

High IP3 Frequency Mixer

MCA-30FMH+ MCA-30FMH

Level 13 LO Power+13 dBm 2960 to 3060 MHz



CASE STYLE: DZ883
PRICE: \$10.95 ea. QTY.(1-9)

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

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

Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
LO & RF Power	16 dBm

Pin Connections

LO	10
RF	5
IF	3
GROUND	1,2,4,6,7,8,9

Features

- excellent IP3, 30 dBm typ.
- good L-R isolation, 35 dB typ.
- excellent 1dB compression, RF>LO power
- industry standard foot print
- LTCC design for excellent temperature stability performance repeatability and small size
- low price
- protected by US Patent 6,959,180

Applications

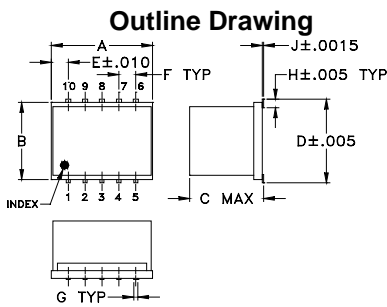
- line of sight links
- satellite communications

Electrical Specifications (T_{AMB}=-55°C to 100°C)

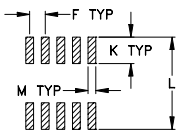
FREQUENCY (MHz)			IP3 (dBm)	RF in at 1 dB compr. (dBm)	CONVERSION LOSS (dB)		LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)	
RF	LO	IF	Typ.	Min.	Typ.	Max.	Typ.	Min.	Typ.	Min.
2960-3060	2780-2880	130-230	30	13	7.4	8.9	35	20	27	15

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
2960.00	2780.00	7.47	36.27	30.78	1.73	2.80	31.48
2970.00	2790.00	7.44	36.32	30.86	1.75	2.64	31.59
2980.00	2800.00	7.38	36.41	30.91	1.77	2.66	31.76
2990.00	2810.00	7.36	36.32	30.97	1.82	2.75	31.82
3000.00	2820.00	7.37	36.23	31.00	1.88	2.80	31.72
3010.00	2830.00	7.39	36.23	31.16	1.94	2.73	31.76
3020.00	2840.00	7.42	36.35	31.34	1.97	2.57	31.94
3030.00	2850.00	7.46	36.54	31.54	2.00	2.40	32.25
3040.00	2860.00	7.47	36.62	31.69	2.02	2.29	32.56
3050.00	2870.00	7.47	36.76	31.83	2.03	2.32	32.86
3060.00	2880.00	7.47	37.07	31.90	2.05	2.48	33.20



PCB Land Pattern

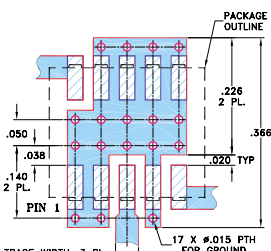


Suggested Layout.
Tolerance to be within ±.002

Outline Dimensions (inch/mm)

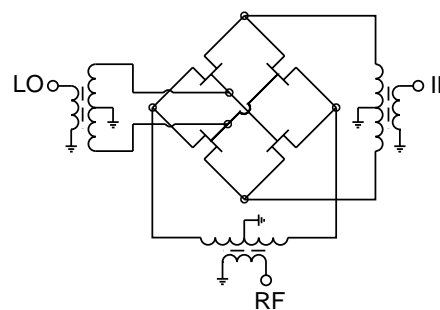
A	B	C	D	E	F	G	
.30	.250	.190	.266	.050	.050	.012	
7.62	6.35	4.83	6.76	1.27	1.27	0.30	
H	J	K	L	M		wt	
.029	.004	.085	.296	.030		grams	
0.74	0.10	2.16	7.52	0.76		0.5	

Demo Board MCL P/N: TB-144 Suggested PCB Layout (PL-045)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .0015"; 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



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RF/IF MICROWAVE COMPONENTS

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Performance Charts

