



# Power Amplifier

## Model: PA-0G1-20G-1-L

0.1-20GHz 1W CW

Ultrabroad frequency range, high performance and exceptional RF characteristics

### Features:

- Frequency range: 0.1-20GHz
- High output power at saturation, 1W Min.
- High gain, 25 dB Min.
- 50 Ohm Matched Input / Output.

### Applications:

- Cellular
- PCN
- GSM
- ISM
- Lab Test

### Product Overview:

The PA-0G1-20G-1-L is a power amplifier with a minimum small signal gain of 25 dB and a minimum  $P_{sat}$  of 1W across the frequency range of 0.1 to 20GHz. The DC power requirement for the amplifier is +8 VDC/1300 mA. The input and output port configuration offers coax adapter structure with SMA female.



## Electrical Specifications at 25°C:

Parameter		Min	Typ	Max	Units
Frequency range		Band A: 0.1-0.4; Band B: 0.4-0.6; Band C: 0.6-20			GHz
Small Signal Gain	@0.1-0.4GHz	24	25		dB
	@0.4-0.6GHz	24	25		dB
	@0.6-20GHz	25	27		dB
Small Signal Gain Flatness	@0.1-0.4GHz		±1		dB
	@0.4-0.6GHz		±1		dB
	@0.6-20GHz		±2		dB
Output P1dB	@0.1-0.4GHz	26	28		dBm
	@0.4-0.6GHz	28	30		dBm
	@0.6-20GHz	28	30.5		dBm
Output Psat	@0.1-0.4GHz	29	30		dBm
	@0.4-0.6GHz	30	32		dBm
	@0.6-20GHz	30	32		dBm
Input VSWR	@0.1-0.4GHz		2.2		:1
	@0.4-0.6GHz		2		:1
	@0.6-20GHz		2		:1
Output VSWR	@0.1-0.4GHz		2.2		:1
	@0.4-0.6GHz		2		:1
	@0.6-20GHz		2		:1
DC Voltage			+8		V DC
DC Supply Current			1300		mA
Impedance			50		Ohms

## Conditions:

Parameter	Value	Notes
Operating Temperature*	-40°C to +60°C	
Non-operating Temperature*	-50°C to +70°C	
Relative humidity	95%	
RF Input/Output Connector	SMA Female/SMA Female	
DC Bias	TBD	
Altitude	10,000	feet

\*Note: For a wider temperature range, please consult the manufacturer.



## Mations:

Parameter	Value	Notes
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis	
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions	
Dimensions W x H x D	44*52*13	mm

\*Note: For a wider temperature range, please consult the manufacturer.

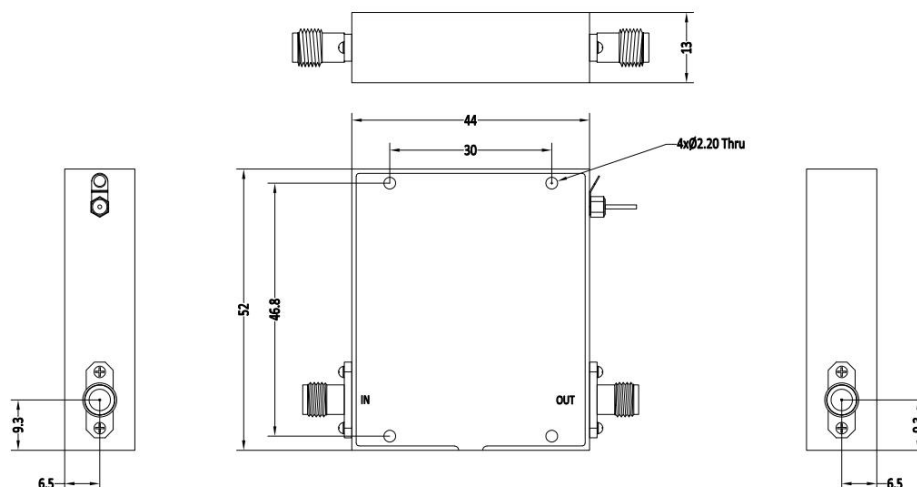
## Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	TBD
RF Input Power	+10 dBm
ESD sensitivity (HBm)	Class 0, passed 150V

