

Surface Mount

High Reliability Mixer

ADEX-R10+

Level 7 (LO Power +7 dBm) 10 to 1000 MHz



Generic photo used for illustration purposes only
CASE STYLE: CD542

Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	50mW
IF Current	40mA

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

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.
- flat conversion loss, ±0.2 dB typ. over entire band
- good VSWR, 2:1 typ. for LO, 1.3:1 typ. for RF, 1.2:1 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

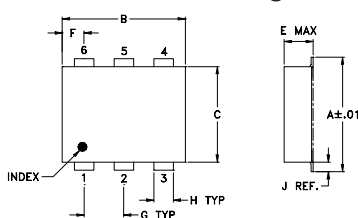
- cellular

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

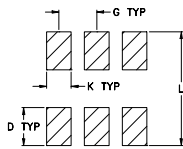
Available Tape and Reel at no extra cost

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

Outline Drawing



PCB Land Pattern

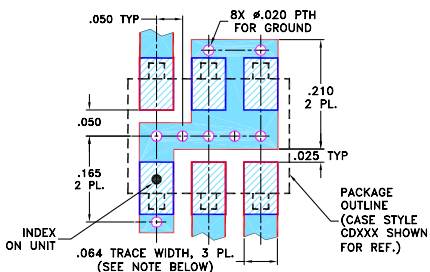


Suggested Layout, Tolerance to be within ±.002

Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.272	.310	.220	.100	.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-03 Suggested PCB Layout (PL-052)



- 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)		CONVERSION LOSS (dB)				LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)			IP3 at center band (dBm)						
LO/RF	IF	Mid-Band		Total Range	L	M	U	L	M	U								
f_L - f_U		\bar{X}	σ	Max.	Max.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ.						
10-1000	DC-800	6.8	0.10	7.8	8.3	70	55	60	40	47	37	40	26	33	20	26	13	16

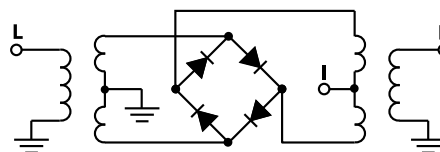
1 dB COMP.: +1 dBm typ.

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 [2 f_L to $f_U/2$]

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 +7dBm	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm
10.10	40.10	6.25	64.76	56.08	1.29	2.06
70.10	100.10	6.59	67.01	40.99	1.39	1.75
130.10	160.10	6.64	67.47	36.34	1.33	1.84
190.10	220.10	6.53	71.13	34.52	1.37	1.78
250.10	280.10	6.67	76.47	33.57	1.38	1.80
310.10	340.10	6.60	65.84	32.17	1.37	1.86
370.10	400.10	6.59	60.70	31.37	1.40	1.87
430.10	460.10	6.55	54.79	29.87	1.39	1.91
490.10	520.10	6.57	53.46	29.02	1.38	1.98
550.10	580.10	6.65	53.03	27.88	1.37	2.01
610.10	640.10	6.58	50.93	26.59	1.34	2.06
670.10	700.10	6.50	47.52	25.33	1.36	2.11
730.10	760.10	6.67	45.16	24.43	1.35	2.15
790.10	820.10	6.74	44.18	23.85	1.31	2.26
850.10	880.10	6.85	45.23	23.02	1.28	2.29
910.10	940.10	6.87	47.66	22.46	1.19	2.32
970.10	1000.10	6.48	50.13	21.53	1.10	2.35
1030.10	1060.10	6.27	55.18	19.99	1.02	2.32
1090.10	1120.10	6.14	53.76	18.95	1.15	2.43
1150.10	1180.10	6.10	47.59	18.31	1.26	2.49

