.57	24.41	1.46	1.96
1700.00	1730.00	6.08	37.75	26.10	1.59	1.95
1740.00	1770.00	6.15	37.07	27.16	1.68	1.94
1800.00	1830.00	6.04	35.24	28.93	1.84	1.91
1840.00	1870.00	6.09	34.13	30.08	1.88	1.92
1900.00	1930.00	5.93	33.20	31.70	1.94	1.92
1940.00	1970.00	5.99	32.91	32.55	1.94	1.94
2000.00	2030.00	5.82	32.49	33.88	1.96	1.95
2100.00	2130.00	5.73	31.75	36.38	1.93	2.00
2140.00	2170.00	5.80	31.51	37.37	1.90	2.02
2200.00	2230.00	5.69	31.12	38.41	1.84	2.03
2300.00	2330.00	5.62	30.71	40.16	1.67	2.04
2340.00	2370.00	5.56	30.69	40.86	1.59	2.07
2400.00	2430.00	5.53	30.75	41.13	1.46	2.10
2500.00	2530.00	5.48	30.46	41.96	1.31	2.15
2540.00	2570.00	5.43	30.67	42.21	1.28	2.18
2600.00	2630.00	5.52	30.87	42.39	1.24	2.19
2800.00	2830.00	5.83	31.30	42.39	1.36	2.08

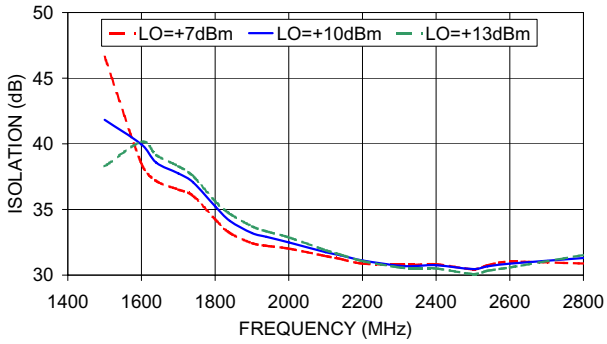
Electrical Schematic



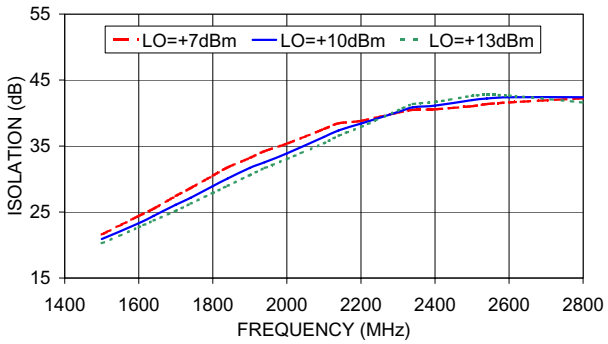
ADE-R20LH+
CONVERSION LOSS



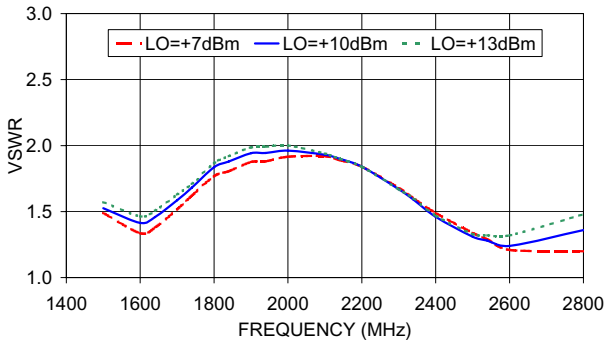
ADE-R20LH+
L-R ISOLATION



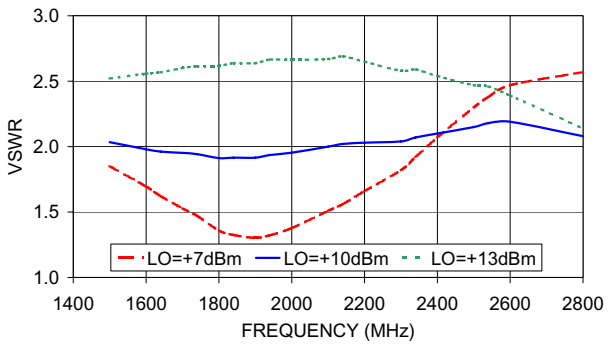
ADE-R20LH+
L-I ISOLATION



ADE-R20LH+
RF VSWR



ADE-R20LH+
LO VSWR



ADE-R20LH+
IF VSWR