Surface Mount

High Reliability Mixer

ADEX-R10LH+

Level 10 (LO Power +10 dBm) 10 to 1000 MHz

CASE STYLE: CD542
PRICE: $3.35 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	3
IF	2
GROUND	1,4,5

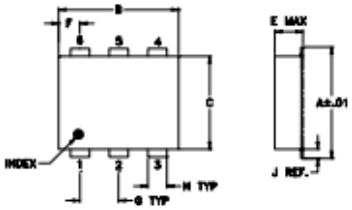
Features

- hermetically sealed ceramic quad
- low conversion loss, 7.0 dB typ.
- excellent L-R isolation, 60 dB typ.
- good VSWR, 1:8:1 typ. for LO, 1.5:1 typ. for RF, 1.5:1 typ. for IF
- good performance to 1500 MHz
- low profile package
- aqueous washable
- protected by US Patent 6,133,525 and 6,947,717

Applications

- cellular
- instrumentation
- VHF/UHF receivers

Outline Drawing

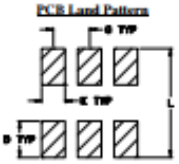


Electrical Specifications

FREQUENCY (MHz)		CONVERSION LOSS (dB)				LO-RF ISOLATION (dB)						LO-IF ISOLATION (dB)						IP3 at center band (dBm)
		Mid-Band m			Total Range Max.	L		M		U		L		M		U		
LO/RF f_L-f_U	IF	$\overline{X}$	σ	Max.		Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.
10-1000	DC-800	7.0	0.10	7.8†	8.3†	70	55	60	43	47	37	45	32	35	25	26	17	16

1 dB COMP.: +5 dBm typ.
†Conversion loss increases 0.5 when IF is above150 MHz
L = low range [f_L to 10 f_L] M = mid range [10 f_L to f_U/2] U = upper range [f_U/2 to f_U]
m= mid band [2f_L to f_U/2]

PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch / mm)

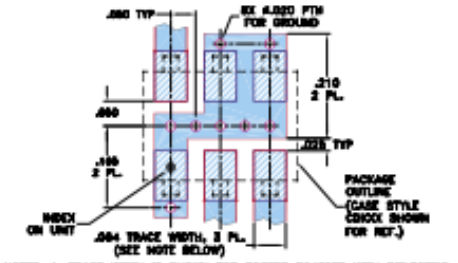
A	B	C	D	E	F	G
.272	.310	.220	.100	.112	.055	.100
6.91	7.87	5.59	2.54	2.84	1.40	2.54

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

Typical Performance Data

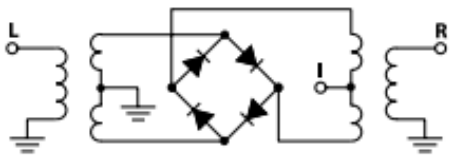
Frequency (MHz)		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
RF	LO	LO +10dBm	LO +10dBm	LO +10dBm	LO +10dBm	LO +10dBm
10.10	40.10	6.40	70.41	63.96	1.40	1.53
70.10	100.10	7.05	71.47	48.53	1.41	1.51
130.10	160.10	7.08	67.22	44.08	1.42	1.52
190.10	220.10	6.89	66.26	42.14	1.42	1.50
250.10	280.10	7.03	65.92	42.34	1.44	1.52
310.10	340.10	6.97	64.97	41.47	1.46	1.55
370.10	400.10	7.00	61.87	40.62	1.49	1.57
430.10	460.10	6.96	60.97	38.57	1.51	1.60
490.10	520.10	7.00	62.56	37.21	1.53	1.65
550.10	580.10	7.16	56.40	35.22	1.56	1.69
610.10	640.10	7.09	52.53	33.19	1.55	1.72
670.10	700.10	6.94	55.81	31.14	1.54	1.74
730.10	760.10	7.16	77.09	30.24	1.58	1.81
790.10	820.10	7.30	57.93	30.30	1.61	1.86
850.10	880.10	7.52	52.89	30.93	1.64	1.89
910.10	940.10	7.81	50.96	30.99	1.65	1.92
970.10	1000.10	7.81	55.37	29.61	1.62	1.94
1030.10	1060.10	7.66	61.99	27.44	1.54	1.96
1090.10	1120.10	7.44	62.69	25.31	1.43	1.99
1150.10	1180.10	7.17	51.89	23.66	1.32	2.06

