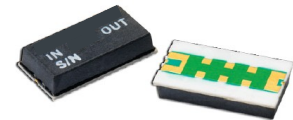


### Features

- 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



SMA800  
hermetic



SMT680

### 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.

### Operating Parameters<sup>1</sup>

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 Limits<sup>2</sup>

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<sup>3,4</sup>

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.

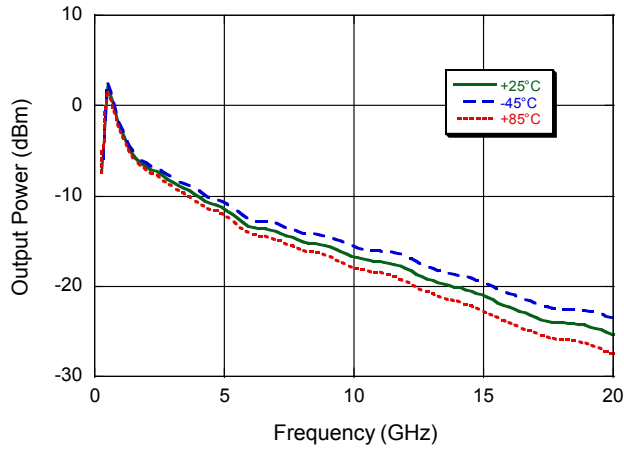
### Ordering Information

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

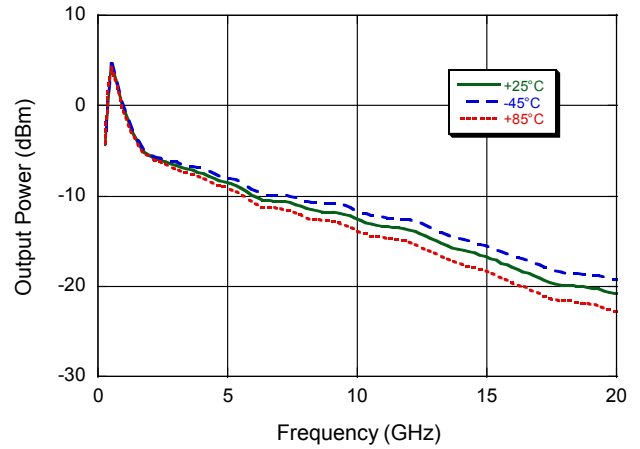
\* Restrictions on Hazardous Substances, compliant to current RoHS EU directive.

### Typical Performance Curves @ 300 MHz

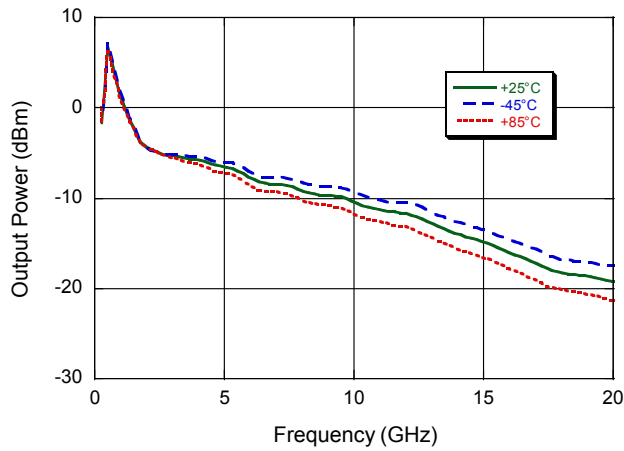
Harmonic Output, 18 dBm Input



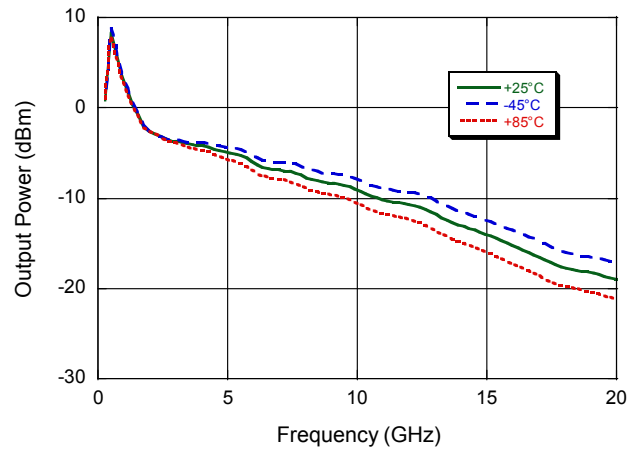
Harmonic Output, 20 dBm Input



Harmonic Output, 22 dBm Input

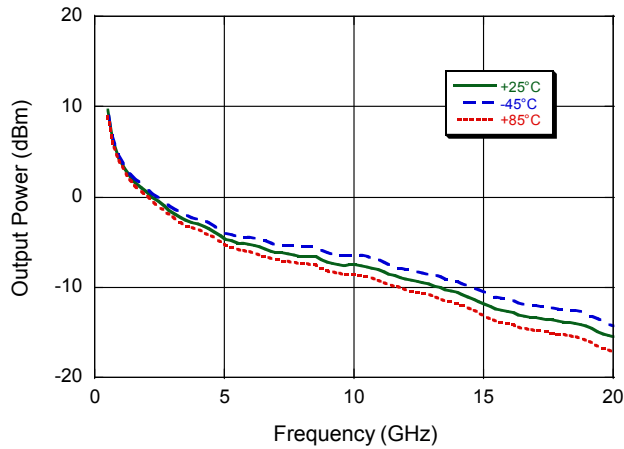


Harmonic Output, 24 dBm Input

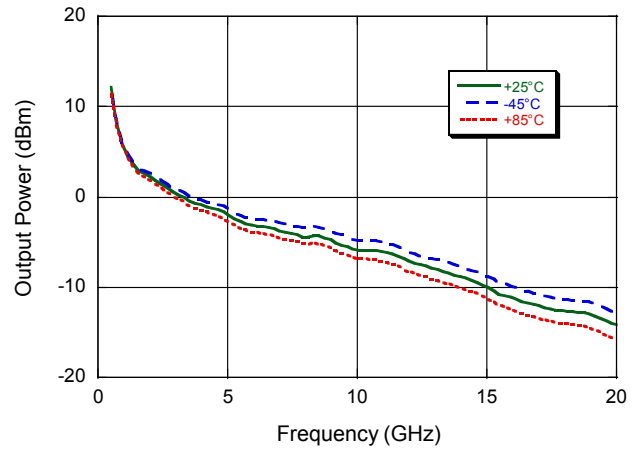