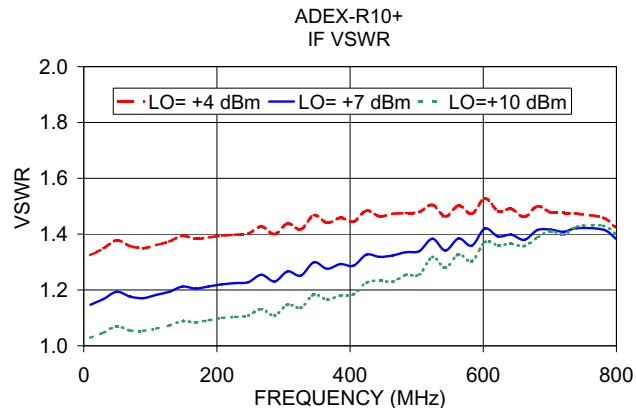
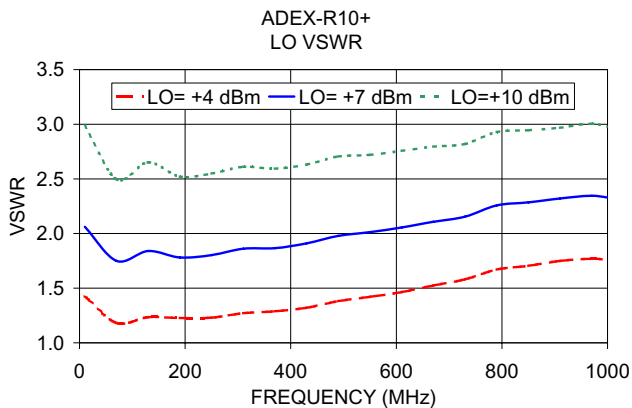
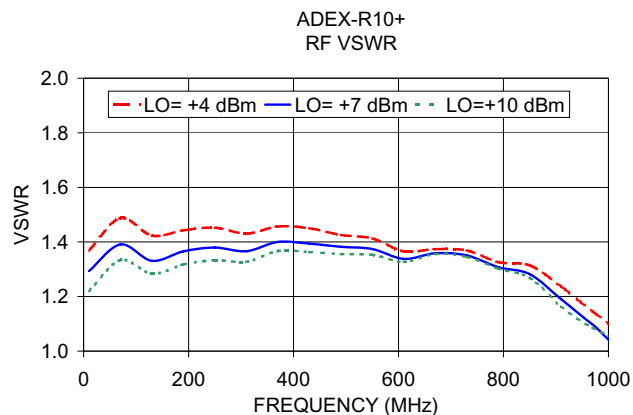
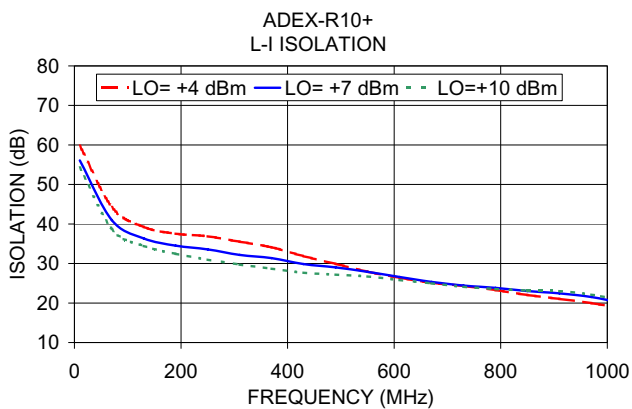
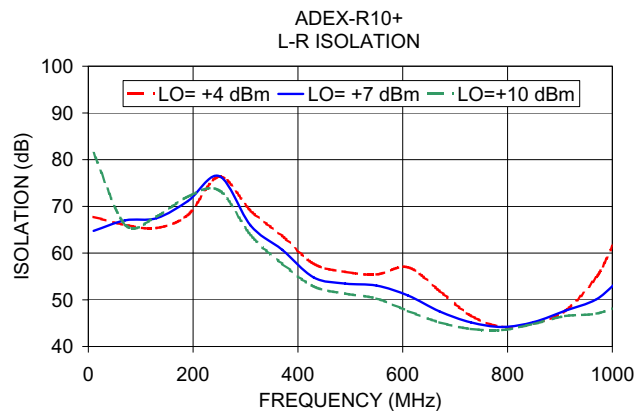
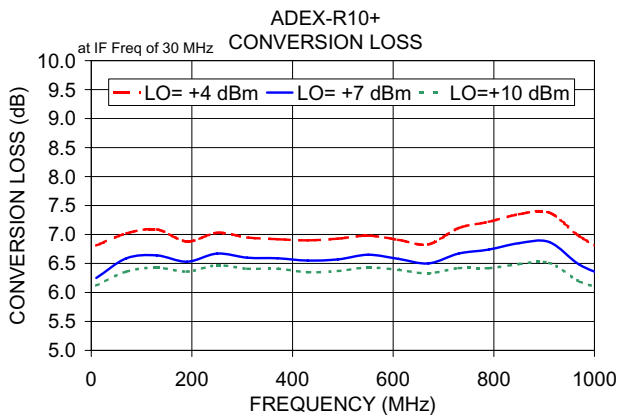
Electrical Schematic



Notes

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp





Notes

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp