

Ceramic

# Frequency Mixer WIDE BAND

New!  
MCA1-42

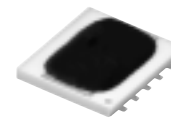
Level 7 (LO Power +7 dBm) 1000 to 4200 MHz

## Features

- low conversion loss, 6.1 dB typ.
- excellent L-R isolation, 35 dB typ.
- wide bandwidth, 1000 to 4200 MHz
- double balanced mixer
- low cost
- low profile, 0.08"

## Applications

- cellular
- PCN
- fixed satellite
- WCDMA
- defense radar
- defense communications



BLUE CELL™

CASE STYLE: DZ885  
PRICE: \$ 6.95 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.		
MCA1-42	1000-4200	DC-1500	6.1	0.1	8.9	35	23	20	12	10	0.3

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

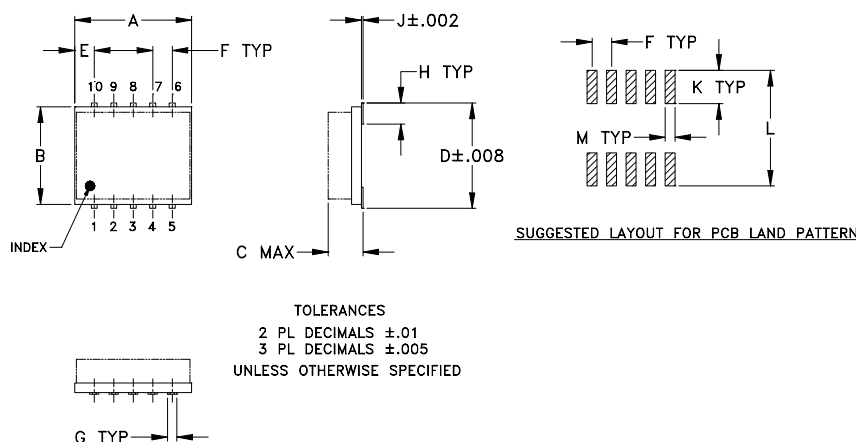
## Pin Connections

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

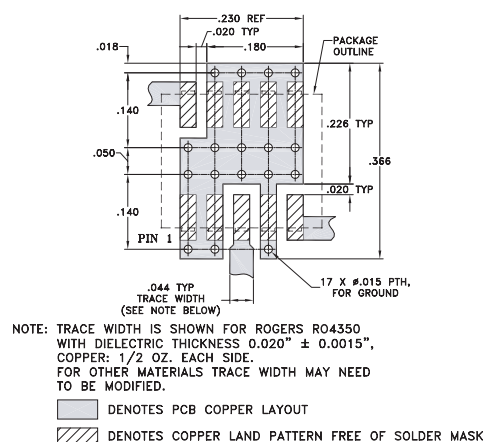
## Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power	50mW
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	.080	.274	.050	.050	.024	.05	.004	.085	.296	.030	grams
7.62	6.35	2.03	6.96	1.27	1.27	0.61	1.27	0.10	2.16	7.52	0.76	0.3



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REV. D  
M85169  
ED-10107/2  
MCA1-42  
DJ/TD/CP  
030203  
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 +7 dBm	LO +7 dBm	LO +7 dBm	LO +7 dBm	LO +7 dBm
1000.00	1030.00	5.93	36.80	22.41	6.42	2.19
1500.00	1530.00	6.01	35.22	21.88	4.12	3.21
2000.00	2030.00	6.41	37.39	22.79	2.22	3.02
2500.00	2530.00	5.91	38.13	19.07	9.76	2.05
3000.00	3030.00	5.44	39.35	21.73	2.39	2.00
3500.00	3530.00	6.09	30.96	24.75	2.58	2.05
4000.00	4030.00	7.25	31.34	21.51	3.55	3.39
4200.00	4230.00	7.49	31.37	17.80	5.22	3.74

## Performance Charts