### Typical Performance Curves @ 500 MHz

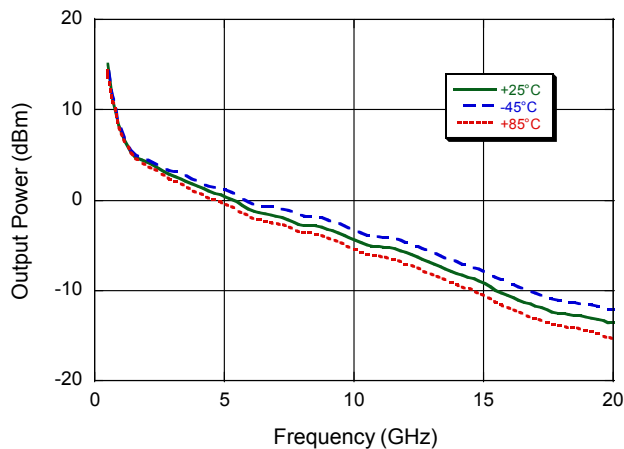
**Harmonic Output, 18 dBm Input**



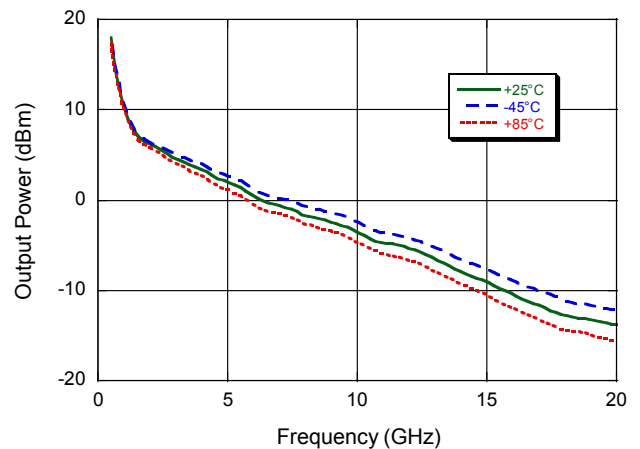
**Harmonic Output, 20 dBm Input**



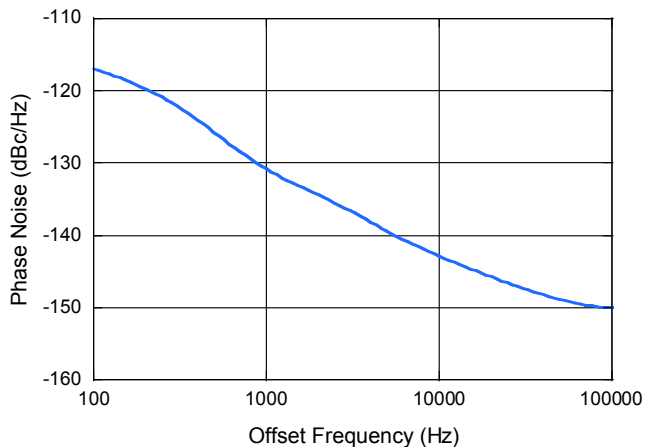
**Harmonic Output, 22 dBm Input**



**Harmonic Output, 24 dBm Input**

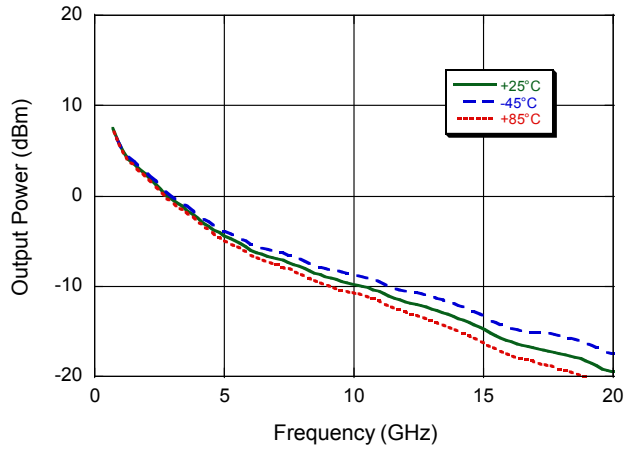


**Phase Noise, 500 MHz Input, 12 GHz Output**

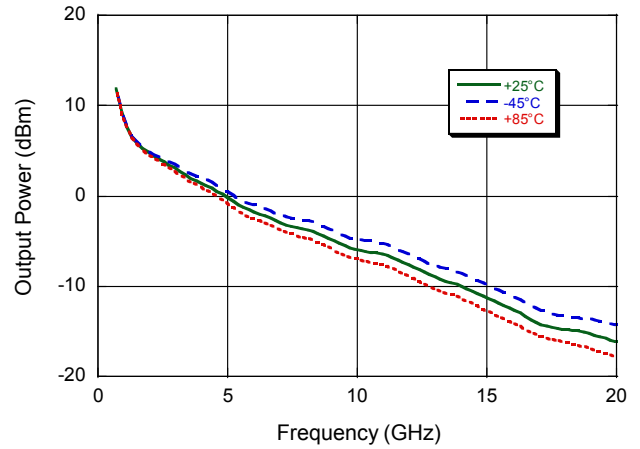