## Outline Drawing:

Unit:mm

PA-0G1-20G-1-L



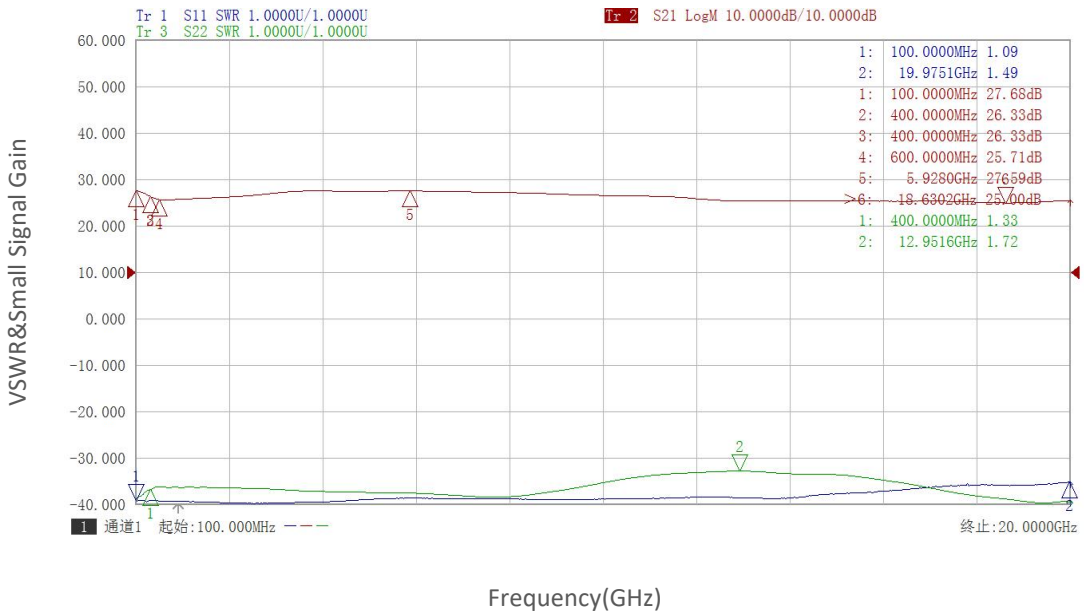
## Ordering Information:

Base Number	Description	Optional
PA-0G1-20G-1-L	Power Amplifier, 0.1-20GHz, Gain:25dB,Psat:1W,+8V DC	Without Heatsink
PA-0G1-20G-1-L-HS	Power Amplifier, 0.1-20GHz, Gain:25dB,Psat:1W,+8V DC	With Heatsink

