



# Power Amplifier

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

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 Typ.
- High gain, 30 dB Min.
- 50 Ohm Matched Input / Output.

### Applications:

- Cellular
- PCN
- GSM
- ISM
- Lab Test

### Product Overview:

The PA-0G1-20G-1-H is a power amplifier with a minimum power gain of 30 dB and a nominal  $P_{sat}$  of 1W across the frequency range of 0.1 to 20GHz. The DC power requirement for the amplifier is +24 VDC/550 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	0.1		20	GHz
Power Gain	30			dB
Small Signal Gain@2-8GHz		35		dB
Power Gain Flatness		±2		dB
Output P1dB		28		dBm
Output Psat		30		dBm
Nosie Figure		4		dB
Spurious		-60		dBC
Harmonic		-10		dBC
Input VSWR		2		:1
Output VSWR		2		:1
DC Voltage		+24		V DC
DC Supply Current		550	800	mA
Impedance		50		Ohms

## Mechanical Specifications:

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	
Altitude	10,000	feet
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	60*65*11(Without Heatsink) 60*90*41(With Heatsink)	mm
Weight	≤500	g

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



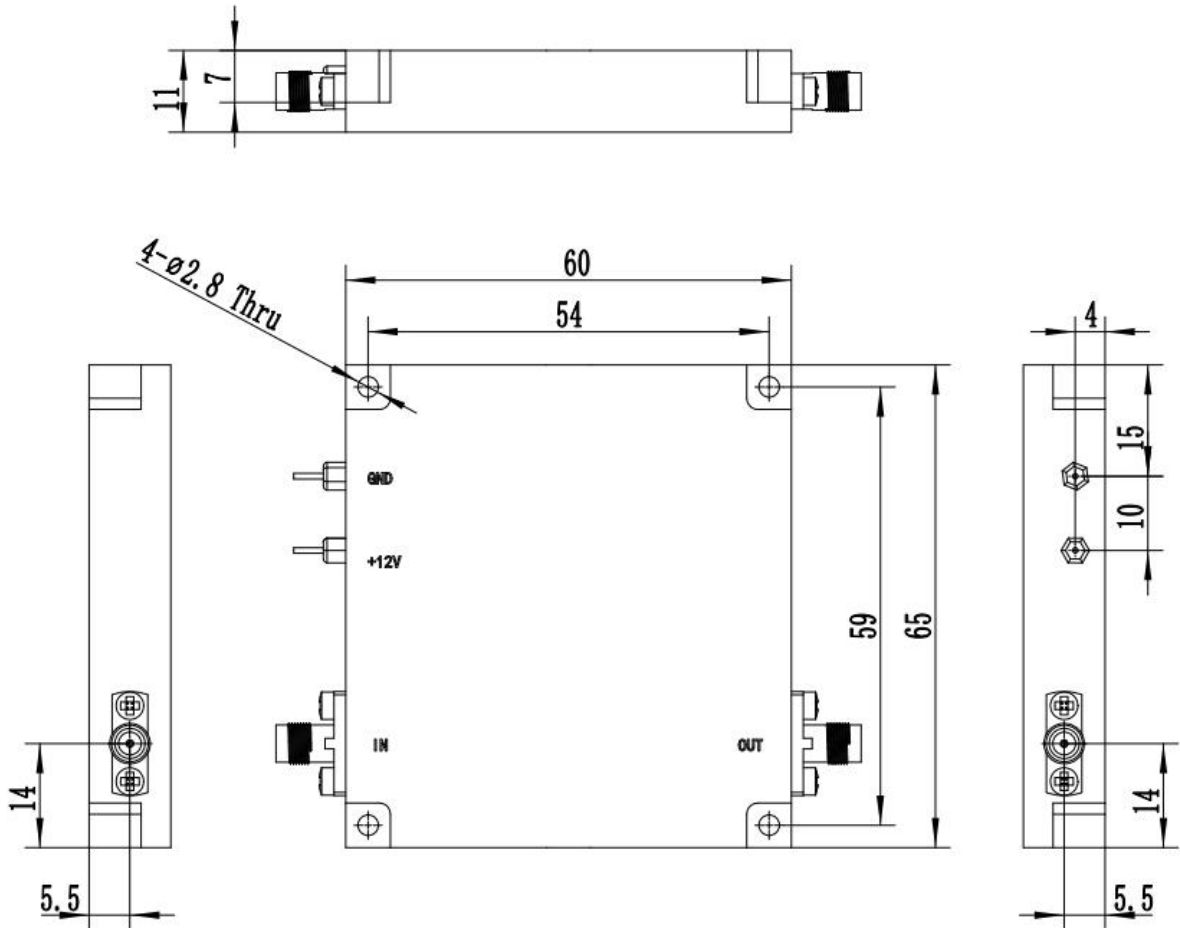
## Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	PIN1: +24V PIN2: GND
RF Input Power	0 dBm
ESD sensitivity (HBm)	Class 0, passed 150V

