High IP3

Frequency Mixer

ADE-132FMH+

Level 13 (LO Power +13 dBm) 1050 to 1300 MHz



CASE STYLE: CD636

+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	20 dBm
LO Power	19 dBm

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

Pin Connections

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

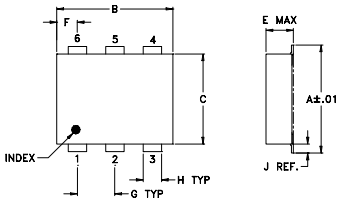
Features

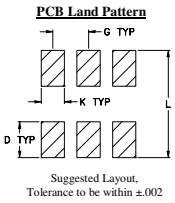
- excellent IP3, 27 dBm typ.
- excellent P1 dB compression, +16 dBm at input
- good L-R isolation, 33 dB typ.
- good L-I isolation, 34 dB typ.
- aqueous washable
- patent pending

Applications

- GPS
- amateur radio

Outline Drawing



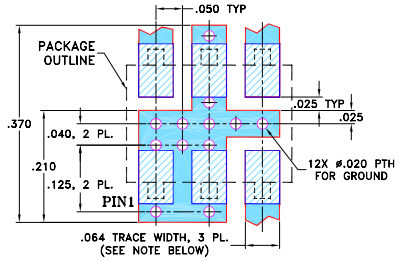


Outline Dimensions (inch / mm)

A	B	C	D	E	F	G
.272	.310	.220	.100	.162	.055	.100
6.91	7.87	5.59	2.54	4.11	1.40	2.54

H	J	K	L	wt
.030	.026	.065	.300	grams
0.76	0.66	1.65	7.62	0.25

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

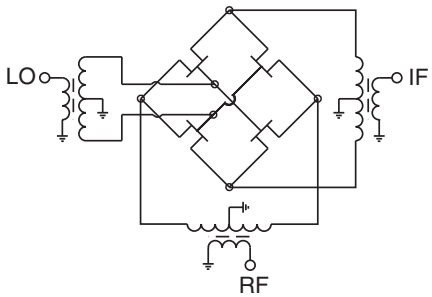
Electrical Specifications at 25°C

Parameter	Min.	Typ.	Max.	Unit
Frequency Range, RF	1050	—	1300	MHz
Frequency Range, LO	1080	—	1330	MHz
Frequency Range, IF	10	—	210	MHz
Conversion Loss	—	6.9	8.5	dB
LO to RF Isolation	24	33	—	dB
LO to IF Isolation	17	34	—	dB
IP3	—	27	—	dBm
RF Input Power at 1 dB Compression	—	+16	—	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
1050.10	1080.10	6.78	35.26	37.50	1.77	3.71	25.20
1060.10	1090.10	6.76	34.73	37.51	1.80	3.73	25.64
1070.10	1100.10	6.80	34.43	37.71	1.83	3.76	26.14
1080.10	1110.10	6.90	34.52	37.73	1.86	3.78	26.59
1090.10	1120.10	6.95	34.74	38.03	1.88	3.84	26.86
1100.10	1130.10	6.91	34.60	38.32	1.89	3.87	27.28
1170.10	1200.10	7.11	33.95	39.59	1.85	4.19	29.41
1180.10	1210.10	7.10	34.18	39.83	1.84	4.26	29.25
1190.10	1220.10	7.08	34.04	40.07	1.80	4.34	29.26
1200.10	1230.10	7.04	34.20	39.76	1.76	4.41	29.99
1210.10	1240.10	7.00	34.44	39.95	1.72	4.49	30.37
1220.10	1250.10	6.95	34.88	39.76	1.65	4.56	30.57
1230.10	1260.10	6.92	34.73	39.76	1.61	4.64	31.08
1240.10	1270.10	6.85	34.77	39.58	1.56	4.71	32.13
1250.10	1280.10	6.77	34.86	38.98	1.51	4.78	33.13
1260.10	1290.10	6.69	35.17	38.70	1.46	4.88	33.67
1270.10	1300.10	6.62	35.42	38.18	1.40	5.00	32.06
1280.10	1310.10	6.52	35.19	37.73	1.34	5.08	29.59
1290.10	1320.10	6.42	35.16	37.16	1.28	5.20	27.85
1300.10	1330.10	6.33	35.25	36.49	1.21	5.30	26.64

