

Ceramic

Frequency Mixer WIDE BAND

New!
MCA-50MH
Level 13 (LO Power +13 dBm) 1000 to 5000 MHz


BLUE CELL™
CASE STYLE: DZ883
PRICE: \$ 8.95 ea. QTY.: (10-49)
(Patent pending)

Features

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

Applications

- PCN
- satellite
- line of sight links

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.		
MCA-50MH	1000-5000	10-1500	7.3	0.2	9.9						
	1000-1400	10-400	6.2	0.1	7.8	20	11	32	25	20	0.7
	1400-2000	10-600	6.0	0.1	7.7	34	20	28	20	21	0.8
	2000-2600	10-600	7.8	0.1	9.9	25	18	28	20	21	0.8
	2600-4500	10-1500	6.6	0.1	8.6	39	22	30	20	18	0.5
	4500-5000	50-500	7.3	0.2	8.9	35	22	30	20	21	0.8

1dB Compr.: +9 dBm typ.
 $E = (IP3(\text{dBm}) - LO \text{ Power}(\text{dBm}))/10$

* see individual band specs.

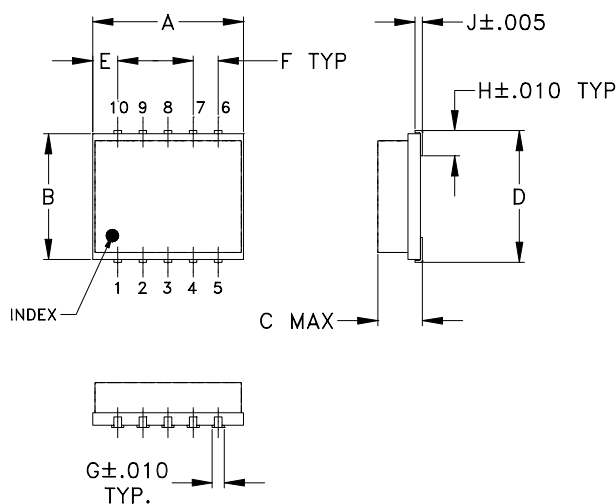
Pin Connections

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

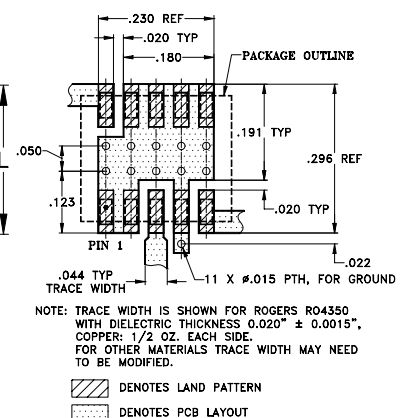
Maximum Ratings

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)



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	L	M	wt.
.30	.250	.180	.262	.050	.050	.024	.050	.015	.085	.296	.030	grams
7.62	6.35	4.57	6.65	1.27	1.27	0.61	1.27	0.38	2.16	7.52	0.76	0.5



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ISO 9001 CERTIFIED

REV. A
M81314
ED-9595B/2
MCA-50MH
DJ/TD/CP
020516
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 +13 dBm	LO +13 dBm	LO +13 dBm	LO +13 dBm	LO +13 dBm
1000.10	1030.10	6.43	16.42	31.37	1.28	2.13
1100.10	1130.10	5.97	18.64	31.89	1.17	2.23
1300.10	1330.10	6.04	25.15	31.58	1.19	2.47
1500.10	1530.10	5.76	34.43	31.25	1.26	2.39
1600.10	1630.10	5.78	39.11	31.37	1.28	2.25
1800.10	1830.10	6.04	39.49	29.65	1.42	2.06
2000.10	2030.10	6.32	28.14	28.64	1.53	2.12
2300.10	2330.10	8.66	23.59	25.91	1.90	1.97
2500.10	2530.10	7.82	24.04	27.43	1.78	2.12
2800.10	2830.10	6.64	29.50	29.38	1.67	1.95
3000.10	3030.10	6.26	33.02	28.73	1.61	1.50
3300.10	3330.10	5.97	41.64	28.07	1.75	1.33
3500.10	3530.10	6.06	44.84	29.22	1.82	1.03
3600.10	3630.10	6.03	56.06	28.90	1.80	1.05
3800.10	3830.10	5.91	40.61	30.53	1.79	1.22
4000.10	4030.10	6.53	35.57	34.07	1.78	1.11
4300.10	4330.10	7.10	39.56	33.74	2.07	1.60
4500.10	4530.10	6.95	40.10	31.97	2.08	2.10
4800.10	4830.10	7.36	29.20	28.90	1.59	2.02
5000.10	5030.10	7.14	32.79	30.33	1.57	1.61

Performance Charts

