

Ceramic

Frequency Mixer WIDE BAND

NEW! MCA1-12GL

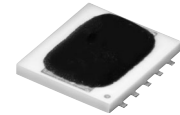
Level 4 (LO Power +4 dBm) 3800 to 12000 MHz

Features

- wide bandwidth, 3800 to 12000 MHz
- high L-R isolation, 32 dB typ.
- IF, DC to 1500 MHz
- LTCC double balanced mixer
- low cost
- low profile, 0.08"

Applications

- satellite up & down converters
- defense communication
- line of sight links
- federal fixed service
- defense radar



BLUE CELL™

CASE STYLE: DZ885
 PRICE: \$11.95 ea. QTY (10-49)
 (Patent pending)

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

MODEL NO.	FREQUENCY (MHz)		CONVERSION LOSS* (dB)			LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3@ center band Typ. (dBm)	E FACTOR			
	LO/RF f _L -f _U	IF	\bar{x}	σ	Max.	Typ.	Min.	Typ.	Min.					
MCA1-12GL	3800-12000	DC-1500	6.8	0.2	8.5	32	17	13	8	9	0.5			
	3800-6500	DC-1500				38	24	40	20	7	0.3			
	6500-9500	DC-1500				6.5	0.3	9.2	25	17	26	15	6	0.2
	9500-12000	DC-1500				7.0	0.3	—						

1dB Compr.: +1 dBm typ.
 E= (IP3(dBm)-LO Power(dBm))/10
 * Conversion loss at 30 MHz IF, increases with IF frequency

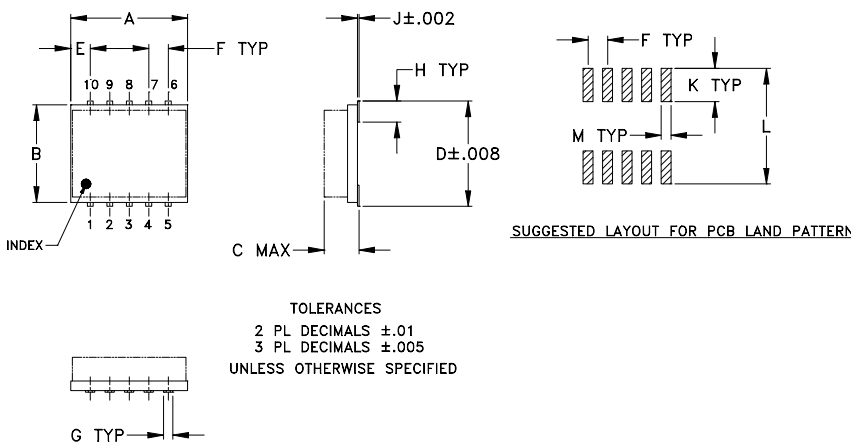
Pin Connections

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

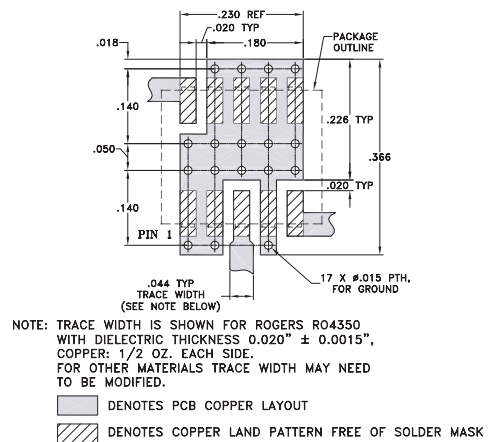
Maximum Ratings

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

Outline Drawing



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



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	L	M	wt.
.30	.250	.080	.274	.050	.050	.024	.05	.004	.085	.296	.030	grams
7.62	6.35	2.03	6.96	1.27	1.27	0.61	1.27	0.10	2.16	7.52	0.76	0.3



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

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

ISO 9001 CERTIFIED

REV. A
 M88165
 ED-11119/1
 MCA1-12GL
 DJ/RS/CP
 030728
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Typical Performance Data at 25°C

Frequency		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR LO port (:1)	VSWR RF port (:1)
RF MHz	LO MHz	LO +4 dBm	LO +4dBm	LO +4 dBm	LO +4 dBm	LO +4 dBm
3800.10	3770.10	5.83	31.67	11.75	2.41	2.08
4200.10	4170.10	5.28	33.16	12.89	2.08	2.07
4600.10	4570.10	5.07	30.20	14.54	2.33	1.67
5000.10	4970.10	5.98	30.01	13.24	1.89	2.24
5400.10	5370.10	6.53	21.42	11.36	2.38	1.78
5800.10	5770.10	7.07	22.02	15.36	2.37	1.95
6200.10	6170.10	6.21	28.40	23.67	3.46	1.97
6600.10	6570.10	5.94	39.11	32.57	3.60	1.87
7000.10	6970.10	6.69	48.57	37.06	3.48	2.66
7400.10	7370.10	6.28	39.19	39.61	3.09	2.08
7800.10	7770.10	6.75	35.85	42.58	3.22	2.15
8200.10	8170.10	6.17	36.80	46.61	3.44	1.98
8600.10	8570.10	5.98	35.42	43.55	2.72	2.14
9000.10	8970.10	5.99	33.01	35.36	2.63	2.33
9400.10	9370.10	6.26	32.37	28.27	2.50	2.46
9800.10	9770.10	6.84	32.40	23.97	4.18	2.36
10200.10	10170.10	6.70	31.25	23.95	3.87	2.01
10800.10	10770.10	6.07	26.53	31.09	3.19	1.74
11200.10	11170.10	6.61	24.29	27.16	2.99	2.14
12000.10	11970.10	7.41	21.24	25.82	2.04	1.76

Performance Charts

