

Ceramic Surface Mount Frequency Mixer WIDE BAND

SIM-792LH+

Level 10 (LO Power +10 dBm) 2300 to 7900 MHz



Generic photo used for illustration purposes only

CASE STYLE: HV1195

Maximum Ratings

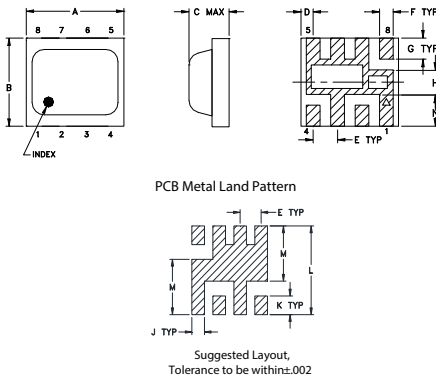
| | |
|-----------------------|----------------|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| IF Power | 50mW |

For extended temperature range, consult factory.
Permanent damage may occur if any of these limits are exceeded.

Pin Connections

| | |
|--------|-----------|
| LO | 8 |
| RF | 4 |
| IF | 2 |
| GROUND | 1,3,5,6,7 |

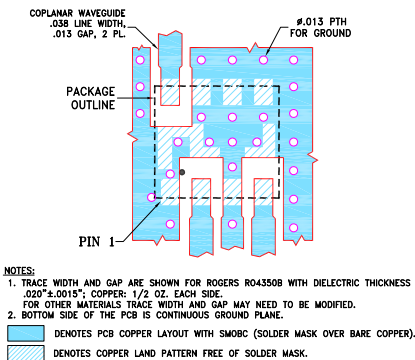
Outline Drawing



Outline Dimensions (inch/mm)

| A | B | C | D | E | F | G |
|------|------|--------|------|------|-------|-------|
| .200 | .180 | .087 | .025 | .050 | .028 | .043 |
| 5.08 | 4.57 | 2.2098 | 0.64 | 1.27 | 0.71 | 1.09 |
| H | J | K | L | M | N | wt |
| .050 | .030 | .043 | .204 | .127 | 0.065 | grams |
| 1.27 | 0.76 | 1.09 | 5.18 | 3.23 | 1.65 | 0.08 |

Demo Board MCL P/N: TB-382 Suggested PCB Layout (PL-239)



Features

- wide bandwidth, 2300 to 7900 MHz
- low conversion loss, 6.0 dB typ.
- excellent IF BW, DC to 3000 MHz
- LTCC double balanced mixer
- tiny size, low profile, 0.08"
- useable as up and down converter
- protected by US patent 7,027,795

Applications

- satellite up and down converters
- defense radar and communications
- line of sight links
- ISM
- WIFI
- blue tooth
- VSAT
- ISM

Electrical Specifications

| FREQUENCY (MHz) | CONVERSION LOSS* (dB) | LO-RF ISOLATION (dB) | | LO-IF ISOLATION (dB) | | IP3 (dBm) | |
|----------------------|-----------------------|----------------------|----------|----------------------|------|-----------|------|
| | | Typ. | Min. | Typ. | Min. | | |
| LO/RF $f_i - f_u$ | IF | Typ. | σ | Max. | Typ. | Min. | Typ. |
| 2300-7900 | DC-3000 | | | | | | |
| 2300-3200 | | 5.9 | 0.1 | 7.5 | 33 | 26 | 14 |
| 3200-3700 | | 5.8 | 0.1 | 7.0 | 33 | 26 | 16 |
| 3700-4200 | | 5.9 | 0.2 | 7.4 | 34 | 27 | 17 |
| 4200-7900 | | 6.0 | 0.2 | 8.5 | 23 | 18 | 15 |

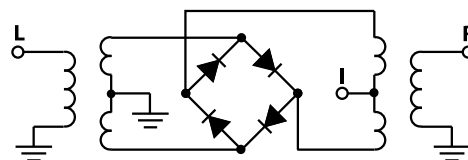
1 dB Compression: +5 dBm typ.

* Conversion loss at 30 MHz IF. σ is a measure of repeatability from unit to unit.

