

Power Amplifier

20-50GHz/35dB Gain/28dBm Psat

Model: TLPA20G50G-33-27

TLPA20G50G-33-27 is a power amplifier with a typical small signal gain of 35 dB and a nominal Psat of 28 dBm across the frequency range of 20 to 50 GHz. The DC power requirement for the amplifier is +12 VDC/1.4 A. The input and output port configuration offers coax adapter structure with 2.4mm female.

Features:

- Frequency range: 20-50GHz
- Gain: 35dB Typ
- Output Power Psat: 28dBm Typ
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

Applications:

- Cellular
- PCN
- GSM
- ISM
- Lab Test

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range	20		50	GHz
Small Signal Gain	33	35		dB
Gain Flatness		±3		dB
Output P1dB		27		dBm
Output Psat	27	28		dBm
Input VSWR		2		:1
Output VSWR		2		:1
DC Voltage		+12		V DC
DC Supply Current		1.4		A
Impedance		50		Ohms

Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	2.4mm Female/2.4mm Female	
DC Bias	Solder Pin	
Size	65*50*14(Without Heatsink) 100*50*64(With Heatsink)	mm

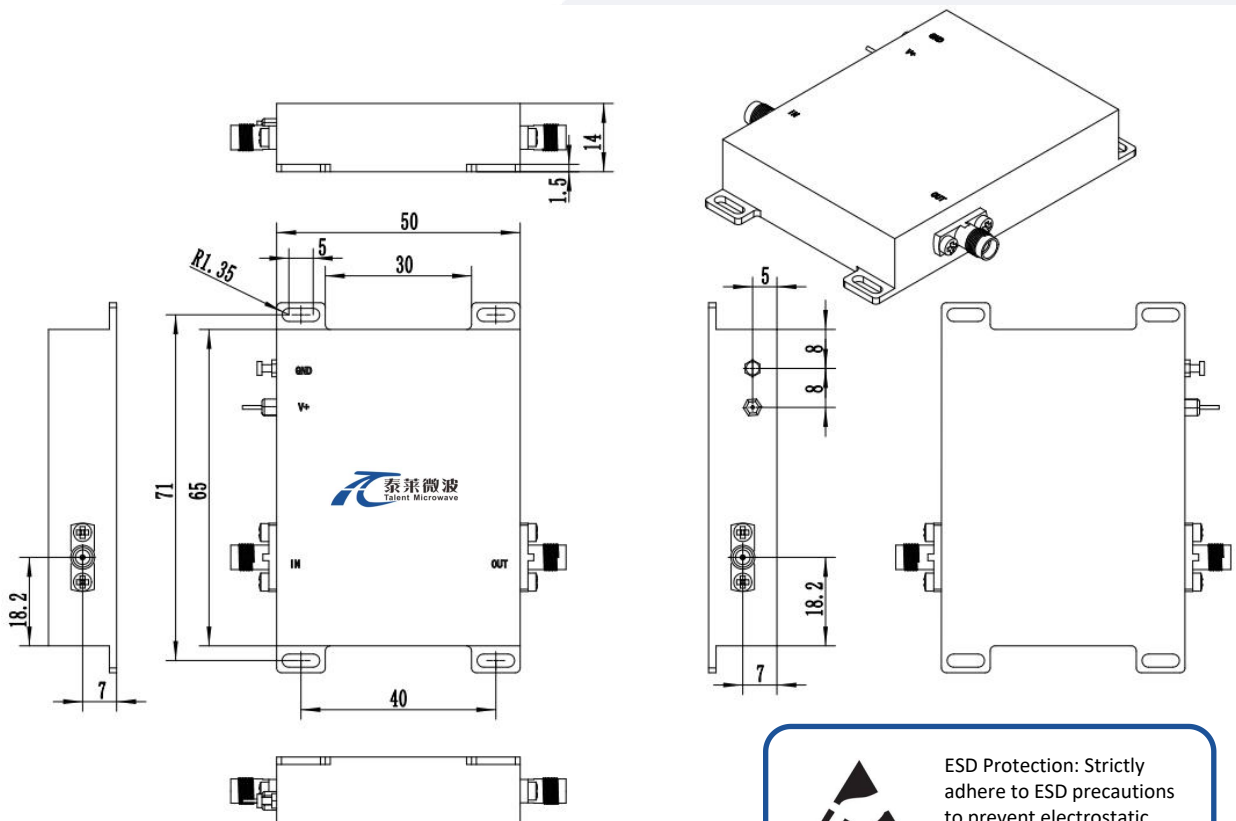
Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	TBD
RF Input Power	+5 dBm
ESD sensitivity (HBm)	Class 0, passed 150V



