

Package: L22, 12.7mm x 12.7mm x 4.57mm

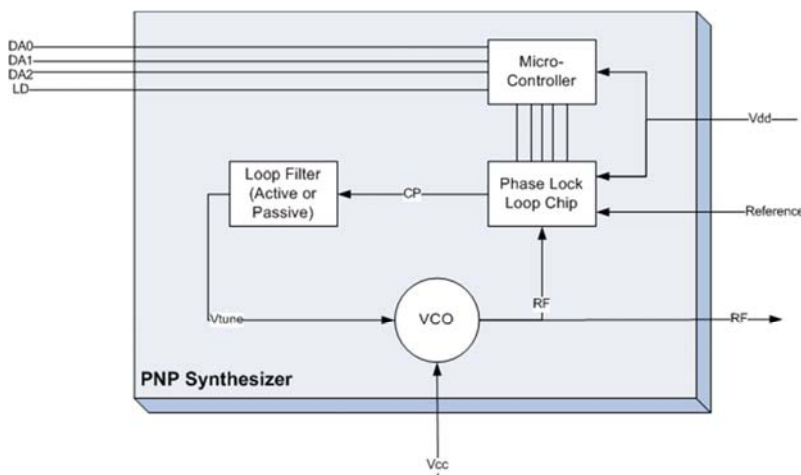


**Features**

- Internal Microcontroller
- Programmable START/STOP/Step Size
- SPI BUS Compatible
- Frequency: 2000MHz to 2100MHz
- Resonator: Microstrip
- PCB: Rogers
- Package Size: 12.7mm x 12.7mm x 4.57mm (0.5in x 0.5in x 0.18in)

**Applications**

- Highly Integrated Radio Designs
- High-Performance Radios
- Microwave Radio IF Conversion
- Instrumentation
- Frequency Synthesizers



Functional Block Diagram

**Product Description**

RFMD offers complete Plug-N-Play Synthesizers (PNPs) for low noise frequency synthesizer applications consisting of a VCO, PLL, loop filter and Micro-controller interface. The PNP family of RF signal sources is the world's first family of truly configurable frequency synthesizer modules. These synthesizers can make quick adjustments with amazing accuracy, speed, and performance.

**Ordering Information**

PNP-2050-L22-G      Contact us at 1-480-756-6070

**Optimum Technology Matching® Applied**

- |                                      |                                      |  |                                    |
|--------------------------------------|--------------------------------------|--|------------------------------------|
| <input type="checkbox"/> GaAs HBT    | <input type="checkbox"/> SiGe BiCMOS | <input type="checkbox"/> GaAs pHEMT        | <input type="checkbox"/> GaN HEMT  |
| <input type="checkbox"/> GaAs MESFET | <input type="checkbox"/> Si BiCMOS   | <input type="checkbox"/> Si CMOS           | <input type="checkbox"/> BiFET HBT |
| <input type="checkbox"/> InGaP HBT   | <input type="checkbox"/> SiGe HBT    | <input checked="" type="checkbox"/> Si BJT | <input type="checkbox"/> LDMOS     |

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## Absolute Maximum Ratings

Parameter	Rating	Unit
Operating Ambient Temperature	-40 to +85	°C
Storage Temperature	-55 to +125	°C



**Caution!** ESD sensitive device.

Exceeding any one or a combination of the Absolute Maximum Rating conditions may cause permanent damage to the device. Extended application of Absolute Maximum Rating conditions to the device may reduce device reliability. Specified typical performance or functional operation of the device under Absolute Maximum Rating conditions is not implied.

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RoHS (Restriction of Hazardous Substances): Compliant per EU Directive 2002/95/EC.

