

High IP3

Frequency Mixer

MCA-19FMH+

Level 13 (LO Power+13 dBm) 1850 to 1910 MHz



CASE STYLE: DZ883
PRICE: \$10.95 ea. QTY.(1-9)

+ 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.

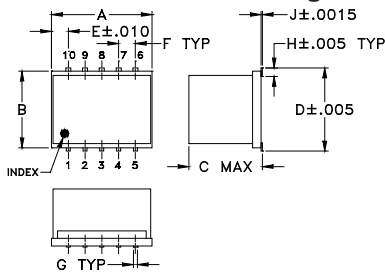
Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
LO & RF Power	16 dBm
Permanent damage may occur if any of these limits are exceeded.	

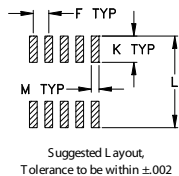
Pin Connections

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

Outline Drawing



PCB Land Pattern

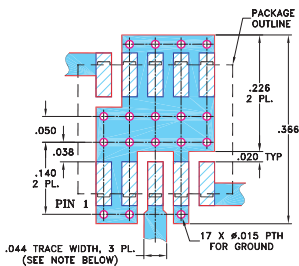


Suggested L layout,
Tolerance to be within ±0.02

Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.30	.250	.190	.266	.050	.050	.012
7.62	6.35	4.83	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	0.5	

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

Features

- excellent IP3, 30 dBm typ.
- excellent L-R isolation, 40 dB typ.
- excellent 1 dB compression, RF>LO power
- industry standard foot print
- LTCC design for excellent temperature stability, performance repeatability and small size
- aqueous washable
- double balanced mixer
- low price
- protected by US Patent 6,959,180

Applications

- GSM
- DECT

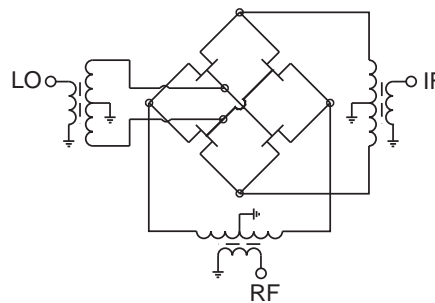
Electrical Specifications (T_{AMB}=-55°C to 100°C)

FREQUENCY (MHz)			IP3 (dBm)	RF in at 1 dB compr. (dBm)	CONVERSION LOSS (dB)	LO-RF ISOLATION (dB)	LO-IF ISOLATION (dB)
RF	LO	IF	Typ.	Min.	Typ. Max.	Typ. Min.	Typ. Min.
1850-1910	1760-1820	70-130	30	13	6.9 8.4	40 22	39 20

Typical Performance Data

Frequency (MHz)		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)	IP3 (dBm)
RF	LO	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm
1850.00	1760.00	6.85	43.51	45.47	1.73	2.51	30.46
1865.00	1775.00	6.87	42.53	46.32	1.78	2.14	31.19
1880.00	1790.00	6.86	41.50	43.61	1.77	1.98	31.17
1895.00	1805.00	6.85	41.15	40.87	1.74	2.01	31.16
1910.00	1820.00	6.80	41.04	39.00	1.72	2.22	30.98

