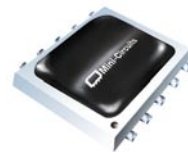


Ceramic

Frequency Mixer WIDE BAND

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

MCA1-42MH+



CASE STYLE: DZ885

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

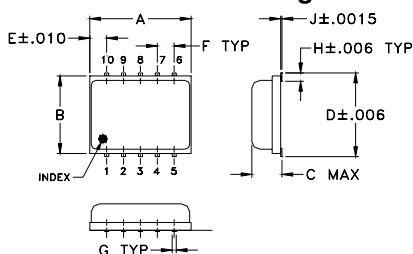
Maximum Ratings

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

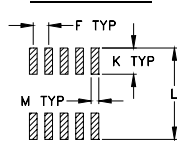
Pin Connections

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

Outline Drawing



PCB Land Pattern



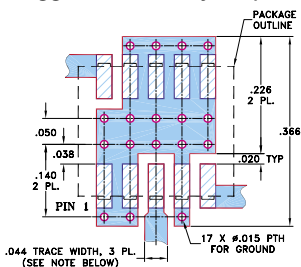
Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inches)

A	B	C	D	E	F	G
.30	.250	.085	.262	.050	.050	.012
7.62	6.35	2.16	6.66	1.27	1.27	0.30
H	J	K	L	M	wt	
.027	.004	.085	.296	.030	grams	
0.69	0.10	2.16	7.52	0.76	0.25	

Demo Board MCL P/N: TB-144

Suggested PCB Layout (PL-045)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
■ DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Features

- wide bandwidth, 1000 to 4200 MHz
- low conversion loss, 6.2 dB typ.
- excellent L-R isolation, 35 dB typ.
- LTCC double balanced mixer
- aqueous washable
- low cost
- low profile, 0.08"
- protected by US Patent 7,027,795

Applications

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

Electrical Specifications (T_{AMB} = -55°C to 100°C)

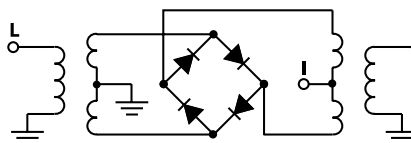
FREQUENCY (MHz)		CONVERSION LOSS (dB)			LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3 at center band (dBm)
LO/RF f _L -f _U	IF	\bar{X}	σ	Max.	Typ.	Min.	Typ.	Min.	
1000-4200	DC-1500	6.2	0.1	8.9	35	20	20	10	16

1 dB COMPR. +9 dBm typ.

Typical Performance Data

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

Electrical Schematic



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