## Outline Drawing:

Unit:mm

PA-0G1-20G-1-H

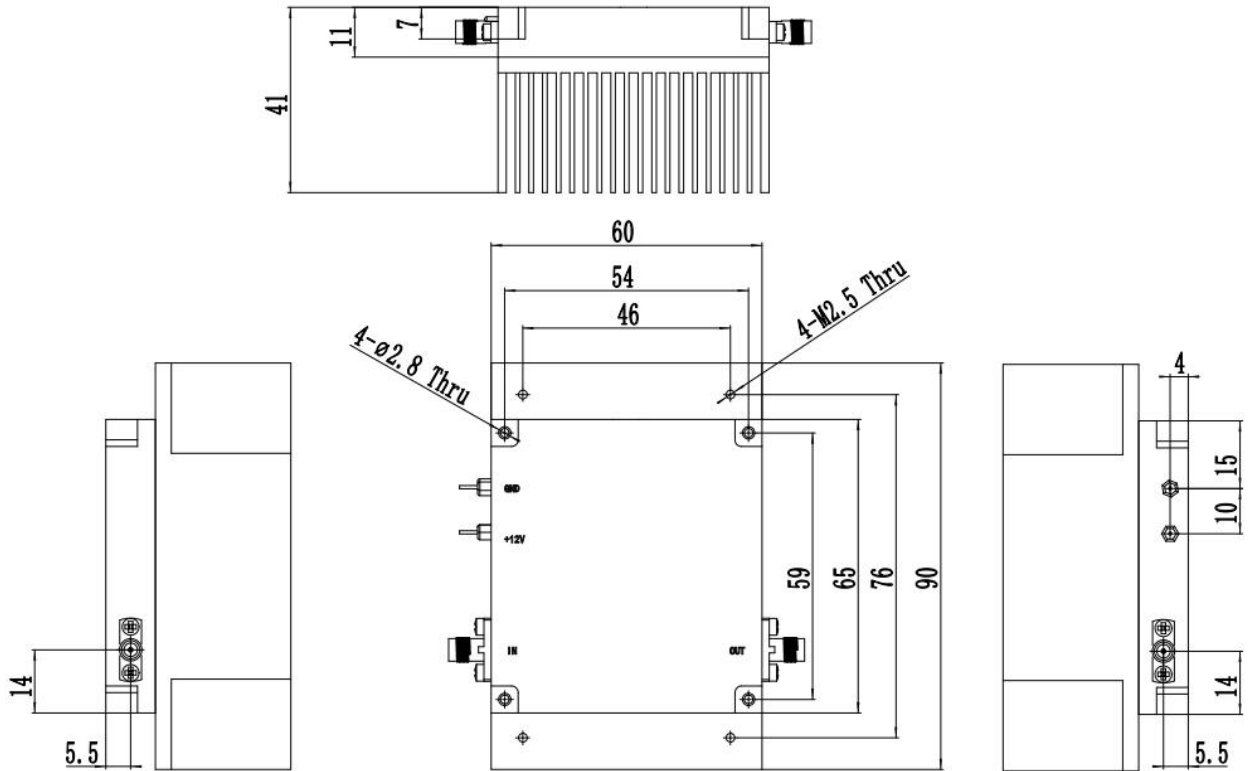




## Outline Drawing:

Unit:mm

PA-0G1-20G-1-H-HS



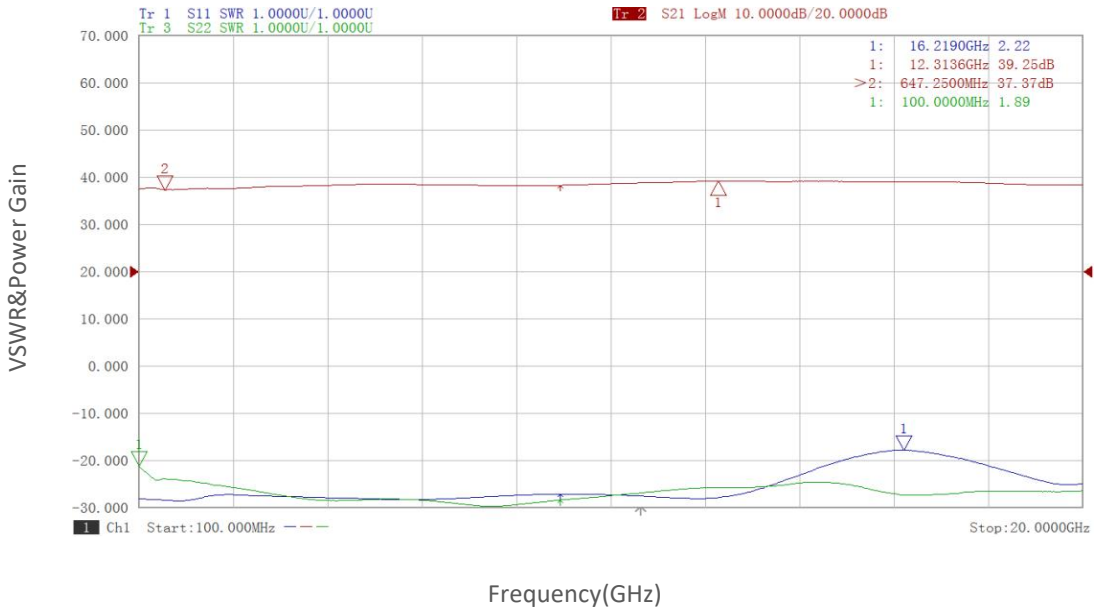
## Ordering Information:

Base Number	Description	Optional
PA-0G1-20G-1-H	Power Amplifier, 0.1-20GHz, Gain:30dB,Psat:1W,+24V DC	Without Heatsink
PA-0G1-20G-1-H-HS	Power Amplifier, 0.1-20GHz, Gain:30dB,Psat:1W,+24V DC	With Heatsink

