

2 TO 4 GHz DOUBLE-BALANCED MIXER

MODELS: DM0204LW2 AND DM0204LA1

FEATURES

- RF/LO coverage 2 to 4 GHz
- IF operation DC to 1 GHz
- LO power range +7 to +13 dBm
- Conversion loss..... 4.5 dB typical
- LO-to-RF isolation 40 dB typical
- Input 1 dB comp. +3 dBm typical
- Input IP³ +13 dBm typical



MITEQ's DM0204LW2 and A1 Series of mixers are constructed using new highly efficient, double-tuned microstrip RF and LO baluns (patent pending) with a DC-coupled IF structure. The construction, coupled with the hermetic packaging, provides for high inherent reliability and isolation over an octave frequency range. This device performs as an up- or downconverter covering many PCN and communication applications. This mixer is also available with medium or high forward voltage diodes (M, H) yielding proportional changes in LO power and spurious performance.

ELECTRICAL SPECIFICATIONS

| INPUT PARAMETERS | CONDITION | UNITS | MIN. | TYP. | MAX. |
|--|----------------|-------|------|--------|------|
| RF frequency range | | GHz | 2 | | 4 |
| RF VSWR (RF = -10 dBm, LO = +10 dBm) | | Ratio | | 1.75:1 | |
| LO frequency range | | GHz | 2 | | 4 |
| LO power range | | dBm | +7 | | +13 |
| LO VSWR (LO = +10 dBm) | | Ratio | | 1.5:1 | |
| TRANSFER CHARACTERISTICS | CONDITION | UNITS | MIN. | TYP. | MAX. |
| Conversion loss (IF = 100 MHz, LO = +10 dBm) | | dB | | 4.5 | 7 |
| Single-sideband noise figure | | dB | | 5 | |
| LO-to-RF isolation | | dB | 35 | 40 | |
| LO-to-IF isolation | | dB | 25 | 35 | |
| IF-to-RF isolation | DC to 1 GHz | dB | | 40 | |
| Input power at 1 dB compression | LO = +10 dBm | dBm | | +3 | |
| Input two-tone third-order intercept point | LO = +10 dBm | dBm | +10 | +13 | |
| OUTPUT PARAMETERS | CONDITION | UNITS | MIN. | TYP. | MAX. |
| IF frequency range | 3 dB bandwidth | GHz | DC | | 1 |
| IF VSWR (IF = -10 dBm, LO = +10 dBm) | | Ratio | | 2.5:1 | |



