

Ceramic Frequency Mixer WIDE BAND

MCA-50MH+ MCA-50MH

Level 13 (LO Power+13 dBm) 1000 to 5000 MHz



CASE STYLE: DZ883
PRICE: \$8.95 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

Features

- wide bandwidth, 1000 to 5000 MHz
- good L-R isolation, 25 dB typ.; L-I isolation, 30 dB typ.
- small size 0.25"x0.3"x0.2"
- aqueous washable
- triple balanced mixer
- protected by US Patent 6,917,796

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

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

Applications

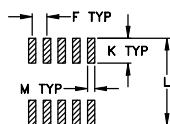
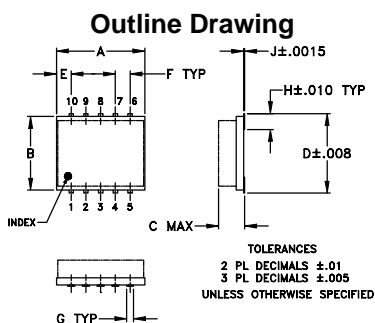
- PCN
- satellite
- line of sight links

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.
1000-5000	10-1500		7.3	0.2	9.9					
1000-1400	10-400		6.2	0.1	7.8	20	11	32	25	20
1400-2000	10-600		6.0	0.1	7.7	34	20	28	20	21
2000-2600	10-600		7.8	0.1	9.9	25	18	28	20	21
2600-4500	10-1500		6.6	0.1	8.6	39	22	30	20	18
4500-5000	50-500		7.3	0.2	8.9	35	22	30	20	21

1 dB COMPR. +9 dBm typ.

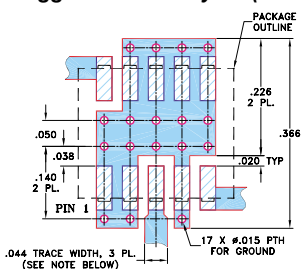
• see individual band specs



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.30	.250	.190	.274	.050	.050	.012
7.62	6.35	4.83	6.96	1.27	1.27	0.30
H	J	K	L	M	wt	
.057	.004	.085	.296	.030	grams	
1.45	0.10	2.16	7.52	0.76	0.5	

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

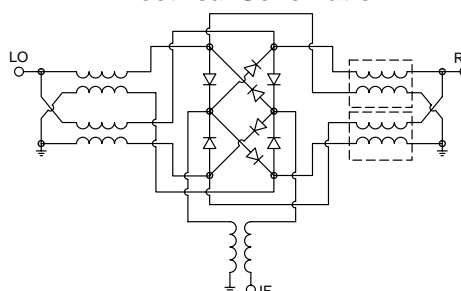


- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)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

Typical Performance Data

Frequency (MHz)	Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
1000.10	6.43	16.42	31.37	1.28	2.13
1100.10	5.97	18.64	31.89	1.17	2.23
1400.10	5.91	30.08	31.47	1.23	2.49
1500.10	5.76	34.43	31.25	1.26	2.39
1600.10	5.78	39.11	31.37	1.28	2.25
1800.10	6.04	39.49	29.65	1.42	2.06
2000.10	6.32	28.14	28.64	1.53	2.12
2300.10	8.66	23.59	25.91	1.90	1.97
2500.10	7.82	24.04	27.43	1.78	2.12
2700.10	7.15	28.71	30.07	1.63	2.12
3000.10	6.26	33.02	28.73	1.61	1.50
3300.10	5.97	41.64	28.07	1.75	1.33
3500.10	6.06	44.84	29.22	1.82	1.03
3600.10	6.03	56.06	28.90	1.80	1.05
3800.10	5.91	40.61	30.53	1.79	1.22
4000.10	6.53	35.57	34.07	1.78	1.11
4300.10	7.10	39.56	33.74	2.07	1.60
4500.10	6.95	40.10	31.97	2.08	2.10
4800.10	7.36	29.20	28.90	1.59	2.02
5000.10	7.14	32.79	30.33	1.57	1.61

Electrical Schematic



Performance Charts