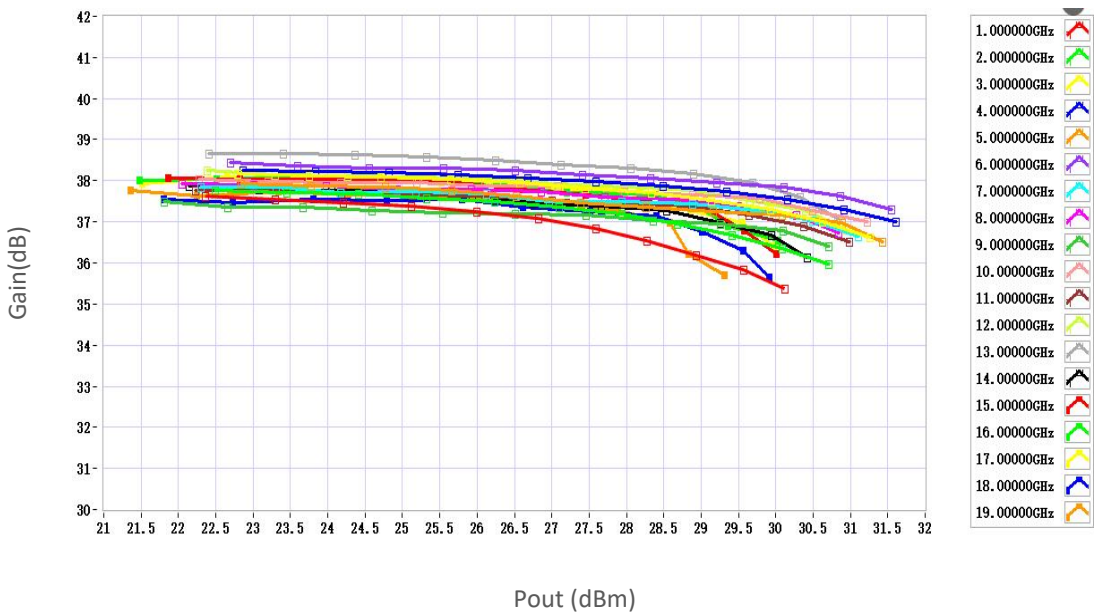


## Typical Performance Data:

### VSWR&Power Gain vs Frequency



### Gain vs Output Power

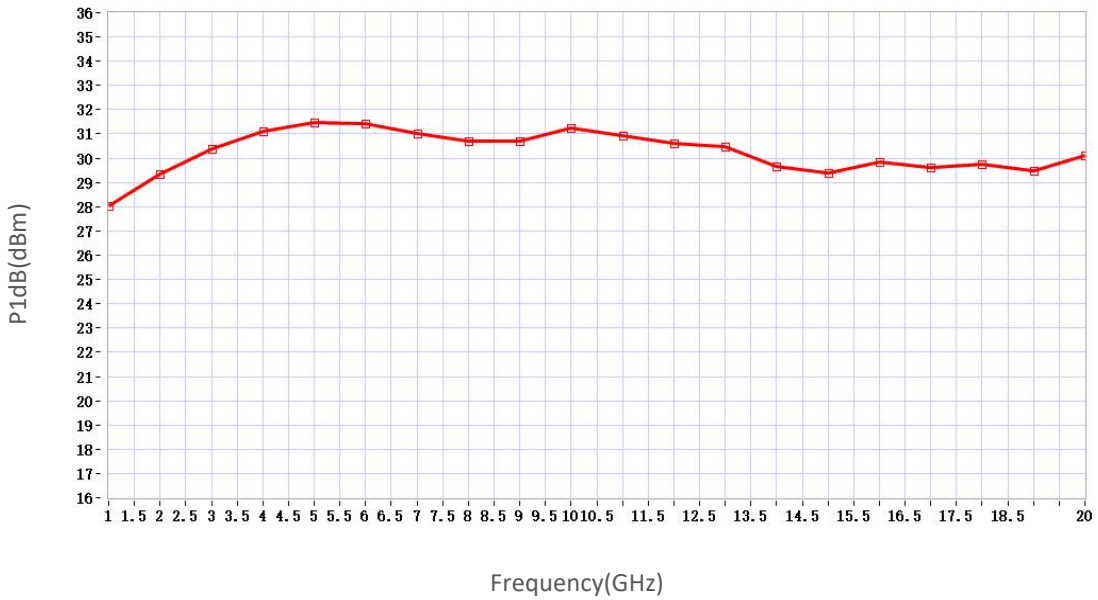


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

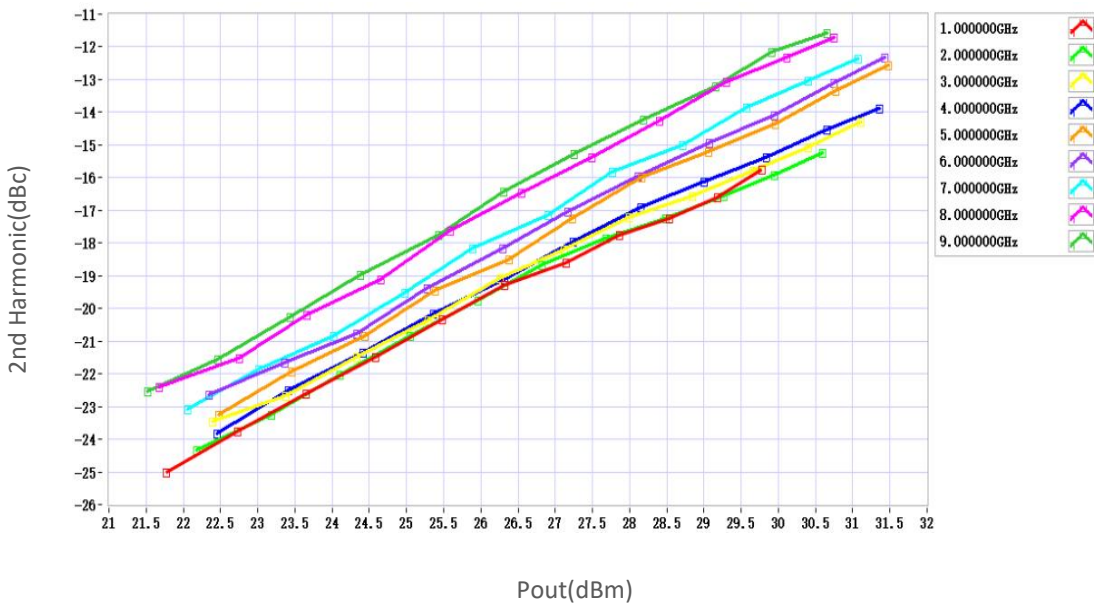


