

Ceramic

Frequency Mixer WIDE BAND

MCA1T-85+

Level 7 (LO Power+7 dBm) 2800 to 8500 MHz



CASE STYLE: DZ885-2
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	-40°C to 85°C
Storage Temperature	-40°C to 85°C
RF Power	50 mW
IF Current	40 mA
Permanent damage may occur if any of these limits are exceeded.	

Pin Connections

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

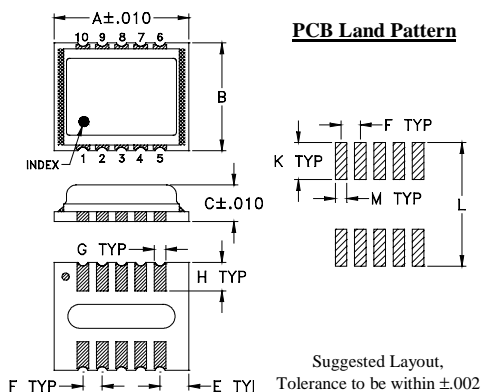
Features

- wide bandwidth, 2800 to 8500 MHz
- low conversion loss, 5.6 dB typ.
- high L-R isolation, 35 dB typ.
- IF, DC to 1250 MHz
- LTCC double balanced mixer
- aqueous washable
- low cost
- low profile, 0.095"
- protected by US Patent 7,027,795
- additional patent pending

Applications

- satellite up and down converters
- line of sight links
- defense radar
- defense communication

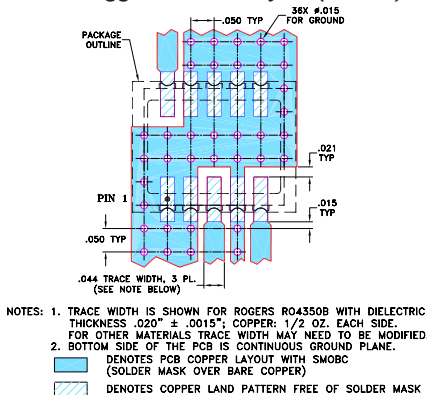
Outline Drawing



Outline Dimensions (inch/mm)

A	B	C	E	F	G
.350	.280	.095	.075	.050	.030
8.89	7.11	2.41	1.91	1.27	0.76
H	K	L	M	wt	
.074	.096	.321	.030		grams
1.88	2.44	8.15	0.76		0.21

Demo Board MCL P/N: TB-493+ Suggested PCB Layout (PL-288)



Electrical Specifications (T_{AMB} = -40°C to 85°C)

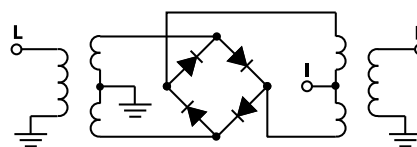
FREQUENCY (MHz)		CONVERSION LOSS (dB)			LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3 at center band (dBm)
LO/RF f _L -f _U	IF	\bar{X}	σ	Max.	Typ.	Min.	Typ.	Min.	Typ.
2800-8500	DC-1250	5.5	0.2	8.1*	40	20	13	9	13
2800-5000	DC-1250								
5000-8500	DC-1250	5.7	0.2	8.2*	35	20	40	20	8

1 dB COMPR. 1 dBm typ.
* Conversion loss at 30 MHz IF, increases with IF frequency.

Typical Performance Data

Frequency (MHz)		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
RF	LO	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm
2800.10	2770.10	5.89	36.81	10.35	2.20	2.37
3000.10	2970.10	5.74	39.38	11.75	2.17	2.36
3500.10	3470.10	5.29	38.41	13.58	1.75	2.57
4000.10	3970.10	6.48	40.21	13.89	2.33	2.71
4500.10	4470.10	6.38	31.07	17.67	1.86	2.62
5000.10	4970.10	6.17	37.03	26.23	2.34	2.21
5500.10	5470.10	5.85	40.91	31.19	1.88	2.81
6000.10	5970.10	5.74	37.20	35.68	1.94	3.00
6500.10	6470.10	5.38	39.09	43.95	1.83	2.16
6700.10	6670.10	5.40	36.15	48.35	1.90	2.20
6800.10	6770.10	5.46	36.09	46.81	1.78	2.38
6900.10	6870.10	5.51	36.10	44.52	1.81	2.32
7000.10	6970.10	5.59	36.07	42.59	1.80	2.29
7500.10	7470.10	6.30	38.79	35.25	1.65	2.25
7600.10	7570.10	6.60	38.05	34.31	1.53	2.67
7700.10	7670.10	6.86	37.33	33.25	1.48	2.70
7800.10	7770.10	6.86	36.19	31.74	1.50	2.50
7900.10	7870.10	6.63	34.32	30.19	1.51	2.44
8000.10	7970.10	6.31	32.74	29.14	1.56	2.47
8500.10	8470.10	6.24	30.84	33.04	1.87	3.03

Electrical Schematic



Mini-Circuits
ISO 9001 ISO 14001 AS 9100 CERTIFIED

For detailed performance specs & shopping online see web site

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IF/RF MICROWAVE COMPONENTS

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