

Power Amplifier

8-12GHz/40dB Gain/40dBm Psat

Model: TLPA8G12G-40-40-EN

TLPA8G12G-40-40-EN is a power amplifier with minimum small signal gain of 40 dB and a minimum Psat of 40 dBm across the frequency range of 8 to 12 GHz. The DC power requirement for the amplifier is +28 VDC/3 A. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 8-12GHz
- Gain: 40dB Min
- Output Power Psat: 40dBm Min
- 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	8		12	GHz
Small Signal Gain	40	42		dB
Gain Flatness		±2		dB
Output P1dB		38		dBm
Output Psat	40	41		dBm
Harmonic		-15		dBc
Input VSWR		1.5	2	:1
DC Voltage		28		V DC
DC Supply Current		3		A
Impedance		50		Ohms

Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	SMA Female/SMA Female	
DC Bias	Solder Pin	
Size	60*60*11.5(Without heatsink) 150*127*74.5(With heatsink)	mm
Weight	≤200	g

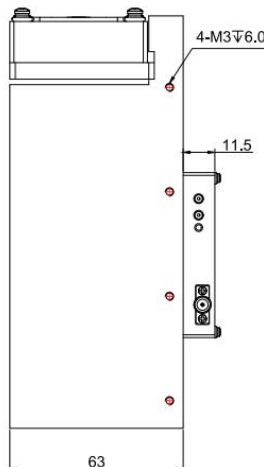
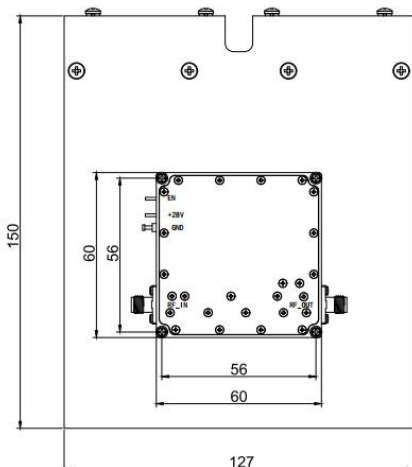
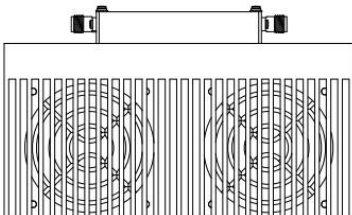
Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+29 V
RF Input Power	+5 dBm
ESD sensitivity (HBm)	Class 0, passed 150V



Outline Drawing:

Unit:mm; Tolerance:±0.1mm



EN	Function
0(0~+0.2V)	PA off
1(+3.3~+5V)	PA on



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

Environmental Conditions:

Parameter	Min	Typ	Max	Units
Operating Temperature*	-40		+50	°C
Non-operating Temperature*	-50		+60	°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			

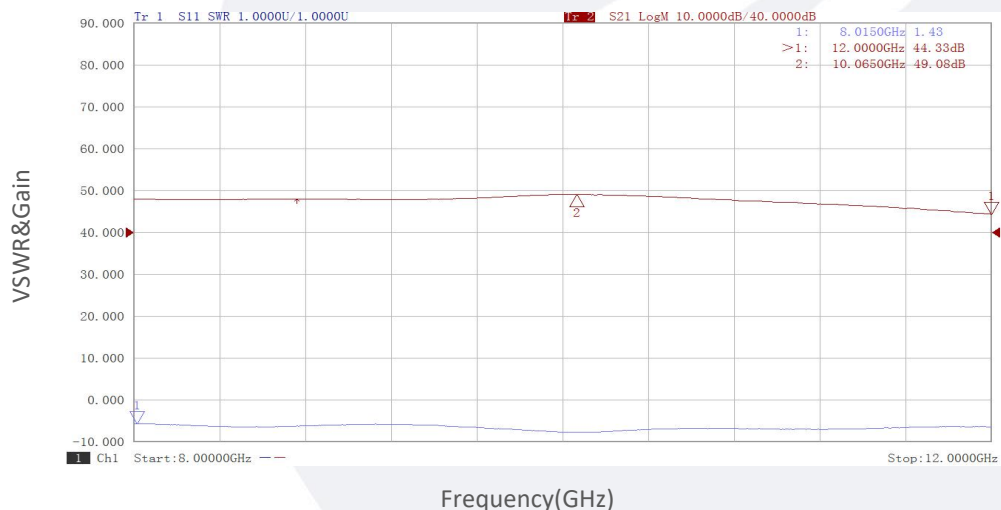
*Note: For a wider temperature range, please consult the manufacturer.