## Typical Performance Data:

### P1dB vs Frequency



### 2nd Harmonic vs Output Power

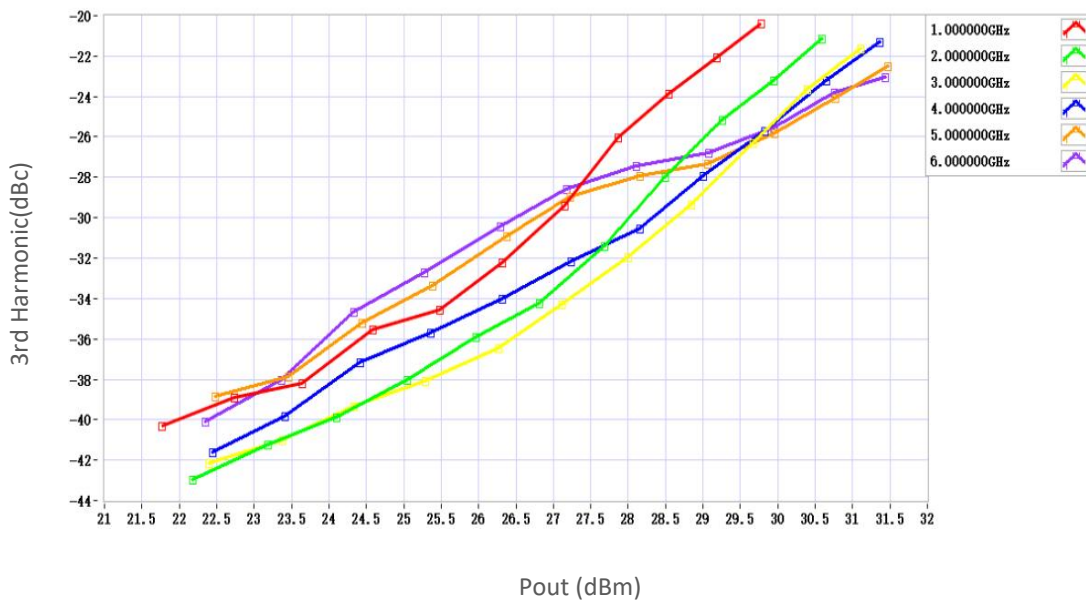


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

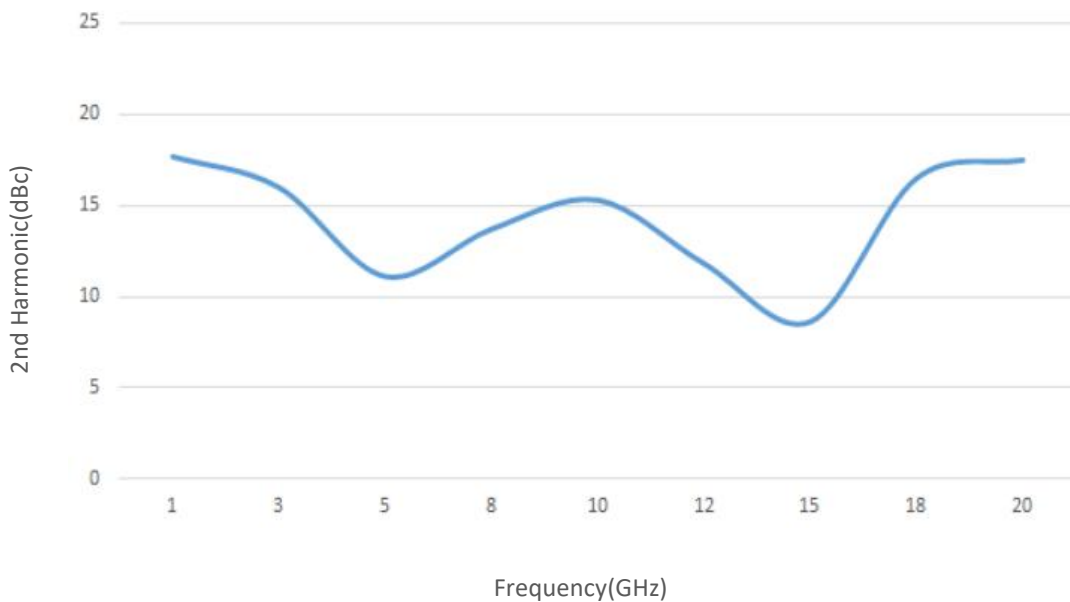


## Typical Performance Data:

### 3rd Harmonic vs