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 +10dBm | LO +10dBm | LO +10dBm | LO +10dBm | LO +10dBm |
| 2300.10 | 2330.10 | 6.53 | 31.65 | 19.49 | 2.02 | 3.94 |
| 2600.10 | 2630.10 | 6.17 | 37.57 | 22.02 | 2.24 | 2.69 |
| 2900.10 | 2930.10 | 5.93 | 34.54 | 21.86 | 2.18 | 2.22 |
| 3200.10 | 3230.10 | 5.81 | 30.68 | 22.44 | 2.11 | 1.96 |
| 3700.10 | 3730.10 | 6.00 | 31.31 | 22.17 | 1.88 | 1.92 |
| 4000.10 | 4030.10 | 6.05 | 33.70 | 25.10 | 1.86 | 2.12 |
| 4200.10 | 4230.10 | 6.04 | 32.33 | 28.76 | 1.98 | 2.20 |
| 4400.10 | 4430.10 | 6.49 | 32.06 | 29.82 | 2.47 | 2.35 |
| 4600.10 | 4630.10 | 6.18 | 30.83 | 22.66 | 2.16 | 2.46 |
| 4900.10 | 4930.10 | 6.88 | 30.01 | 16.73 | 3.15 | 2.63 |
| 5200.10 | 5230.10 | 6.76 | 28.94 | 15.88 | 3.08 | 2.82 |
| 5500.10 | 5530.10 | 6.30 | 27.31 | 17.28 | 2.54 | 2.94 |
| 5800.10 | 5830.10 | 5.98 | 25.61 | 19.18 | 2.07 | 2.68 |
| 6100.10 | 6130.10 | 5.83 | 24.20 | 22.10 | 1.65 | 2.06 |
| 6400.10 | 6430.10 | 5.94 | 23.21 | 27.53 | 1.60 | 1.27 |
| 6700.10 | 6730.10 | 6.40 | 23.58 | 31.64 | 1.56 | 1.29 |
| 7000.10 | 7030.10 | 6.73 | 22.55 | 34.87 | 1.68 | 1.78 |
| 7300.10 | 7330.10 | 6.62 | 22.13 | 22.89 | 1.82 | 2.40 |
| 7600.10 | 7630.10 | 7.26 | 22.83 | 18.59 | 2.27 | 2.84 |
| 7900.10 | 7930.10 | 7.13 | 25.60 | 15.46 | 2.72 | 3.32 |

