

**Features:**

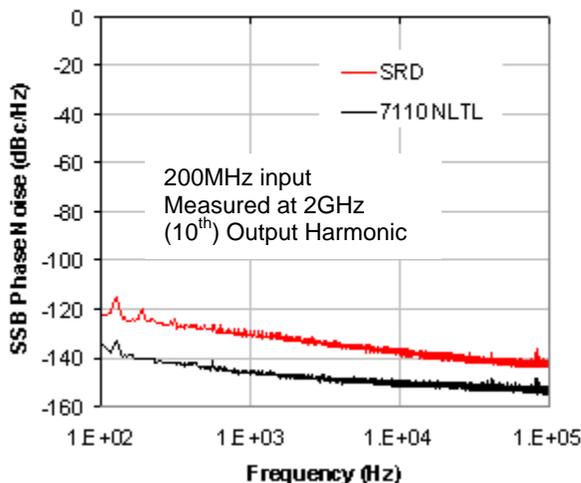
- Ultra-Low Phase Noise, **Measures 15-20 dBc/Hz Better than SRD Based Comb Generators**
- Variable Input Frequency from 1.2 GHz to 2.3 GHz
- Variable Input Power from 25 dBm to 29 dBm
- Output Harmonics to **>50 GHz**
- Coaxial Packaging

Picosecond Pulse Labs' **Low Phase Noise (LPN) Model 7124** is a high performance, flexible comb generator that works over a range of input frequency and power. **The LPN 7124 is based on monolithic Non-Linear-Transmission-Line (NLTL) circuit technology.** The Model 7124's banner specs are its outstanding phase noise performance and harmonic power at high frequencies.

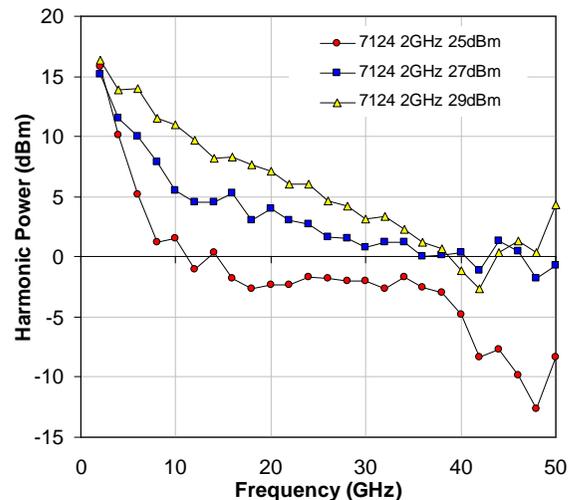


Operating Parameters				
Parameter	Recommended Input			Comments:
	Min	Typical	Max	
Frequency	1.2 GHz	2 GHz	2.3 GHz	The Model 7124 does not abruptly stop working at the recommended min and max frequencies. The conversion efficiency drops outside of this recommended range and near the edges of the ranges.
Power (dBm)	25 dBm	27 dBm	29 dBm	

**Typical Performance Data**



**Figure 1.** Model 7110 NLTL and commercial SRD comb generator residual phase noise comparison. The NLTL comb generator shows 15-20 dBc/Hz lower residual phase noise.



**Figure 2.** Typical Model 7124 Comb Generator Harmonic Output at Various Input Powers with 2 GHz Input.

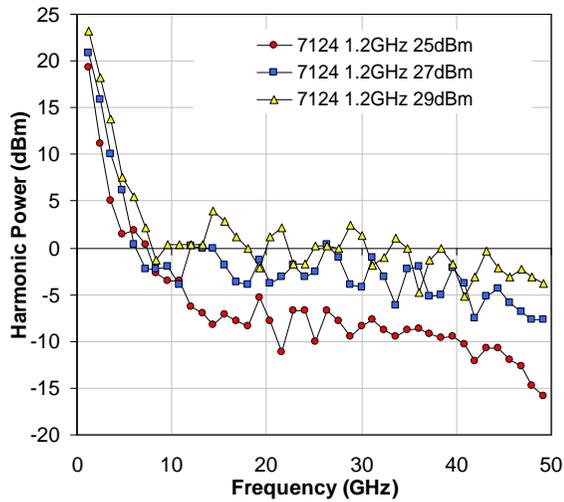


Figure 3. Model 7124 Comb Generator Typical Harmonic Output at 1.2 GHz Input with Various Input Powers.