Outline Drawing:

Unit:mm

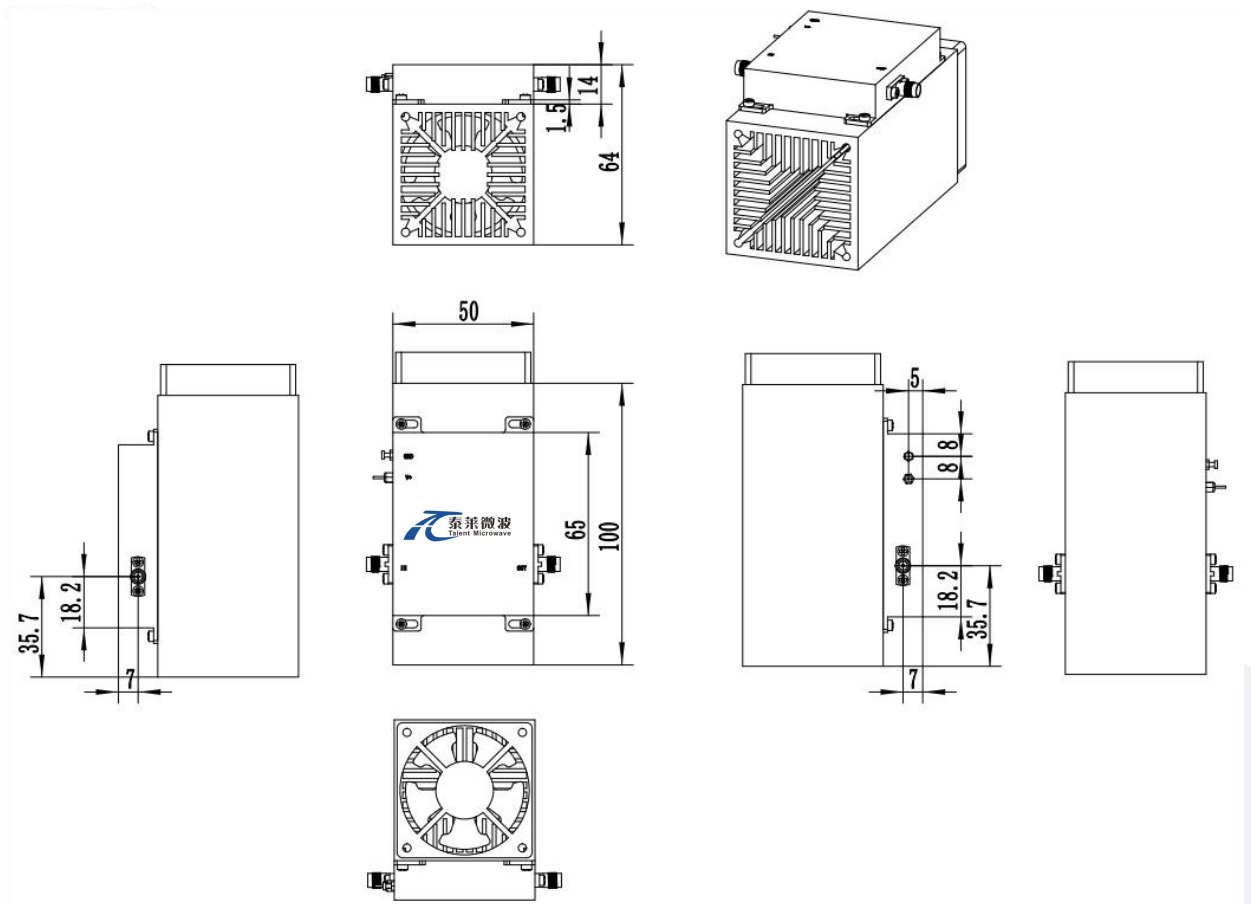


ESD Protection: Strictly adhere to ESD precautions to prevent electrostatic damage.

