

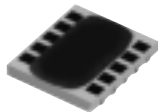
Ceramic

# Frequency Mixer WIDE BAND

New!

MCA1-42MH

Level 13 (LO Power +13 dBm) 1000 to 4200 MHz



BLUE CELL™  
CASE STYLE: DZ885  
PRICE: \$ 7.95 ea. QTY.: (10-49)  
(Patent pending)

### Features

- low conversion loss, 6.2 dB typ.
- excellent L-R isolation, 35 dB typ.
- wide bandwidth, 1000 to 4200 MHz
- double balanced mixer
- low cost
- low profile, 0.07"

### Applications

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

### 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.		
MCA1-42MH	1000-4200	DC-1500	6.2	0.1	8.9	35	20	20	10	16	0.3

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

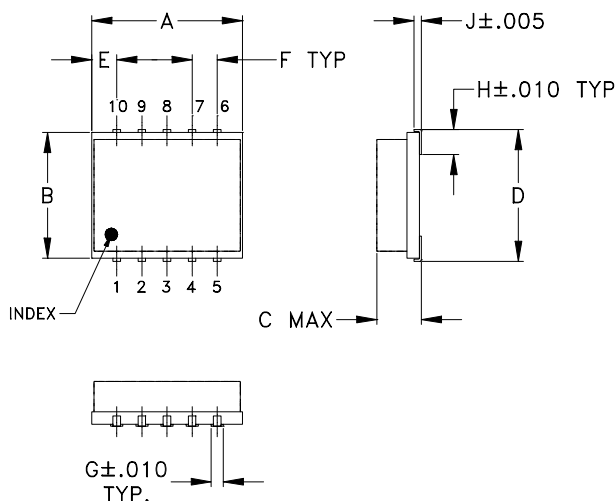
### Pin Connections

LO	10
RF	5
IF	3
GROUND	1,2,4,6,7,8,9
DEMO BOARD	TB-144

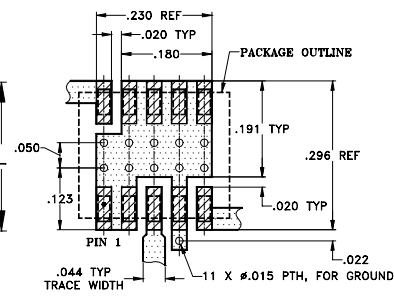
### Maximum Ratings

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

### Outline Drawing



### Suggested PCB Layout (PL-045)



NOTE: TRACE WIDTH IS SHOWN FOR ROGERS R04350 WITH DIELECTRIC THICKNESS 0.020" ± 0.0015". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.

- ▨ DENOTES LAND PATTERN
- ▤ DENOTES PCB LAYOUT

### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	L	M	wt.
.30	.250	.065	.262	.050	.050	.024	.050	.015	.085	.296	.030	grams
7.62	6.35	1.65	6.65	1.27	1.27	0.61	1.27	0.38	2.16	7.52	0.76	0.3



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REV. B  
M81433  
ED-10107/13  
MCA1-42MH  
DJ/TD/CP  
020515  
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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
1000.1	1030.1	6.41	38.13	22.25	5.29	2.53
1500.1	1530.1	5.46	31.57	22.23	2.67	3.23
1750.1	1780.1	5.77	32.48	20.81	2.33	2.57
2000.1	2030.1	5.96	33.34	21.32	3.21	2.78
2500.1	2530.1	5.99	32.94	21.44	4.29	2.45
3000.1	3030.1	5.22	32.62	21.48	4.18	2.24
3500.0	3530.1	5.84	30.35	23.79	2.35	2.50
4000.1	4030.1	7.32	33.89	20.18	4.21	4.57
4200.1	4230.1	8.14	37.60	17.38	5.64	4.90

## Performance Charts

