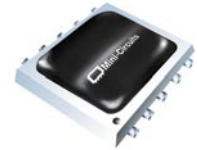


Ceramic

Frequency Mixer WIDE BAND

MCA1-42LH+

Level 10 (LO Power+10 dBm) 1000 to 4200 MHz



CASE STYLE: DZ885
PRICE: \$7.45 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.

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

Features

- wide bandwidth, 1000 to 4200 MHz
- low conversion loss, 6.0 dB typ.
- excellent L-R isolation, 38 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)

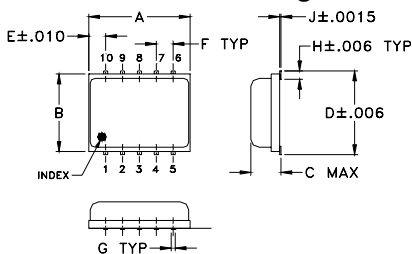
FREQUENCY (MHz)		CONVERSION LOSS (dB)			LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3 at center band (dBm)
LO/RF	IF	\bar{X}	σ	Max.	Typ.	Min.	Typ.	Min.	Typ.
1000-4200	DC-1500	6.0	0.1	8.9	38	23	20	11	12

1 dB COMPR. +5 dBm typ.

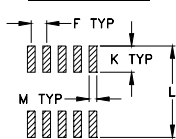
Typical Performance Data

Frequency (MHz)		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR LO Port (:1)	VSWR RF Port (:1)
RF	LO	LO +10dBm	LO +10dBm	LO +10dBm	LO +10dBm	LO +10dBm
1000.10	1030.10	6.55	34.13	21.54	5.34	2.14
1200.10	1230.10	5.97	43.05	23.49	2.96	2.95
1500.10	1530.10	5.49	37.05	21.39	2.57	2.84
2000.10	2030.10	6.09	39.22	22.41	2.93	2.57
2200.10	2230.10	6.10	38.41	20.53	3.47	2.50
2500.10	2530.10	5.83	44.08	19.19	3.86	2.17
3000.10	3030.10	5.23	49.42	23.08	3.37	1.78
3500.10	3530.10	5.48	32.83	25.91	1.72	1.56
4000.10	4030.10	6.81	31.85	26.26	3.03	3.18
4200.10	4230.10	7.86	34.53	19.79	3.54	3.76

Outline Drawing



PCB Land Pattern

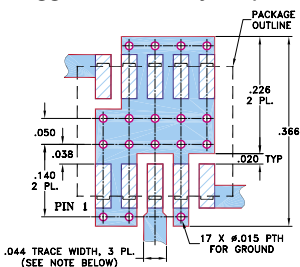


Suggested Layout, Tolerance to be within ±0.002

Outline Dimensions (inches)

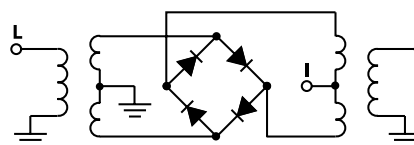
A	B	C	D	E	F	G
.30	.250	.085	.262	.050	.050	.012
7.62	6.35	2.16	6.66	1.27	1.27	0.30
H	J	K	L	M		wt
.027	.004	.085	.296	.030		grams
0.69	0.10	2.16	7.52	0.76		0.25

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

Electrical Schematic



INTERNET <http://www.minicircuits.com>

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010

Mini-Circuits ISO 9001 & ISO 14001 Certified



REV. D
M98898
ED-10107/7
MCA1-42LH
DJ/RS/CP
060719
Page 1 of 2

