

Ceramic

Frequency Mixer WIDE BAND

MCA-35MH

Level 13 (LO Power +13 dBm) 500 to 3500 MHz

Features

- wide bandwidth, 500 to 3500 MHz
- excellent isolation, 30 dB typ. (1800-2500 MHz)
- good matching 2:1 VSWR (over 1800-2800 MHz)
- small size 0.25"x0.3"x0.2"
- triple balanced mixer

Applications

- cellular
- PCN
- PDC
- DECT
- PHS



BLUE CELL™

CASE STYLE: DZ883
PRICE: \$7.95 ea. QTY (10-49)
(Patent pending)

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

MODEL NO.	FREQUENCY (MHz)		CONVERSION LOSS (dB)			LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3@ center band Typ. (dBm)	E FACTOR
	LO/RF f _L -f _U	IF	\bar{x}	σ	Max.	Typ.	Min.	Typ.	Min.		
MCA-35MH	500-3500	10-1500	6.9	0.1	8.7						
	500-800	10-300	6.3	0.1	7.7	18	11	29	23	19	0.6
	800-1000	10-200	6.5	0.1	7.7	24	17	28	20	22	0.9
	1000-1800	10-800	6.6	0.1	8.7	29	20	28	20	20	0.7
	1800-2000	10-200	6.3	0.1	7.7	32	25	29	23	19	0.6
	1800-2500	10-700	5.8	0.1	7.9	32	22	27	20	19	0.6
	2000-3500	10-1500	6.5	0.1	8.7	29	17	23	15	19	0.6

1dB Compr.: +9 dBm typ.
E = (IP3(dBm) - LO Power(dBm)) / 10

* see individual band specs.

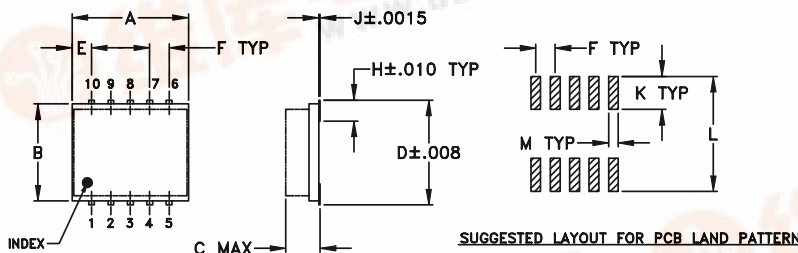
Pin Connections

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

Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power	200mW
IF Current	40mA

Outline Drawing

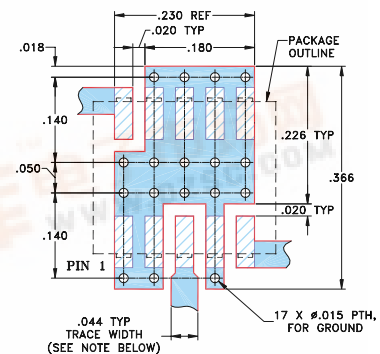


TOLERANCES
2 PL DECIMALS ±.01
3 PL DECIMALS ±.005
UNLESS OTHERWISE SPECIFIED

Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.30	.250	.190	.274	.050	.050	.012
7.62	6.35	4.83	6.96	1.27	1.27	0.30
H	J	K	L	M	wt	
.057	.004	.085	.296	.030	grams	
1.45	0.10	2.16	7.52	0.76	0.50	

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



NOTE: TRACE WIDTH IS SHOWN FOR ROGERS RO4350 WITH DIELECTRIC THICKNESS 0.020" ± 0.0015", COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.

- DENOTES PCB COPPER LAYOUT
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK



Typical Performance Data at 25°C

Frequency		Conversion Loss (dB) LO +13 dBm	Isolation L-R (dB) LO +13 dBm	Isolation L-I (dB) LO +13 dBm	VSWR LO port (:1) LO +13 dBm	VSWR RF port (:1) LO +13 dBm
RF MHz	LO MHz					
460.00	490.00	6.07	14.89	31.56	1.44	1.65
820.00	850.00	6.55	22.74	28.78	1.11	2.86
1000.00	1030.00	6.52	27.75	27.75	1.27	3.40
1400.00	1430.00	6.99	32.26	26.14	1.75	2.21
1800.00	1830.00	6.07	32.12	30.09	1.57	1.92
1992.00	2022.00	5.92	33.68	28.32	1.54	1.70
2097.00	2127.00	5.70	32.52	28.29	1.38	1.55
2202.00	2232.00	5.82	31.97	28.76	1.34	1.54
2395.00	2425.00	6.15	30.82	26.29	1.35	1.67
2500.00	2530.00	5.95	30.44	26.01	1.37	1.87
2600.00	2630.00	6.13	31.78	26.48	1.30	2.20
2700.00	2730.00	6.47	30.50	26.37	1.28	2.54
2800.00	2830.00	6.75	30.68	25.93	1.34	2.82
2900.00	2930.00	6.94	30.99	25.14	1.49	3.05
3000.00	3030.00	6.74	28.34	24.21	1.62	3.53
3100.00	3130.00	6.80	29.07	23.03	1.83	3.88
3200.00	3230.00	6.80	28.43	21.62	2.01	3.85
3300.00	3330.00	6.81	27.62	22.07	2.12	3.63
3400.00	3430.00	6.53	27.00	21.28	2.19	3.23
3500.00	3530.00	6.35	24.71	20.83	2.20	2.77

Performance Charts