Demo Board MCL P/N: TB-03
Suggested PCB Layout (PL-052)

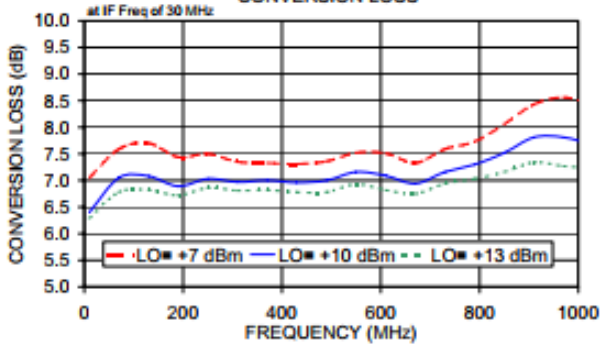


NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" & .032", COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

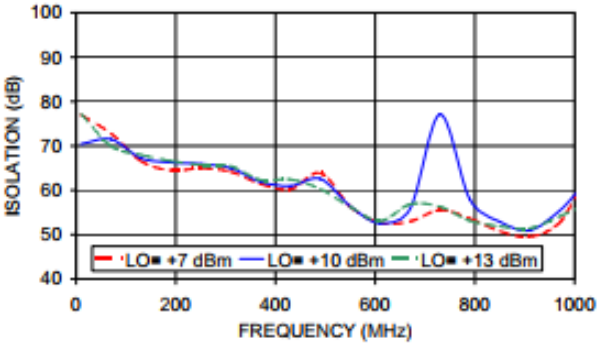
Electrical Schematic



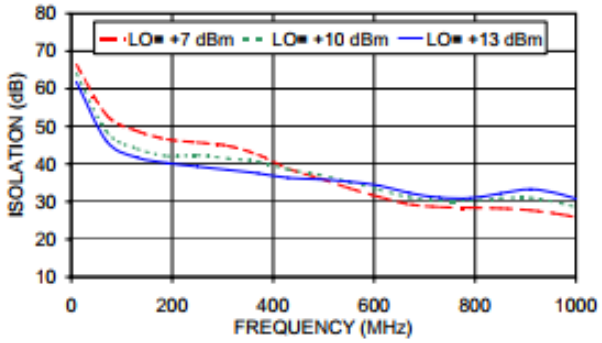
ADEX-R10LH+
CONVERSION LOSS
at IF Freq of 30 MHz



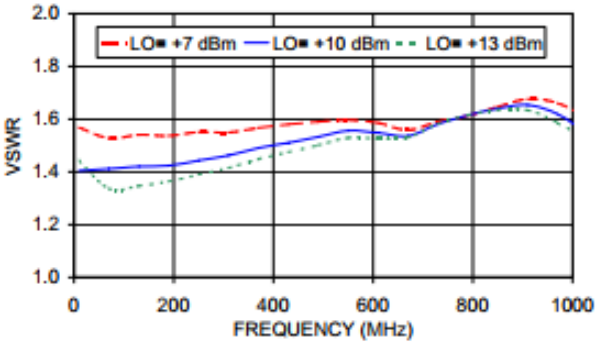
ADEX-R10LH+
L-R ISOLATION



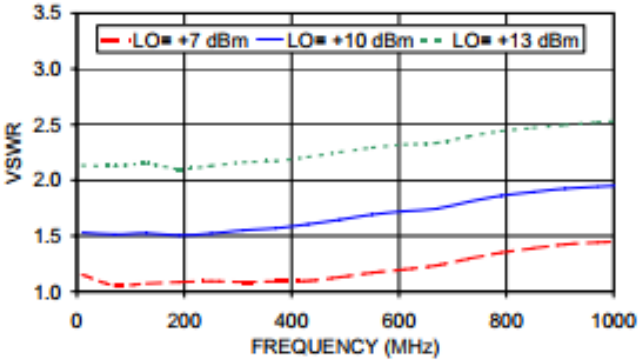
ADEX-R10LH+
L-I ISOLATION



ADEX-R10LH+
RF VSWR



ADEX-R10LH+
LO VSWR



ADEX-R10LH+
IF VSWR