

Ceramic

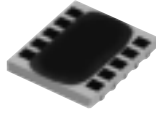
Frequency Mixer

WIDE BAND

New!

MCA1-24

Level 7 (LO Power +7 dBm) 300 to 2400 MHz



BLUE CELL™
CASE STYLE: DZ885
PRICE: \$ 5.95 ea. QTY.: (10-49)
(Patent pending)

Features

- low conversion loss, 6.1 dB typ.
- excellent L-R isolation, 40 dB typ.
- wide bandwidth, 300 to 2400 MHz
- double balanced mixer
- low cost
- low profile, 0.07"

Applications

- cellular
- UHF TV
- PCN
- WCDMA
- defense & weather 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.		
MCA1-24	300-2400	DC-700	6.1	0.1	8.9	40	25	25	15	10	0.3

1dB Compr.: + 1dBm typ.
E = $[IP3(\text{dBm}) - LO \text{ Power}(\text{dBm})]/10$

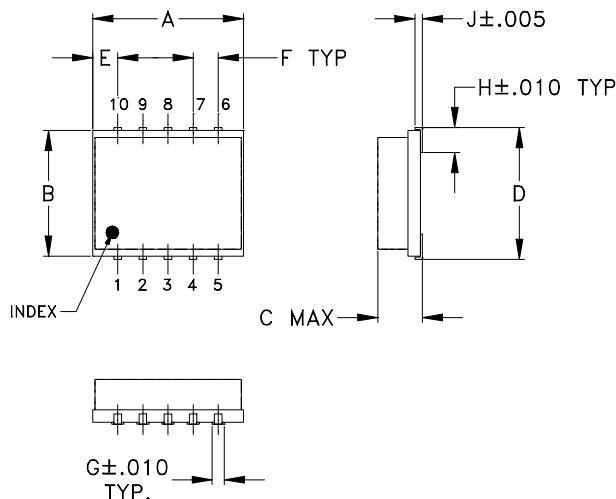
Pin Connections

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

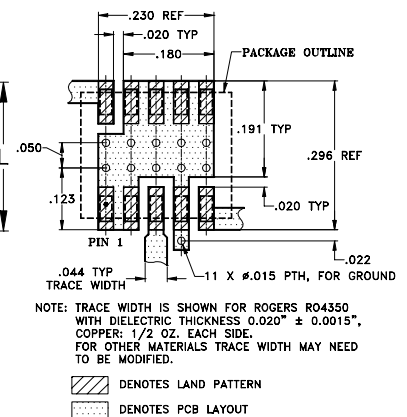
Maximum Ratings

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. A
M81433
ED-9574/6
MCA1-24
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
301.00	331.00	5.65	49.09	22.79	6.94	1.98
401.00	431.00	4.79	42.44	24.50	2.42	1.37
501.00	531.00	6.25	44.11	26.82	1.36	3.58
701.00	731.00	6.44	43.51	26.63	2.12	3.58
901.00	931.00	6.94	42.58	28.29	3.78	4.77
1151.00	1181.00	7.00	43.47	29.90	4.32	4.79
1301.00	1331.00	7.04	41.88	30.02	4.91	3.94
1501.00	1531.00	5.51	39.43	27.85	3.22	1.91
1701.00	1731.00	4.99	36.78	25.41	1.64	1.29
2001.00	2031.00	5.90	33.55	23.65	2.56	2.15
2401.00	2431.00	7.09	36.83	29.81	4.83	3.39

Performance Charts

