

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<sub>AMB</sub> = -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 <sub>L</sub> -f <sub>U</sub>	IF	$\bar{x}$	$\sigma$	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.

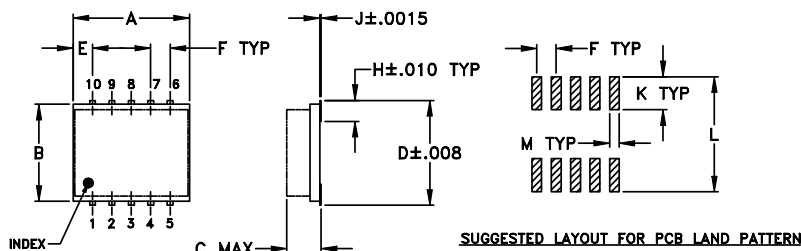
### Pin Connections

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

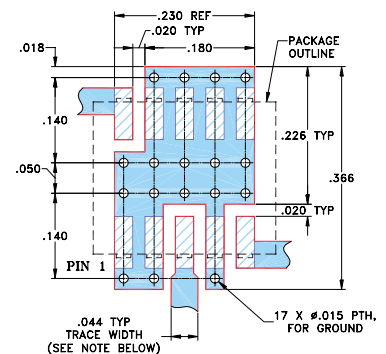


**TOLERANCES**  
2 PL DECIMALS ±.01  
3 PL DECIMALS ±.005  
UNLESS OTHERWISE SPECIFIED

### 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



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MCA-35MH  
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## Typical Performance Data at 25°C

Frequency		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR LO port (:1)	VSWR RF port (:1)
RF MHz	LO MHz	LO +13 dBm	LO +13 dBm	LO +13 dBm	LO +13 dBm	LO +13 dBm
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