*****Heat Sink Required During Operation**

Outline Drawing:

Unit:mm



Environmental Conditions:

Parameter	Min	Typ	Max	Units
Operating Temperature*	-40		+60	°C
Non-operating Temperature*	-50		+70	°C
Relative humidity		95		%
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			

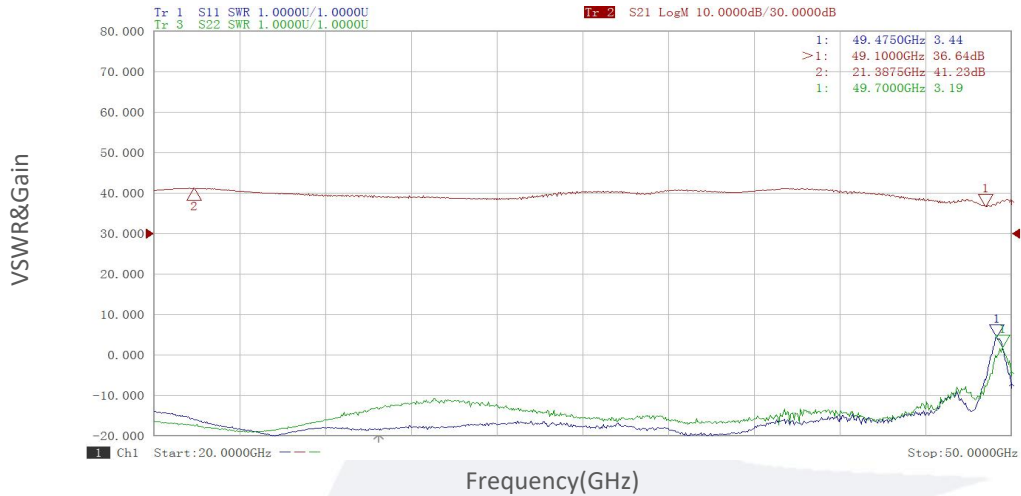
*Note: For a wider temperature range, please consult the manufacturer.

Ordering Information:

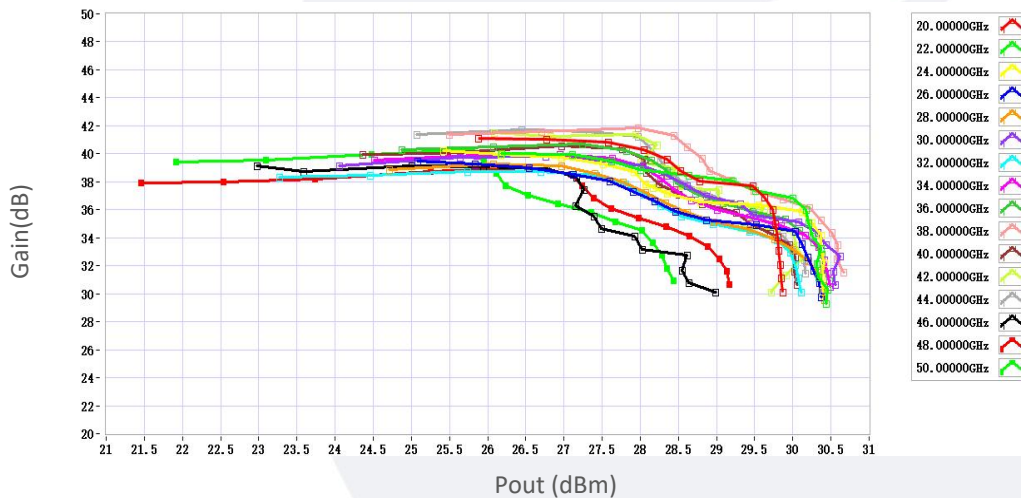
Base Number	Description	Revision
TLPA20G50G-33-27	Power amplifier 20-50GHz, Gain:35dB,Psat:28dBm,+12V DC,Without Heatsink	Rev.1.1
TLPA20G50G-33-27-HS	Power amplifier 20-50GHz, Gain:35dB,Psat:28dBm,+12V DC,With Heatsink	Rev.1.1

