

Frequency Mixer

Level 13 (LO Power +13dBm)

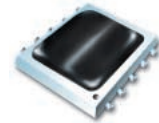
1000 to 4200MHz
MCA1-42MH

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, 0.08"

Applications

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



BLUE CELL™

CASE STYLE: DZ885

PRICE: \$7.95 ea. QTY (10-49)

(Patent pending)

Mixer Electrical Specifications (T_{AMB}=-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 _L -f _U	IF	\bar{x}	σ	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

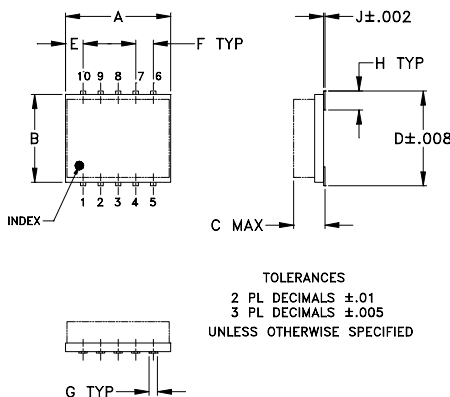
Pin Connections

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

Maximum Ratings

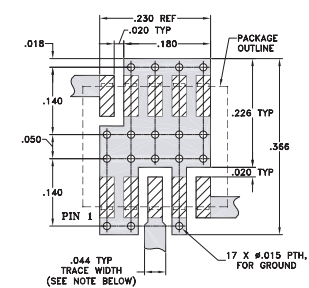
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power	200mW
IF Current	40mA

Outline Drawing



SUGGESTED LAYOUT FOR PCB LAND PATTERN

Demo Board MCL P/N: TB-144 Suggested PCB Layout (PL-045)



□ DENOTES PCB COPPER LAYOUT
▨ DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

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

Typical Performance Data at 25°C

Frequency		Conversion Loss (dB) LO +13 dBm	Isolation L-R (dB) LO +13 dBm	Isolation L-I (dB) LO +13 dBm	VSWR LO port (:1) LO +13 dBm	VSWR RF port (:1) LO +13 dBm
RF MHz	LO MHz					
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