Electrical Schematic



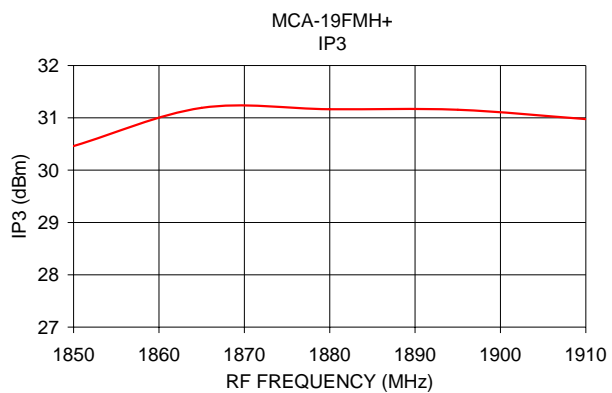
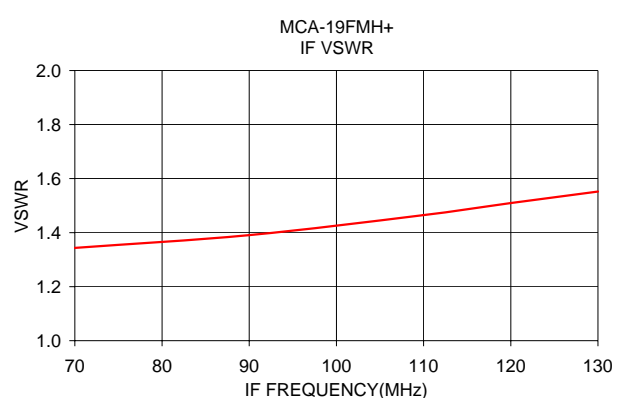
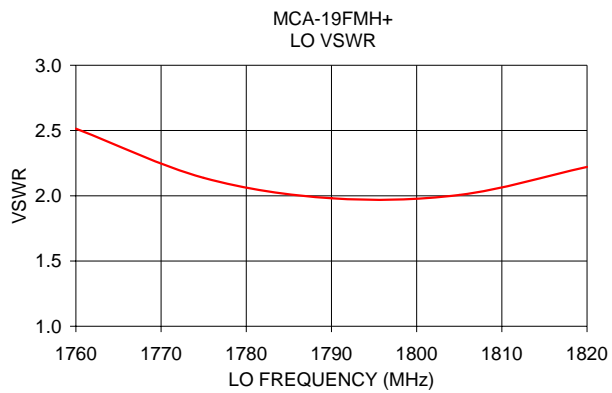
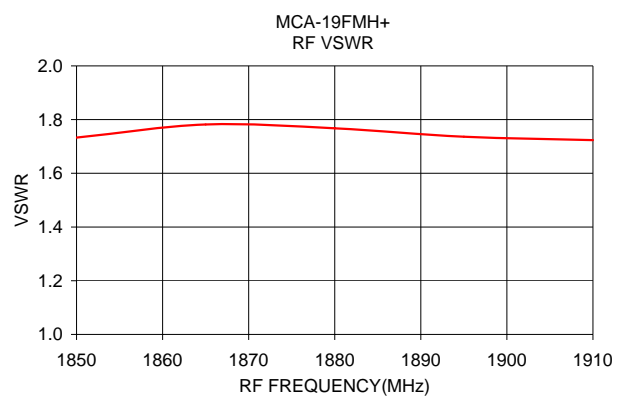
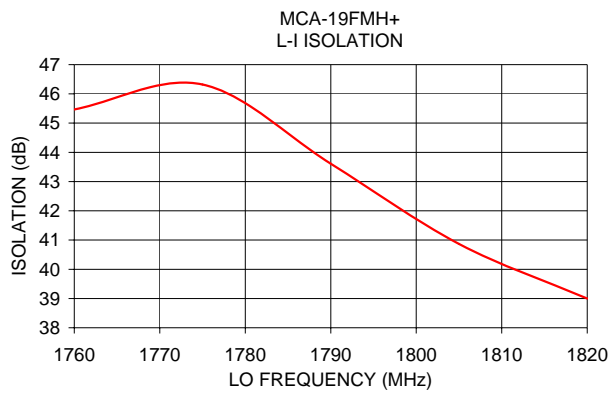
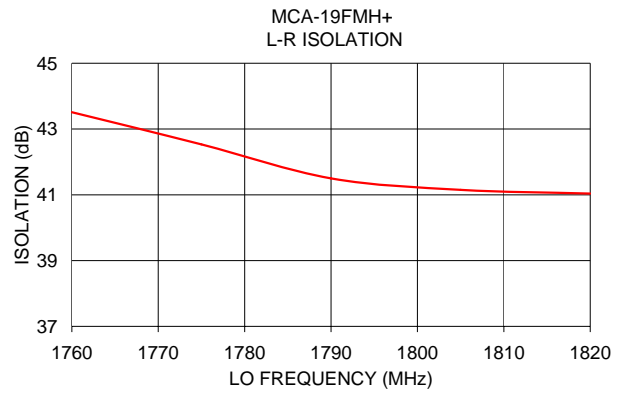
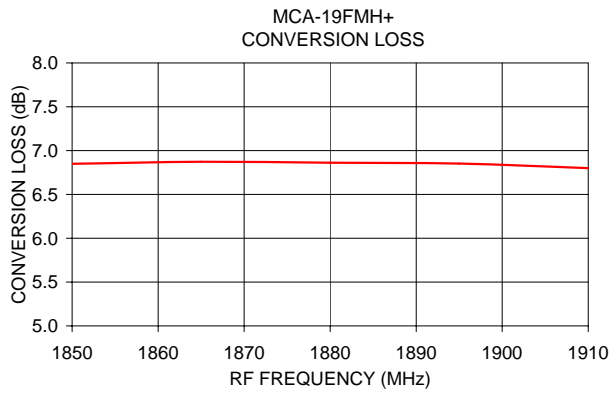
Mini-Circuits
ISO 9001 ISO 14001 AS 9100 CERTIFIED
IF/RF MICROWAVE COMPONENTS

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