

NLTL Comb Generator

Rev. V2

Features

- Ultra-Low Phase Noise
- Variable Input Frequency 300 - 700 MHz
- Variable Input Power from 19 - 24 dBm
- Output Harmonics to 20 GHz
- SMT680 Surface Mount Package
- SMA800 Hermetically Package
- No Bias or Tuning Required
- RoHS* Compliant

Description

The MLPNC-7102 is a monolithic non-linear-transmission-line (NLTL) comb generator which offers outstanding phase noise performance. This high performance comb generator operates over specified ranges of input frequency/power.

SMA800
hermetic

SMT680

Operating Parameters¹

Parameter	Units	Recommended Input		
		Min.	Typ.	Max.
Frequency	MHz	300	500	700
Power	dBm	19	22	24

1. The model MLPNC-7102 does not abruptly stop working at the recommended min and max frequencies and powers. The conversion efficiency drops outside recommended limits.

Production Test Limits²

Input / Power	Units	Output Harmonics				
		4 GHz	8 GHz	12 GHz	16 GHz	20 GHz
500 MHz, 22 dBm	dBm	> -8	> -13	> -16	> -18	> -20

2. These are the harmonic output test limits used for production screening.

Absolute Maximum Ratings^{3,4}

Parameter	Absolute Maximum
Input Power	27 dBm
Operating Temperature	-45°C to +85°C
Storage Temperature	-55°C to +125°C
Temperature Cycling	-55°C to +125°C

3. Exceeding any one or combination of these limits may cause permanent damage to this device.
 4. MACOM does not recommend sustained operation near these survivability limits.

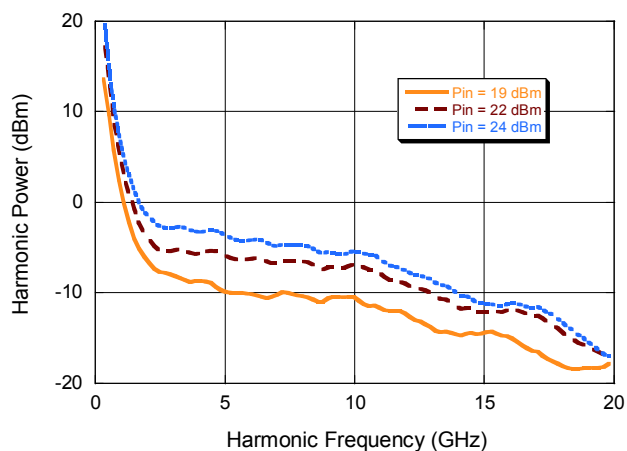
Ordering Information

Part Number	Package
MLPNC-7102-SMA800	ESD Box with Foam
MLPNC-7102-SMT680	ESD Box with Foam

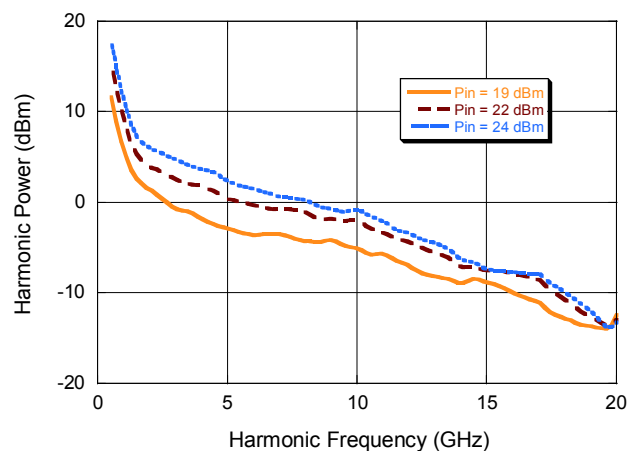
* Restrictions on Hazardous Substances,
European Union Directive 2011/65/EU.

Typical Performance Curves @ +25°C using SMA package:

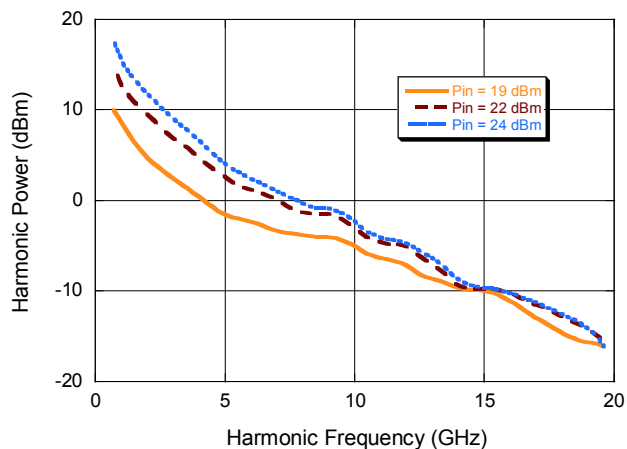
Harmonic Output, 300 MHz Input Frequency