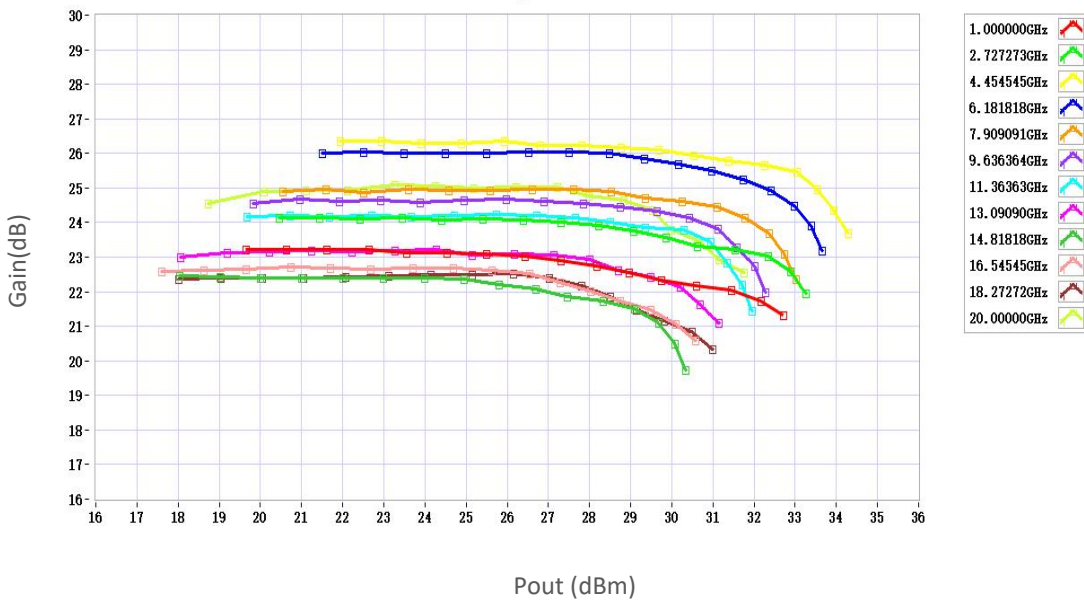


## Typical Performance Data:

### VSWR&Small Signal Gain vs Frequency



### Gain vs Output Power

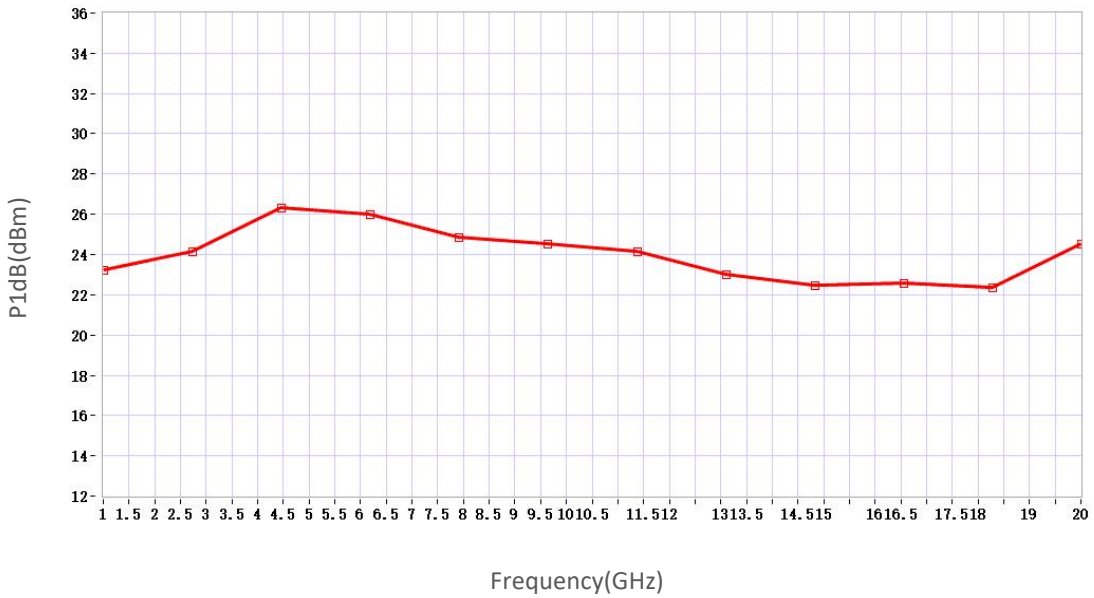


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.



## Typical Performance Data:

### P1dB vs Frequency



### 2nd Harmonic vs Output Power

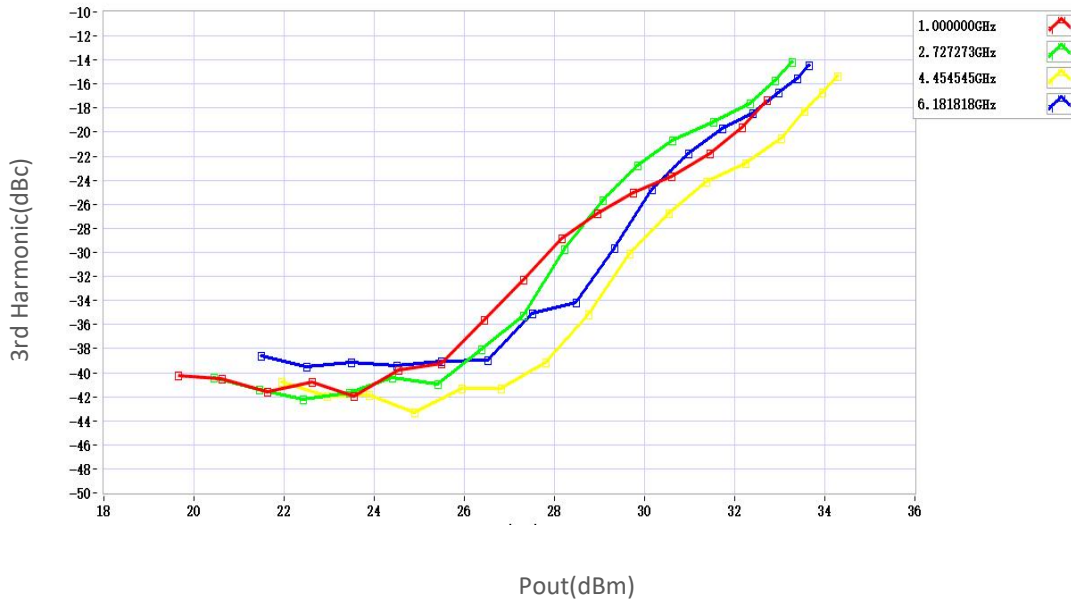


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.



## Typical Performance Data:

### 3rd Harmonic vs Output Power



Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.