

Frequency Mixer

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

ADEX-10+
ADEX-10



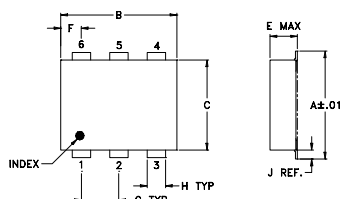
Maximum Ratings

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.	

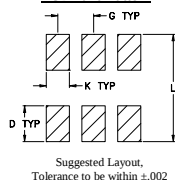
Pin Connections

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

Outline Drawing



PCB Land Pattern

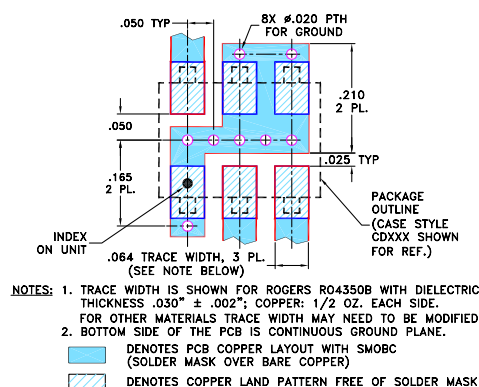


Outline Dimensions (inch)

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)



Features

- excellent L-R isolation, 60 dB typ.
- flat conversion loss, ±0.2dB typ over entire band
- low conversion loss, 6.8 dB typ.
- good VSWR, 2:1 typ. for LO, 1.4:1 typ. for RF, 1.8:1 typ. for IF
- good performance to 1500 MHz
- aqueous washable
- protected by U.S. Patents 6,133,525 and 6,947,717

Applications

- cellular
- PCN

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		L	M	U	L	M	U	L	M	U									
		$\bar{X}$	σ	Max.	Range										Typ.	Min.	Typ.		Min.	Typ.	Min.	Typ.	Min.
		f_L - f_U			Max.																		
10-1000	DC-800	6.8	0.10	7.8 ¹	8.3 ¹	80	55	60	40	47	37	40	26	33	20	24	13	16					

1 dB COMP.: +1 dBm typ.

¹ Conversion loss increases 0.5 dB when IF is above 150 MHz

L = low range [f_L to 10 f_L]

m = mid band [$2f_L$ to $f_U/2$]

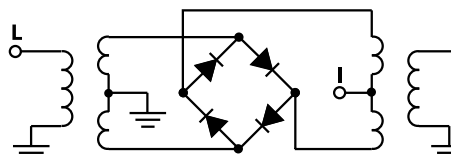
M = mid range [10 f_L to $f_U/2$]

U = upper range [$f_U/2$ to f_U]

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
10.00	40.00	6.86	80.91	62.86	1.43	1.59
25.00	55.00	6.73	80.18	55.33	1.43	1.62
40.00	70.00	6.78	78.88	51.04	1.41	1.56
55.00	85.00	6.77	77.53	47.55	1.40	1.55
70.00	100.00	6.72	77.00	45.78	1.41	1.61
85.00	115.00	6.74	75.52	44.15	1.40	1.62
100.00	130.00	6.76	75.63	42.50	1.39	1.61
200.00	230.00	6.72	76.11	36.93	1.36	1.61
300.00	330.00	6.69	77.57	34.10	1.35	1.64
400.00	430.00	6.64	62.74	33.06	1.35	1.66
500.00	530.00	6.65	56.43	32.02	1.35	1.72
600.00	630.00	6.71	53.73	30.71	1.34	1.77
700.00	730.00	6.89	50.35	29.89	1.36	1.91
800.00	830.00	6.68	47.01	28.37	1.34	1.83
900.00	930.00	6.59	48.15	26.00	1.23	2.02
1000.00	1030.00	6.66	52.10	23.48	1.11	2.09