Typical Performance Data:

VSWR&Gain vs Frequency



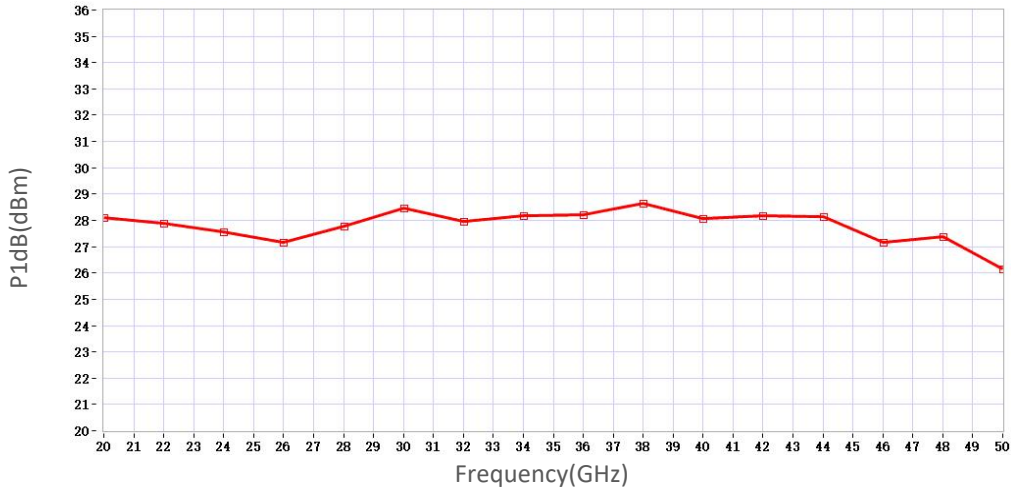
Gain vs Output Power



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:

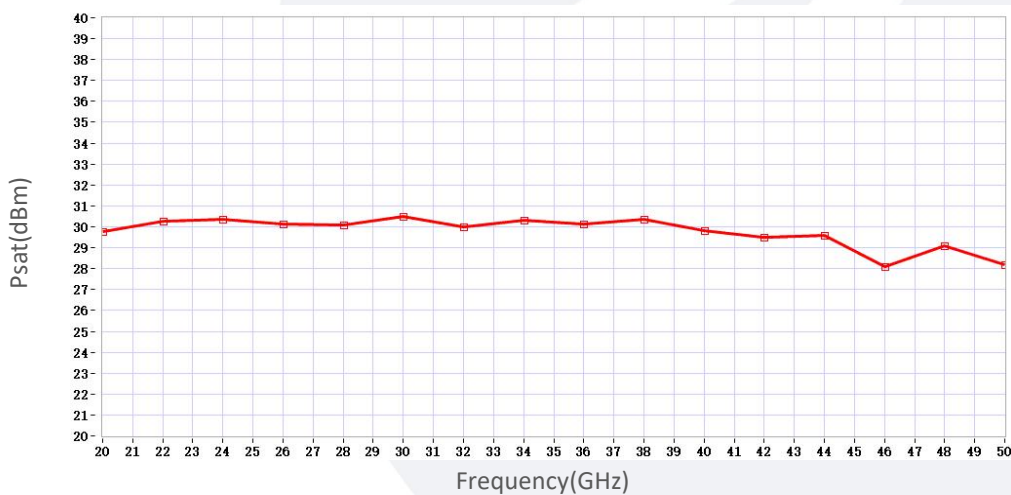
P1dB vs Frequency



P3dB vs Frequency



Psat vs Frequency



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.