### Typical Performance Curves @ 700 MHz

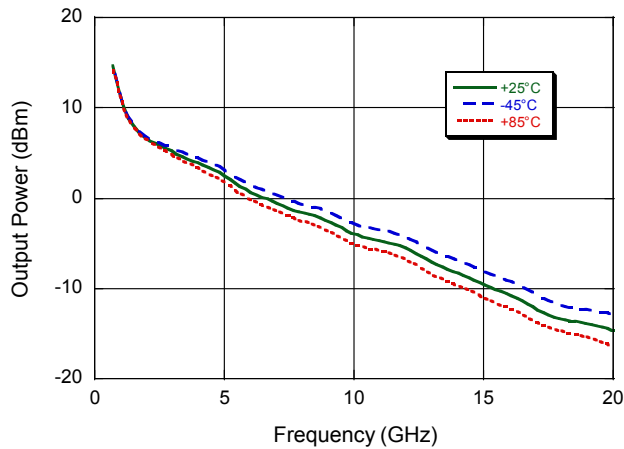
Harmonic Output, 18 dBm Input



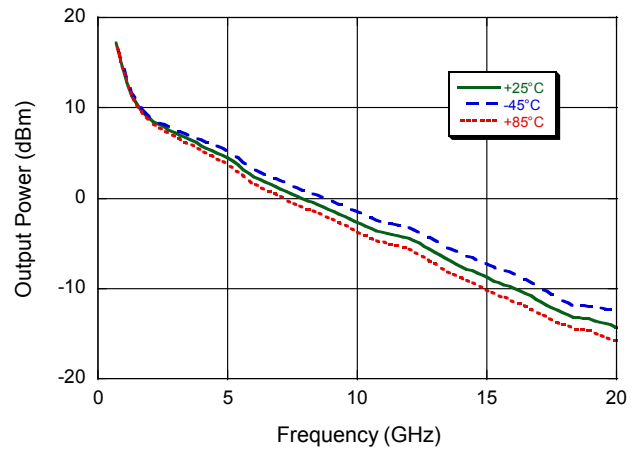
Harmonic Output, 20 dBm Input



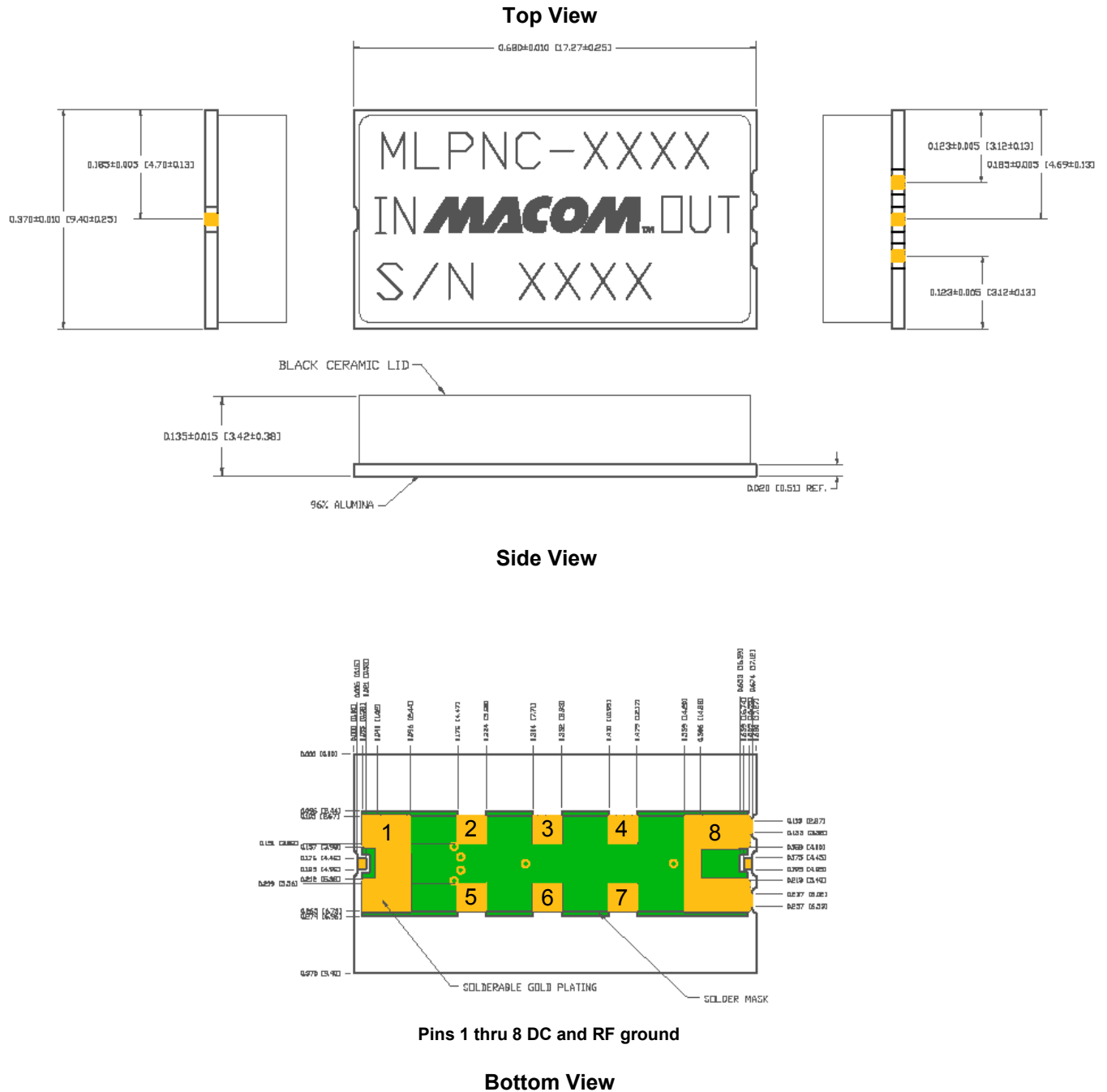
Harmonic Output, 22 dBm Input



Harmonic Output, 24 dBm Input



Outline: SMT680



Dimensions in inches [mm]