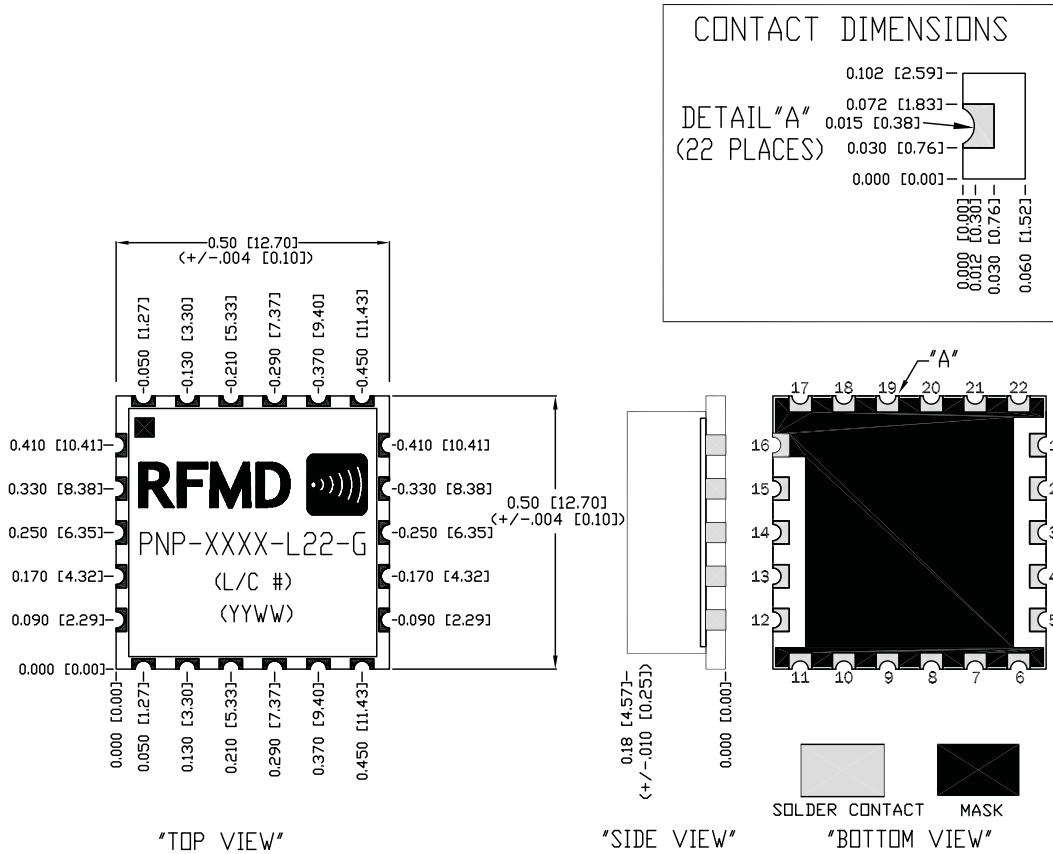
Parameter	Specification			Unit	Condition
	Min.	Typ.	Max.		
<b>Overall</b>					
Frequency Range	2000		2100	MHz	
Step Size	25		10000	kHz	
Output Power	-2	0	2	dBm	
Output Phase Noise		-87	-82	dBc/Hz	1 kHz
		-104	-99	dBc/Hz	10 kHz
		-127	-122	dBc/Hz	100 kHz
		-147	-142	dBc/Hz	1000 kHz
Spurious Product		-80	-70	dBc	10000kHz step size
		-70	-60	dBc	250kHz step size
		-70	-55	dBc	62.5kHz step size
Reference Feedthrough		-70	-65	dBc	
Second Harmonic		-18	-12	dBc	
Reference Oscillator Signal	10	20	250	MHz	Frequency
	0		3.3	V <sub>P-P</sub>	Amplitude - DC coupled
<b>Power Supply</b>					
Operating Voltage	4.9	5	5.1	V	V1
	2.7	3	3.3	V	V2
Supply Current		35	40	mA	I1
		25	35	mA	I2

**Notes:**

- Reference Input Level: -5dBm minimum, +5dBm maximum, AC coupled.
- Specification Test Conditions: V1 = 5V, V2 = 3V, REF = 20MHz.

## Package Drawing & Pin Outs

12.7mm x 12.7mm x 4.57mm (0.5in x 0.5in x 0.18in)



CONTACT ASSIGNMENTS	
1: DA0, Serial Interface	12: RF OUTPUT
2: DA1, Serial Interface	13: V1, ANALOG SUPPLY INPUT
3: DA2, Serial Interface	14: V2, DIGITAL SUPPLY INPUT
4: LOCK DETECT	15: REFERENCE INPUT
5: NO CONNECT	ALL OTHER CONTACTS ARE GROUND