

Frequency Mixer WIDE BAND

MCA1-42+

Level 7 (LO Power+7 dBm) 1000 to 4200 MHz

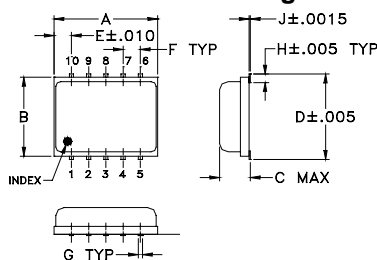
Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power	50 mW
IF Current	40 mA

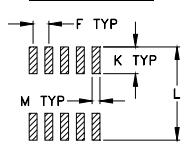
Pin Connections

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

Outline Drawing



PCB Land Pattern

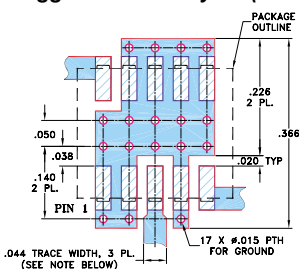


Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.30	.250	.085	.266	.050	.050	.012
7.62	6.35	2.16	6.76	1.27	1.27	0.30
H	J	K	L	M		wt
.029	.004	.085	.296	.030		grams
0.74	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, 6.1 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



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.

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

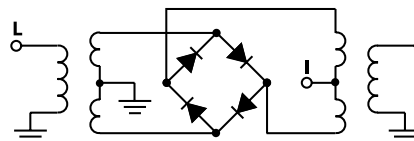
FREQUENCY (MHz)	CONVERSION LOSS (dB)			LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3 at center band (dBm)	
	LO/RF f _c -f _u	IF	Max.	Typ.	Min.	Typ.	Min.		
1000-4200	DC-1500	6.1	0.1	8.9	35	23	20	12	10

1 dB COMPR. +1 dBm typ.

Typical Performance Data

Frequency (MHz)	Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
1000.00	1030.00	5.93	36.80	2.19	6.42
1500.00	1530.00	6.01	35.22	3.21	4.12
2000.00	2030.00	6.41	37.39	22.79	3.02
2500.00	2530.00	5.91	38.13	19.07	2.05
3000.00	3030.00	5.44	39.35	21.73	2.00
3500.00	3530.00	6.09	30.96	24.75	2.05
4000.00	4030.00	7.25	31.34	21.51	3.39
4200.00	4230.00	7.49	31.37	17.80	3.74

Electrical Schematic



Performance Charts

MCA1-42+