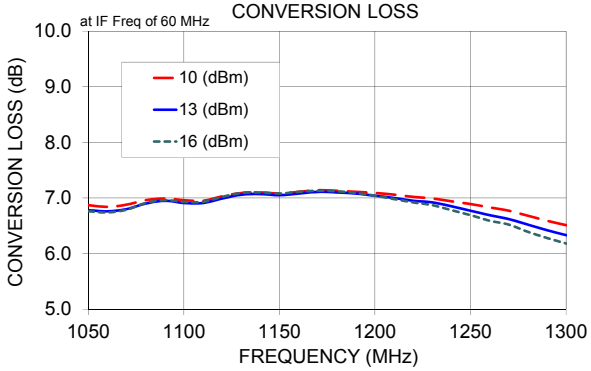
Electrical Schematic



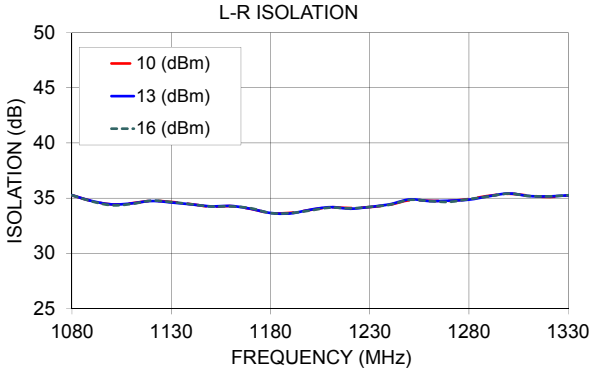
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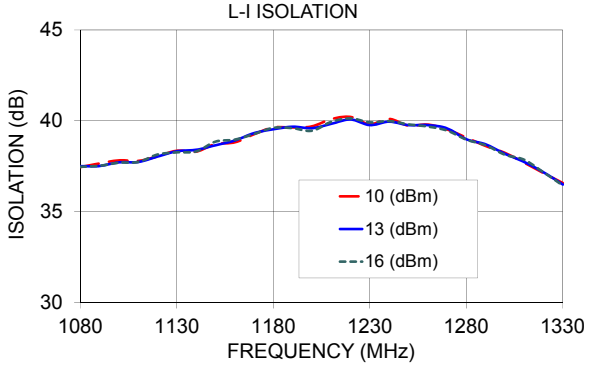
ADE-132FMH+
CONVERSION LOSS
at IF Freq of 60 MHz



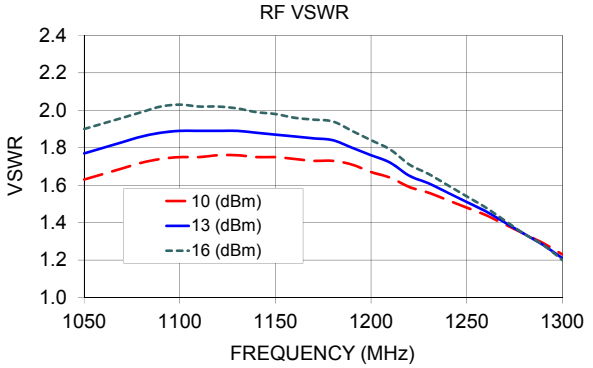
ADE-132FMH+
L-R ISOLATION



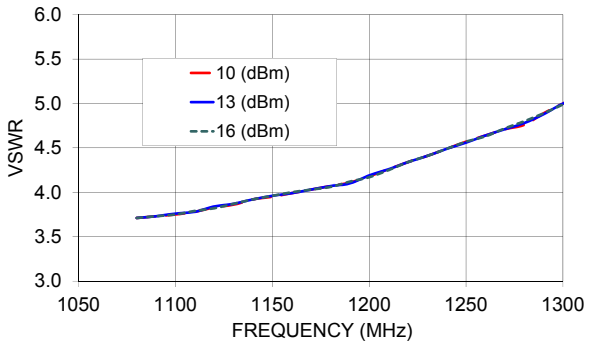
ADE-132FMH+
L-I ISOLATION



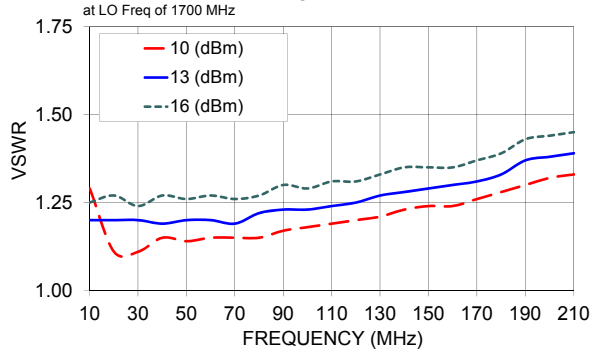
ADE-132FMH+
RF VSWR



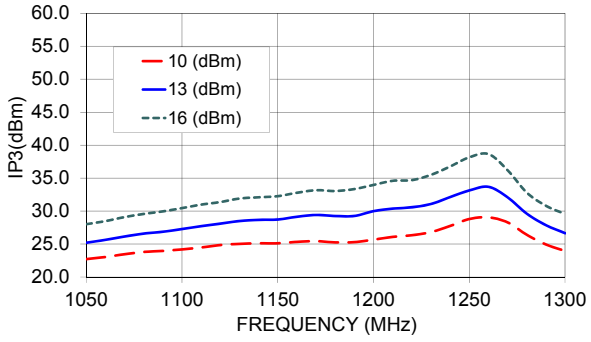
ADE-132FMH+
LO VSWR



ADE-132FMH+
IF VSWR
at LO Freq of 1700 MHz



ADE-132FMH+
IP3



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