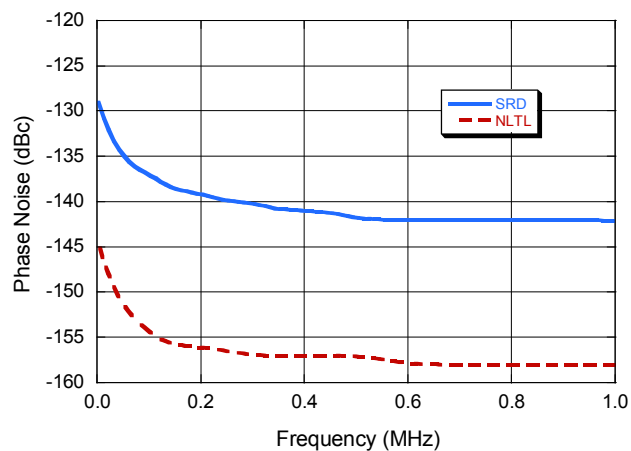
Harmonic Output, 500 MHz Input Frequency



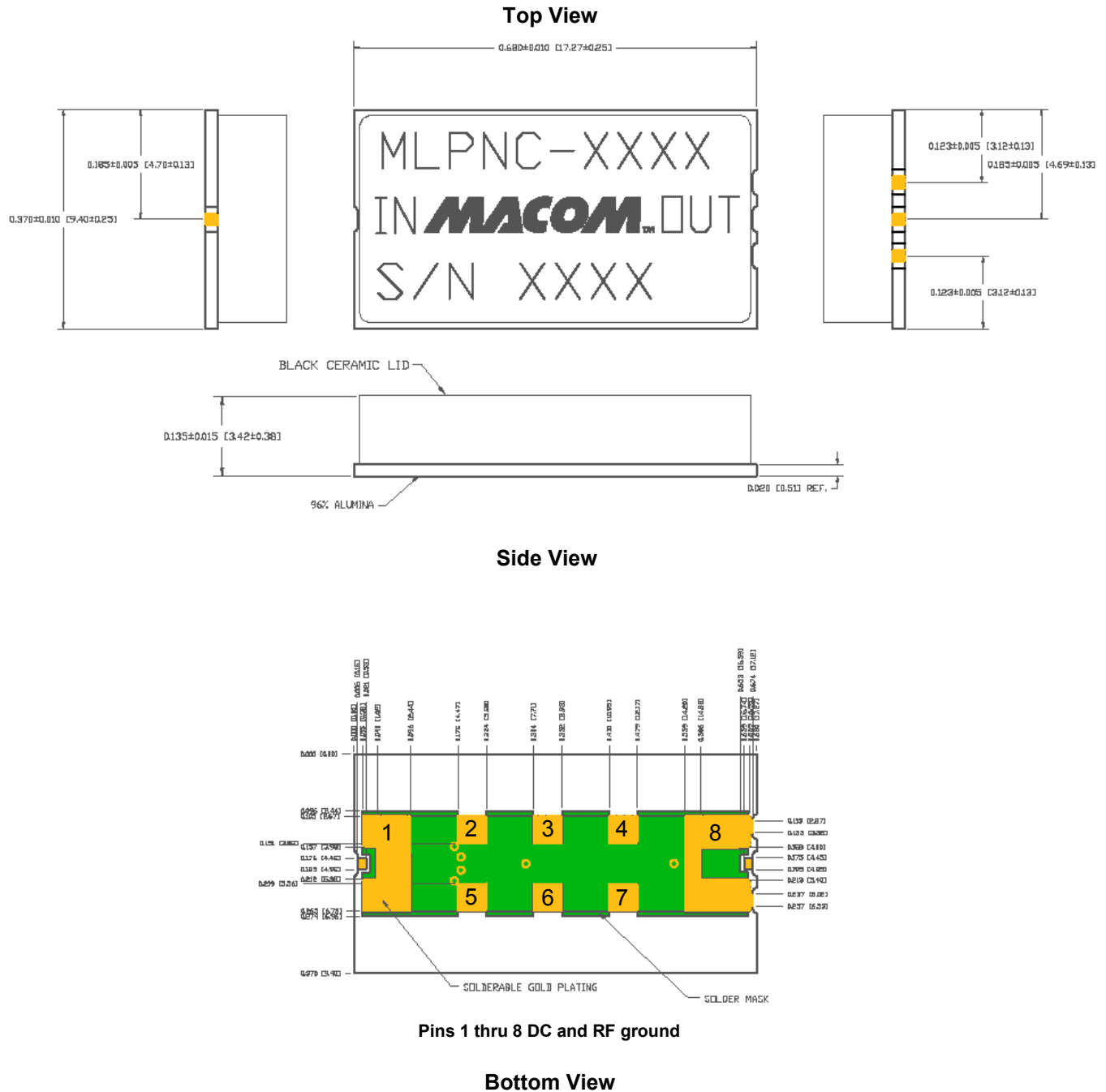
Harmonic Output, 700 MHz Input Frequency



