

# Ceramic Frequency Mixer WIDE BAND

## MCA-35H+ MCA-35H

Level 17 (LO Power+17 dBm) 500 to 3500 MHz



### Maximum Ratings

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

### Pin Connections

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

### Features

- wide bandwidth, 500 to 3500 MHz
- excellent isolation, 30 dB typ. (1800-2500 MHz)
- good matching 2:1 VSWR typ. (over 1800-2800 MHz)
- small size 0.25"x0.3"x0.2"
- aqueous washable
- triple balanced mixer
- protected by US Patent 6,917,796

CASE STYLE: DZ883  
PRICE: \$8.95 ea. QTY.(10-49)

**+ 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.

### Applications

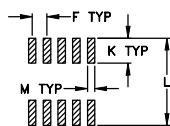
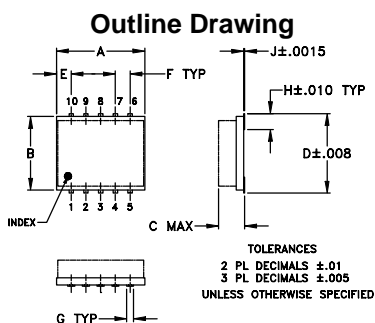
- cellular
- PCN
- PDC
- DECT
- PHS

### Electrical Specifications (T<sub>AMB</sub>=-55°C to 100°C)

FREQUENCY (MHz)		CONVERSION LOSS (dB)			LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3 at center band (dBm)
LO/RF f <sub>c</sub> -f <sub>u</sub>	IF	$\bar{X}$	$\sigma$	Max.	Typ.	Min.	Typ.	Min.	Typ.
500-3500	10-1500	6.9	0.1	8.9					
500-800	10-300	6.3	0.1	7.7	18	11	32	20	26
800-1000	10-200	6.4	0.1	7.6	24	17	27	20	26
1000-1800	10-800	6.6	0.1	8.6	29	20	26	20	24
1800-2000	10-200	6.0	0.1	7.6	30	22	26	20	24
1800-2500	10-700	5.8	0.1	7.6	30	22	27	19	22
2000-3500	10-1500	6.5	0.1	8.6	29	17	22	14	23

1 dB COMPR. +14 dBm typ.

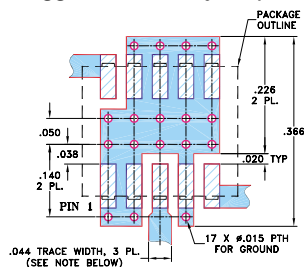
• see individual band specs



### 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	0.5	

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

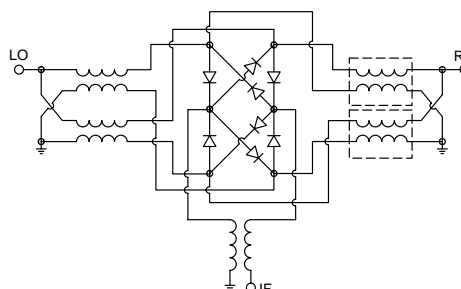


- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.  
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)  
■ DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

### 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
501.00	531.00	6.02	16.19	33.30	1.57	1.67
601.00	631.00	5.93	17.94	31.90	1.39	1.93
701.00	731.00	5.87	20.08	31.13	1.24	2.33
801.00	831.00	6.50	22.69	29.81	1.25	3.04
901.00	931.00	6.28	26.16	29.31	1.26	3.47
1001.00	1031.00	6.48	29.64	28.29	1.31	4.25
1301.00	1331.00	6.62	30.73	26.48	1.45	2.63
1501.00	1531.00	7.32	27.40	26.27	1.50	1.85
1801.00	1831.00	6.05	30.02	30.97	1.53	1.91
2000.00	2031.00	5.88	32.15	29.15	1.69	1.59
2101.00	2131.00	5.88	31.94	29.21	1.63	1.44
2301.00	2331.00	5.99	30.11	27.83	1.82	1.61
2501.00	2531.00	6.00	29.06	26.52	1.80	2.15
2701.00	2731.00	6.73	30.39	25.95	1.64	2.70
2901.00	2931.00	6.88	30.46	24.83	1.79	3.11
3100.00	3130.00	6.88	31.18	25.70	2.13	4.03
3200.00	3230.00	6.61	30.89	25.41	2.09	3.89
3300.00	3330.00	6.50	31.82	27.53	1.95	3.47
3400.00	3430.00	6.27	31.14	26.35	1.78	3.13
3500.00	3530.00	6.05	28.30	27.50	1.75	2.70

### Electrical Schematic



# MCA-35H+ MCA-35H

## Performance Charts

