



Planar Monolithics Industries, Inc.

RF & Microwave Components and Modules to 40GHz

Single Sideband Modulator PMI Model No. PSM-0R5G2R5G-CD-1



PMI Model PSM-0R5G2R5G-CD-1 is a single sideband modulator that operates over the 500MHz to 2.5GHz frequency range. The input P1dB is +5dBm typical and has an IF Modulation Range of DC to 500MHz. The IF Modulation Power Range is +7dBm minimum and +13dBm maximum into 50 ohms. The conversion loss is 13.5dB maximum and this model provides carrier suppression of 23dBc typically. The Quadrature Phase Accuracy is ± 10 degrees maximum with a Quadrature Amplitude Accuracy of ± 2.0 dB maximum. This model is supplied in a package measuring 2.5"L x 2.0"W x 0.5"H.

Specifications:

Input Parameters:	
RF Carrier	500MHz to 2.5GHz
RF VSWR	2.0:1 typ. (RF=-10dBm, IF Modulation = +10dBm)
RF Power at 1dB Compression	+5dBm typ. (IF = +10dBm)
IF Modulation Frequency Range	DC to 500MHz
IF Modulation Power Range	+7dBm min., +13dBm max. (50 Ohms)
Transfer Characteristics:	
Conversion loss	13.5dB max. (See Note 1)
Carrier Suppression	20dBc min., 23dBc typ.
Carrier - Fundamental IF	15dBc min.
Carrier \pm 2IF, 4IF, etc...	35dBc typ.
Carrier \pm 3IF	7dBc typ.
Quadrature Phase Accuracy, I/Q Mode	± 7.5 deg. typ., ± 10 deg. max.
Quadrature Amplitude Accuracy	± 1.5 dB typ., ± 2.0 dB max.
Output Parameters:	
RF Frequency Range	500MHz to 2.5GHz
RF VSWR	4.0:1 typ. (RF=-10dBm, IF Modulation = +10dBm)
Connectors:	SMA Female (4 Places)
Size:	2.5"L x 2.0"W x 0.5"H
Finish:	Nickel Plated

Note 1: Insertion loss relative to 0dBm RF input. All other outputs including f0 are relative to the desired upper (f0+fm) 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



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