Phase Noise, 500 MHz Input Frequency, 22 dBm NLTL 24 dBm SRD

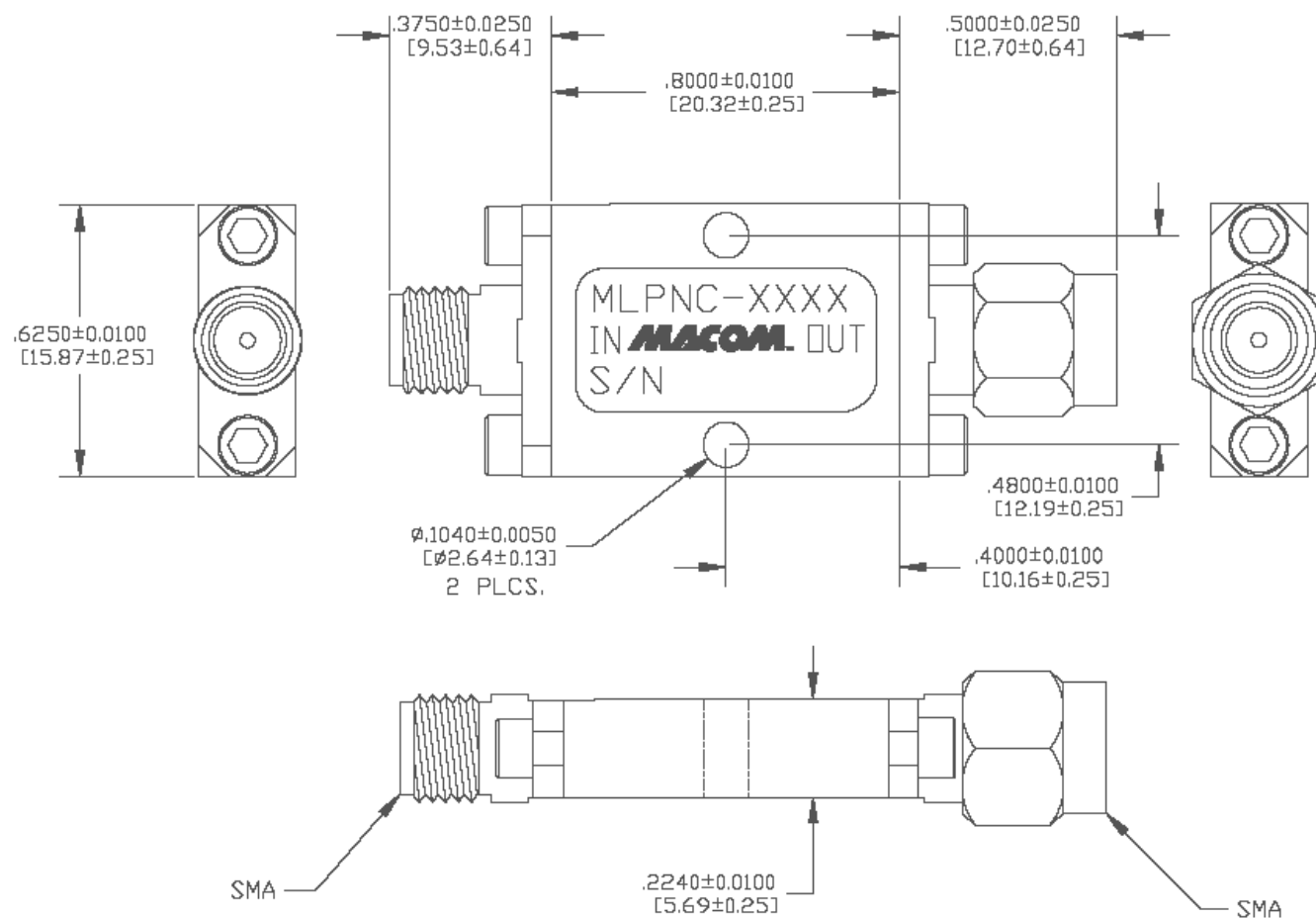


Outline: SMT680



Dimensions in inches [mm]

Outline: SMA800, hermetic



Dimensions in inches [mm]

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