Output Power



### 2nd Harmonic vs Frequency@Pout=30dBm

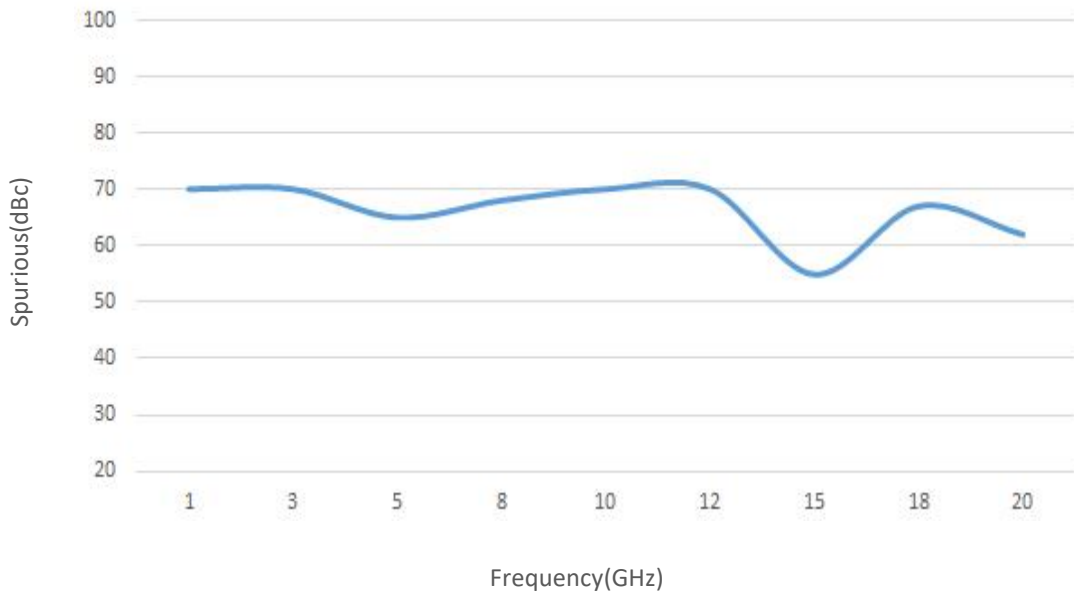


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.



## Typical Performance Data:

### Spurious vs Frequency@Pout=30dBm



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.