

Ceramic

# Frequency Mixer WIDE BAND

New! **MCA-50H**

Level 17 (LO Power +17 dBm) 1000 to 5000 MHz

### Features

- wide bandwidth, 1000 to 5000 MHz
- good L-R isolation, 25 dB typ.; excellent L-I isolation, 30 dB typ.
- small size 0.25"x0.3"x0.2"
- triple balanced mixer

### Applications

- PCN
- satellite
- line of sight links



**BLUE CELL™**

CASE STYLE: DZ883  
PRICE: \$ 9.95 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-50H	1000-5000	10-1500	7.3	0.2	10.2	•		•		22	0.5
	1000-1400	10-400	6.8	0.1	8.5	25	12	3.2	20		
	1400-2000	10-600	6.6	0.1	7.7	25	20	32	20		
	2000-2700	10-600	7.8	0.2	9.9	25	15	25	18		
	2700-4500	10-1500	7.8	0.1	8.8	35	20	30	18		
	4500-5000	50-500	8.0	0.2	10.2	30	18	35	18	21	0.4

1dB Compr.: +14 dBm typ.  
E = (IP3(dBm) - LO Power(dBm))/10

\* see individual band specs.

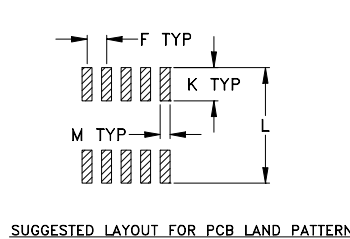
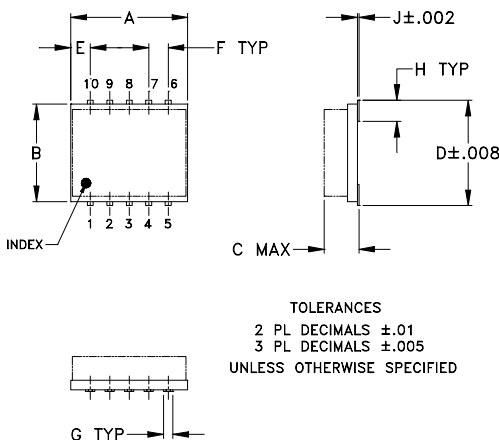
### Pin Connections

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

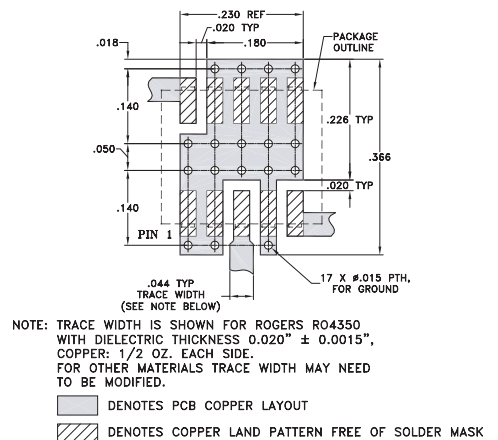
### Maximum Ratings

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

### Outline Drawing



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



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	L	M	wt.
.30	.250	.180	.274	.050	.050	.024	.05	.004	.085	.296	.030	grams
7.62	6.35	4.57	6.96	1.27	1.27	0.61	1.27	0.10	2.16	7.52	0.76	0.5



Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010

INTERNET <http://www.minicircuits.com>

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

ISO 9001 CERTIFIED

REV. C  
M85169  
ED-9595C/2  
MCA-35H  
DJ/TD/CP  
030206  
Page 1 of 2

## 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 +17 dBm	LO +17 dBm	LO +17 dBm	LO +17 dBm	LO +17 dBm
1000.10	1030.10	6.23	18.37	31.99	1.46	2.19
1250.10	1280.10	5.70	28.23	31.40	1.32	2.66
1500.10	1530.10	5.54	46.63	30.38	1.26	2.61
1750.10	1780.10	5.63	34.42	28.99	1.26	2.14
2000.00	2030.00	6.30	28.31	27.43	1.37	2.48
2250.00	2280.00	7.82	24.16	26.03	1.63	1.74
2500.00	2530.00	7.40	22.63	27.98	1.40	1.76
2750.00	2780.00	6.63	26.73	30.16	1.52	1.92
3000.00	3030.00	6.09	30.82	28.77	1.85	1.51
3250.00	3280.00	5.74	36.36	30.34	1.88	1.17
3500.00	3530.00	5.94	47.63	31.95	2.03	1.31
3750.00	3780.00	6.13	37.32	32.96	2.21	1.74
4000.00	4030.00	6.59	32.92	36.46	2.35	2.01
4250.00	4280.00	7.32	28.31	40.32	2.52	2.25
4400.00	4430.00	7.43	26.83	41.25	2.23	2.32
4500.00	4530.00	7.43	25.84	39.65	2.20	2.29
4600.00	4630.00	7.50	26.53	35.42	2.25	2.31
4750.00	4780.00	7.97	25.29	39.98	2.18	2.44
4900.00	4930.00	8.25	26.41	39.88	2.17	2.83
5000.00	5030.00	8.23	28.64	35.47	2.02	2.78

## Performance Charts

