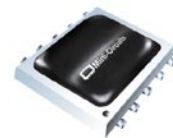


Ceramic

Frequency Mixer WIDE BAND

Level 13 (LO Power+13 dBm) 300 to 2400 MHz

MCA1-24MH+



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

Features

- wide bandwidth, 300 to 2400 MHz
- low conversion loss, 6.1 dB typ.
- excellent L-R isolation, 40 dB typ.
- LTCC double balanced mixer
- aqueous washable
- low cost
- low profile, 0.08"
- protected by US Patent 7,027,795

Applications

- cellular
- PCN
- defense & weather radar
- UHF TV
- WCDMA
- defense communications

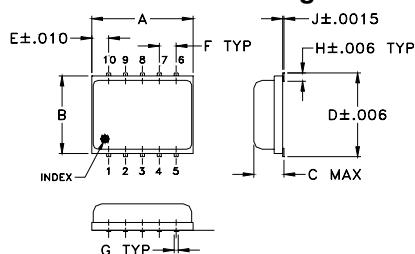
CASE STYLE: DZ885

PRICE: \$6.95 ea. QTY (10-49)

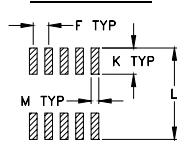
+ RoHS compliant in accordance with EU Directive (2002/95/EC)

The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

Outline Drawing



PCB Land Pattern



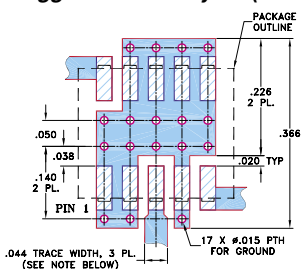
Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch)

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

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

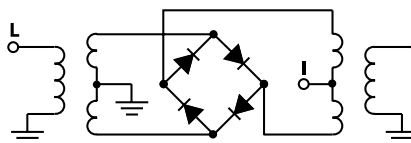
FREQUENCY (MHz)		CONVERSION LOSS (dB)			LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3 at center band (dBm)
LO/RF	IF	\bar{X}	σ	Max.	Typ.	Min.	Typ.	Min.	Typ.
300-2400	DC-700	6.1	0.1	8.9	40	20	25	14	13

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
300.00	330.00	5.82	49.37	21.78	8.01	1.81
400.00	430.00	5.10	42.20	23.99	2.46	1.56
500.00	530.00	6.84	40.15	27.27	1.34	3.96
700.00	730.00	6.58	46.19	27.35	2.12	3.69
1000.00	1030.00	7.41	43.92	24.46	2.74	4.01
1200.00	1230.00	7.45	39.35	31.83	3.82	4.28
1500.00	1530.00	5.74	39.15	28.78	2.66	1.91
1700.00	1730.00	5.13	36.63	25.65	1.79	1.04
2000.00	2030.00	6.17	32.38	21.69	2.44	2.26
2200.00	2230.00	7.25	33.19	20.62	3.62	3.48
2400.00	2430.00	7.16	30.70	25.44	7.44	3.42

Electrical Schematic



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