Electrical Schematic



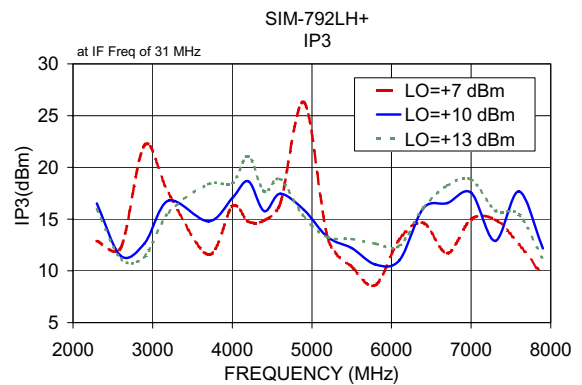
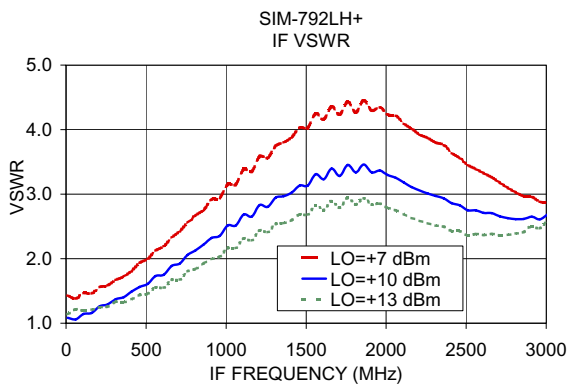
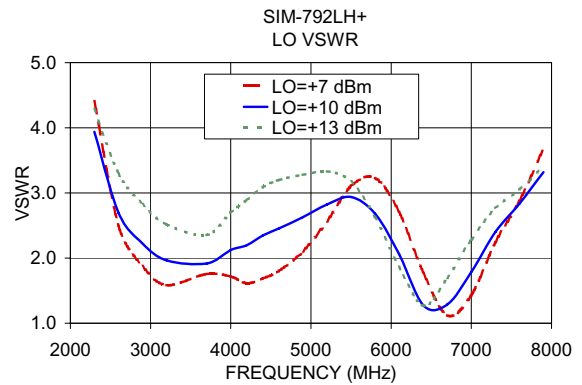
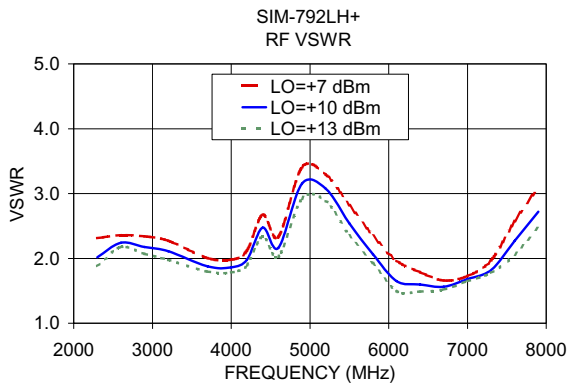
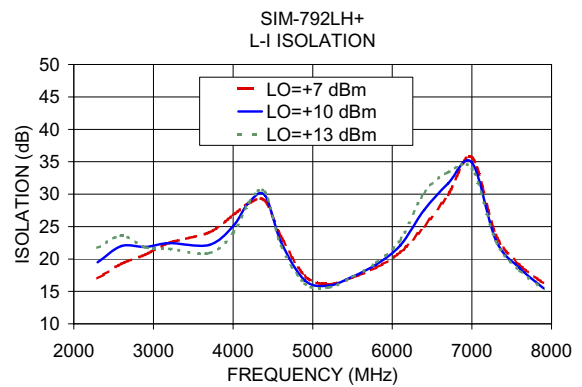
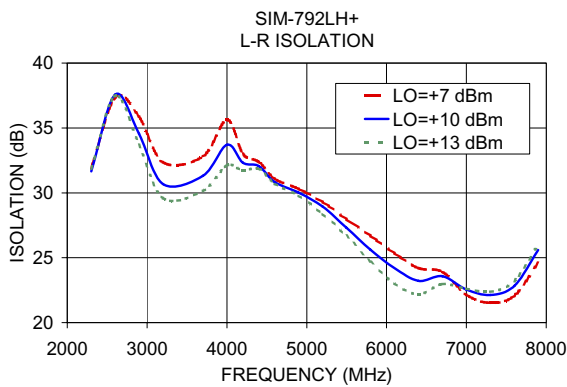
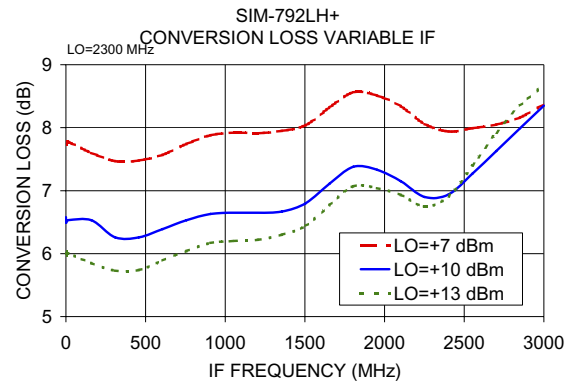
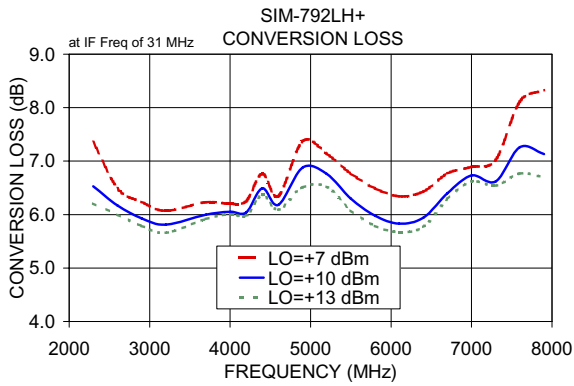
Notes

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