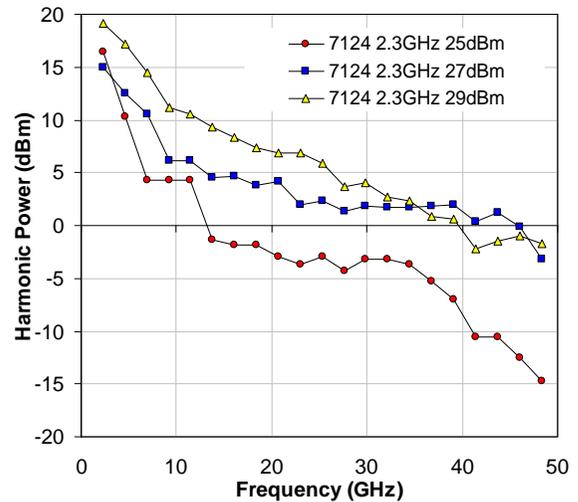


Figure 4. Model 7124 Comb Generator Typical Harmonic Output at 2.3 GHz Input with Various Input Powers.

Tested Performance Limits						
Input	Output Harmonics					Comments:
	@ 10 GHz	@ 20 GHz	@ 30 GHz	@ 40 GHz	@ 50 GHz	
2 GHz 27 dBm	> -2 dBm	> -4 dBm	> -6 dBm	> -7 dBm	> -9 dBm	These are the harmonic output test limits used for production screening. Testing is at room temperature.
Environmental Specifications						
Package Type	Operating and Storage Temperature		Comments:			
	Min	Max				
Coaxial Package	0°C	+70°C	A higher temperature range coaxial part is under investigation and being considered.			

Note: LPN Comb Generator Parts are AC coupled and self-biased (applies to all package types).

### Ordering Information

Model Number	Connector Configuration
7124-239	Input: SMA jack; Output: 2.4mm plug

Other connector configurations and package types may be available on request.

Warranty: One year. See Terms and Conditions of Sale for details.

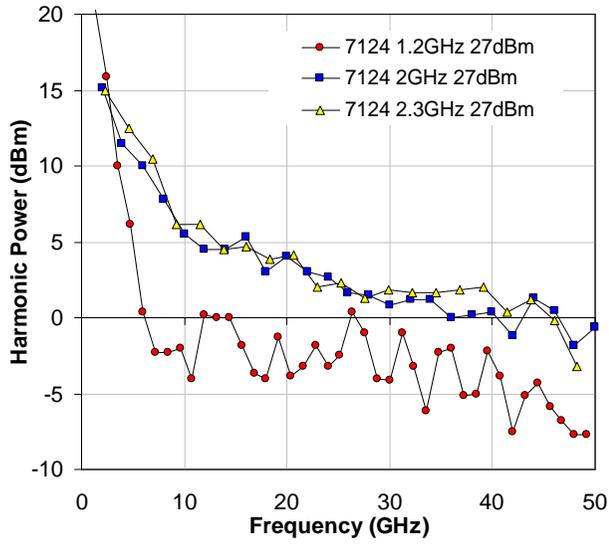


Figure 5. Typical Model 7124 Comb Generator harmonic output at various input frequencies with 27dBm input.

### Package Outlines and Dimensions

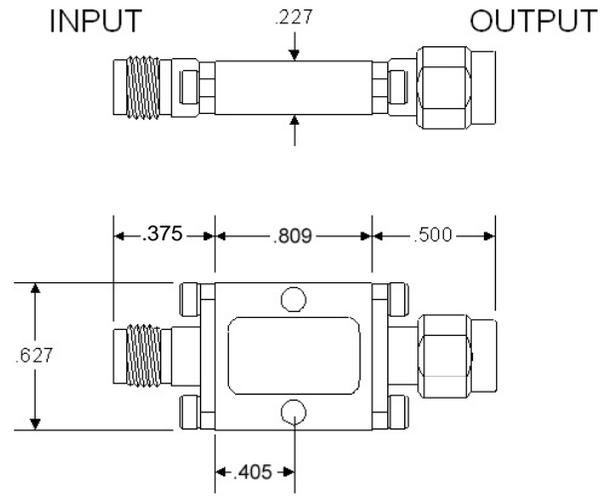


Figure 6. Coaxial package mechanical dimensions. Input and output are labeled on the coaxial package.