Ordering Information:

Base Number	Description	Revision
TLPA8G12G-40-40-EN	Power amplifier 8-12GHz, Gain:40dB,Psat:40dBm,+28V DC,Without Heatsink	Rev.1.0
TLPA8G12G-40-40-EN-HS	Power amplifier 8-12GHz, Gain:40dB,Psat:40dBm,+28V DC,With Heatsink	Rev.1.0

Typical Performance Data:

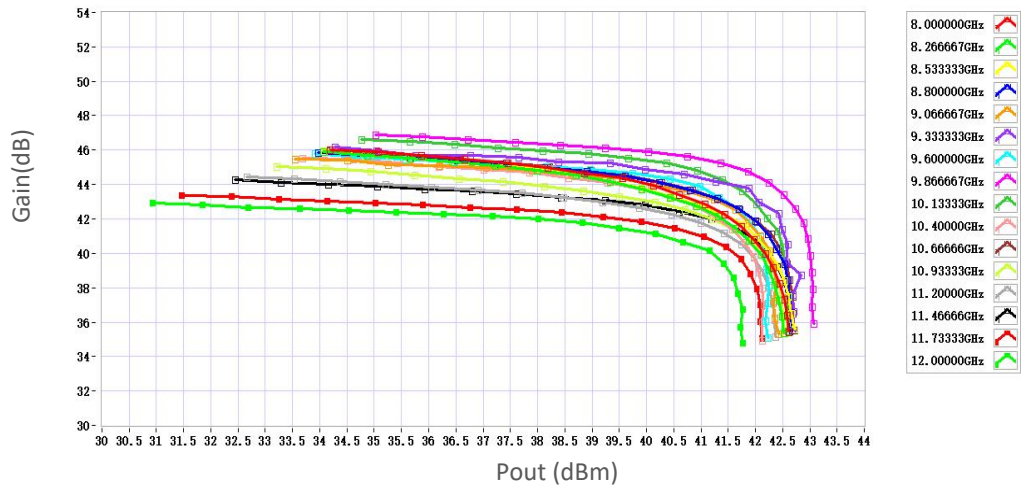
VSWR&Gain vs Frequency



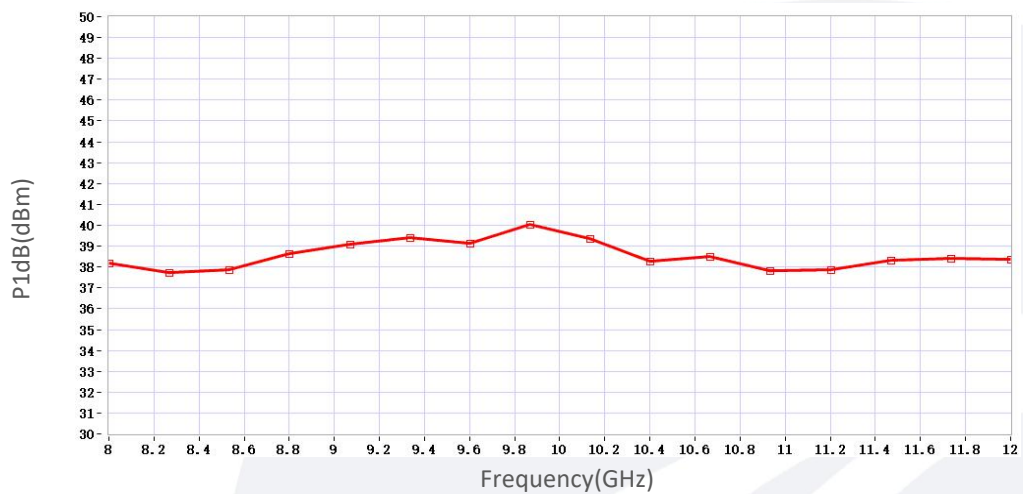
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

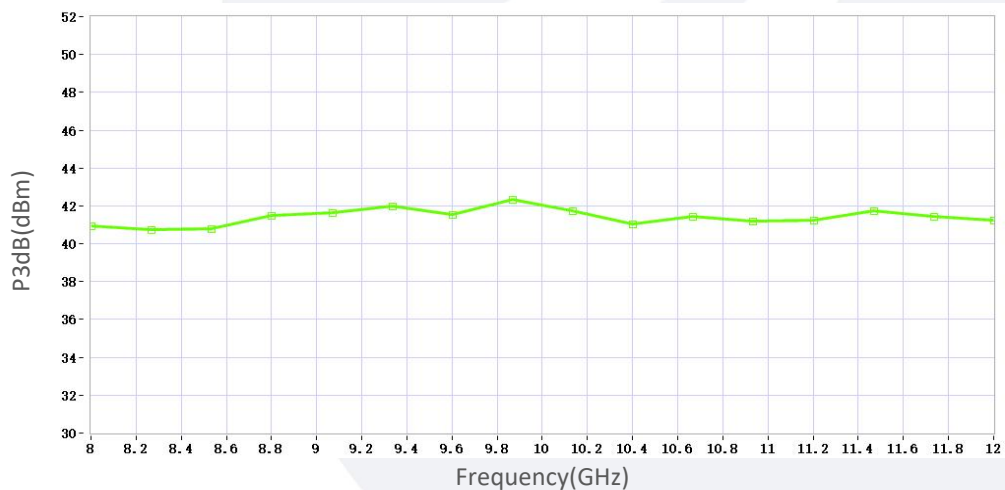
Gain vs Output Power



P1dB vs Frequency



P3dB vs Frequency



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Typical Performance Data:

Psat vs Frequency



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