Electrical Schematic



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IF/RF MICROWAVE COMPONENTS

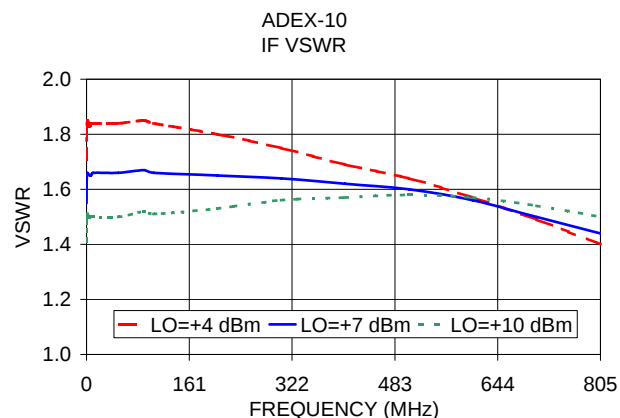
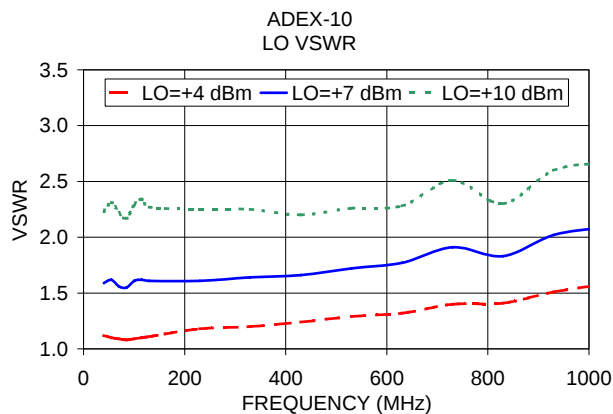
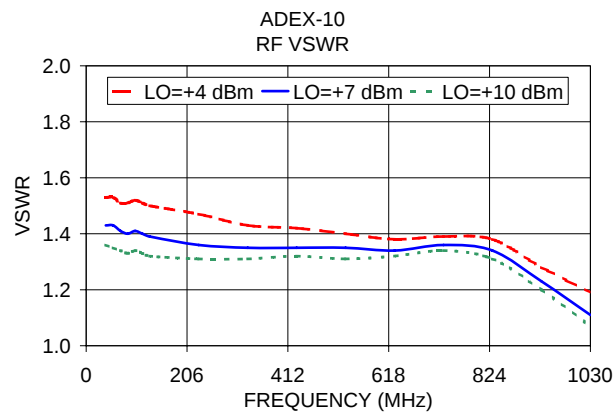
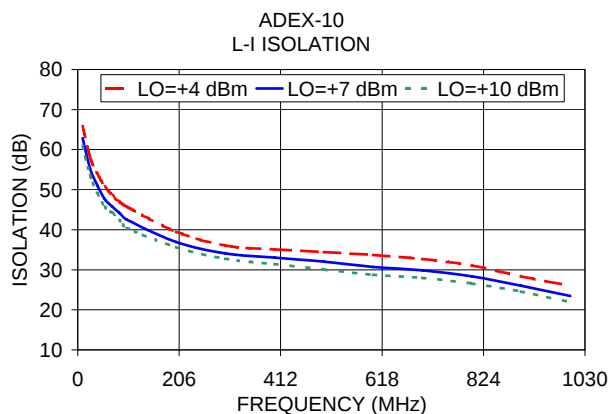
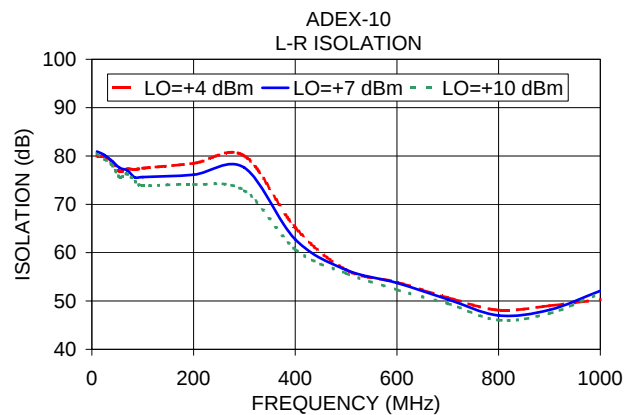
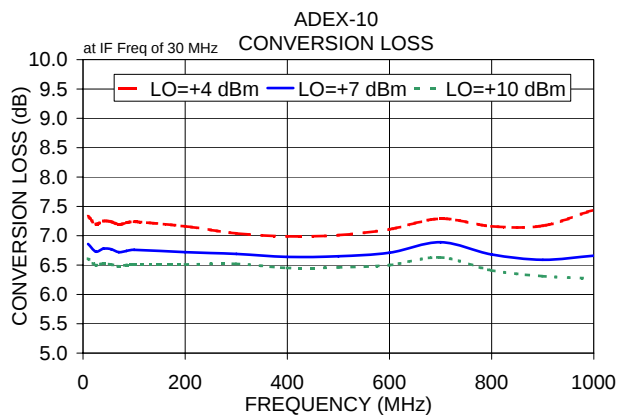
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Performance Charts

ADEX-10+ ADEX-10



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