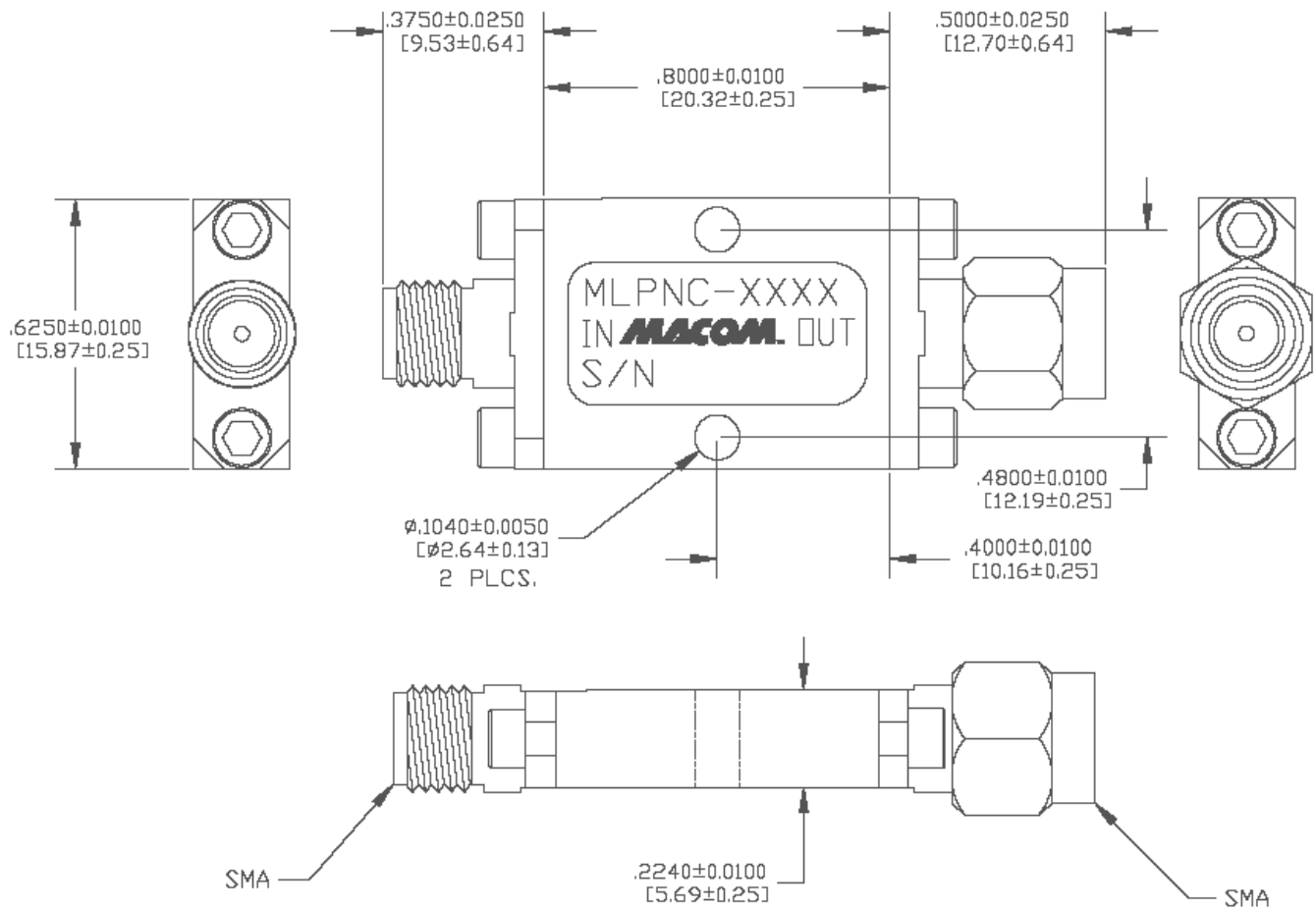
# MLPNC-7102



## NLTL Comb Generator

Rev. V4

**Outline: SMA800, hermetic**



Dimensions in inches [mm]

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