Single Sideband Modulator
PMI Model No. PSM-50M1G-CD-1

PMI Model PSM-50M1G-CD-1 is a single sideband modulator that operates over the 50MHz to 1.0GHz frequency range. The input P1dB is +5dBm typical and has an IF Modulation Range of DC to 10MHz. The IF Modulation Power Range is +7dBm minimum and +13dBm maximum into 50 ohms. The conversion loss is 10dB maximum and this model provides carrier suppression of 20dBc typically. The Quadrature Phase Accuracy is ±10 degrees maximum with a Quadrature Amplitude Accuracy of ±2.0dB maximum. This model is supplied in a package measuring 6.0"L x 3.5"W x 1.0"H.

Specifications:

- **Input Parameters:**
  - RF Carrier: 50MHz to 1.0GHz
  - RF VSWR: 2.0:1 typ. (RF = 10dBm, IF Modulation = +10dBm)
  - RF Power at 1dB Compression: +5dBm typ. (RF = +10dBm)
  - IF Modulation Frequency Range: DC to 10MHz
  - IF Modulation Power Range: +7dBm min., +13dBm max. (50 Ohms)
  - Transfer Characteristics:
    - Conversion Loss: 10dBmax. (See Note 1)
    - Carrier Suppression: 15dBc min., 20dBc typ.
    - Quadrature Phase Accuracy: ±7.5 deg. typ., ±10 deg. max.
    - Quadrature Amplitude Accuracy: ±1.5dB typ., ±2.0dB max.

- **Output Parameters:**
  - RF Frequency Range: 50MHz to 1.0GHz
  - RF VSWR: 3.0:1 typ. (RF = 10dBm, IF Modulation = +10dBm)
  - Connectors: 303A Female (4 Pieces)
  - Size: 6.0"L x 3.5"W x 1.0"H
  - Finish: Painted Gray

Note 1: Insertion loss relative to 0dBm RF input. All other outputs including I0 are relative to the desired upper (I0+I) output.

Environmental Ratings:

- **Temperature:** -40°C to +85°C Operating
  - -65°C to +125°C Non-Operating
- **Humidity:** MIL-STD-202F, Method 103B Cond. B
- **Shock:** MIL-STD-202F, Method 213B Cond. B
- **Vibration:** MIL-STD-202F, Method 204D Cond. B
- **Altitude:** MIL-STD-202F, Method 105C Cond. B
- **Temperature Cycle:** MIL-STD-202F, Method 107D Cond. A