

Ceramic

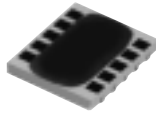
Frequency Mixer

WIDE BAND

New!

MCA1-42

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



BLUE CELL™
CASE STYLE: DZ885
PRICE: \$ 6.95 ea. QTY.: (10-49)
(Patent pending)

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, 0.07"

Applications

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

Electrical Specifications ($T_{AMB} = -55^{\circ}\text{C}$ 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 $f_L - f_U$	IF	$\bar{x}$	σ	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= $[IP3(\text{dBm}) - LO \text{ Power}(\text{dBm})]/10$

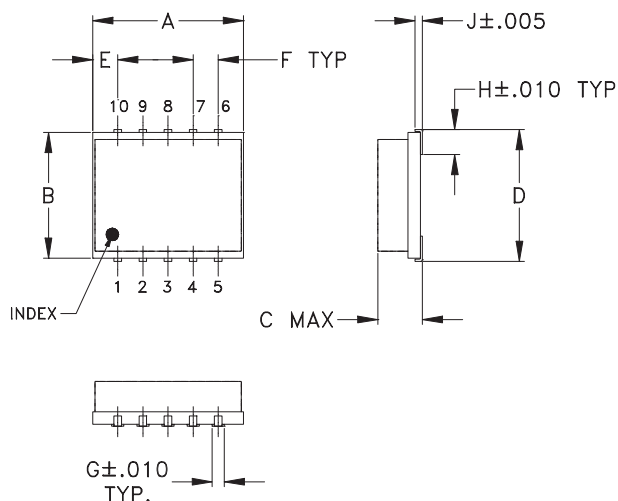
Pin Connections

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

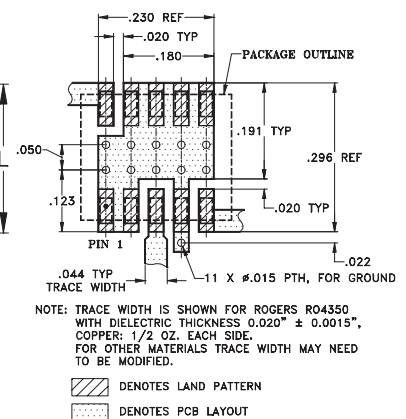
Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power	50mW
IF Current	40mA

Outline Drawing



Suggested PCB Layout (PL-045)



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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ISO 9001 CERTIFIED

REV. B
M81433
ED-10107/2
MCA1-42
DJJ/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 +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

