泰莱微波
Talent Microwave

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Low Noise Amplifier

50KHz-53GHz/5.0dB NF/12dB Gain/15dBm P1dB

Model: TLLA50K53G-12-50

TLLA50K53G-12-50 is a low noise amplifier with a typical small signal gain of 12 dB and a nominal noise figure of 5.0 dB across the frequency range of 50KHz to 53 GHz. The DC power requirement for the amplifier is +8 V DC/160 mA. The input and output port configuration offers coax adapter structure with 2.4mm female.

Features:

- Ultra Wide Band:50KHz-53GHz
- Gain: 12dB Typ
- Noise Figure: 5.0dB Typ
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

Applications:

- Communication systems

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range		50KHz-53GHz		
Gain		12		dB
Gain Flatness		±4.0		dB
Noise Figure*		5.0		dB
Output P1dB		15		dBm
Output IP3		20		dBm
Input VSWR		2		:1
Output VSWR		2		:1
DC Voltage	5	8		V DC
DC Supply Current		160		mA
Impedance		50		Ohms

*Performance may degrade below 300 MHz. Please refer to below typical test plots

Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	2.4mm Female/2.4mm Female	
DC Bias	Solder Pin	
Size	44.8*29.2*11	mm

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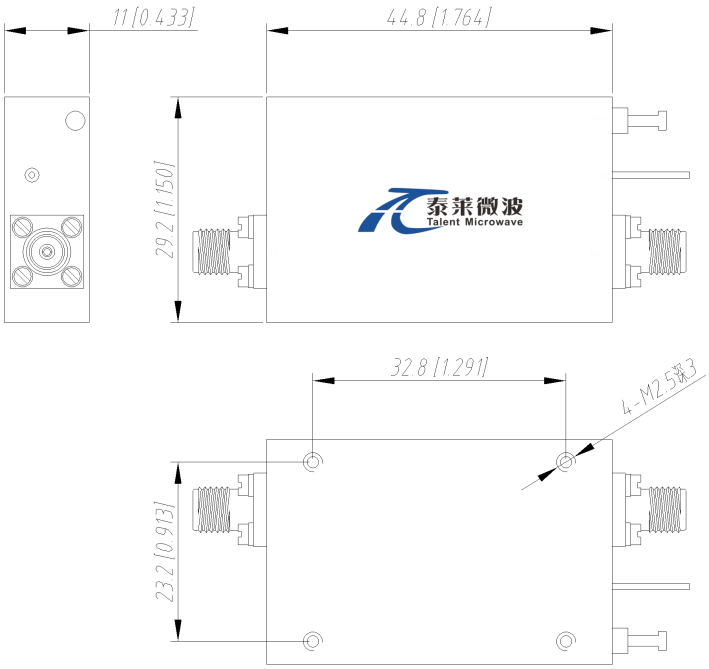
Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+12 V
RF Input Power	+10 dBm
ESD sensitivity (HBm)	Class 0, passed 150V

Outline Drawing:

Unit:mm



***Heat Sink Required During Operation

OBSERVE PRECAUTIONS
ELECTROSTATIC SENSITIVE
DEVICES

Environmental Conditions:

Parameter	Min	Typ	Max	Units
Operating Temperature	-45		+85	℃
Non-operating Temperature	-55		+125	℃
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			

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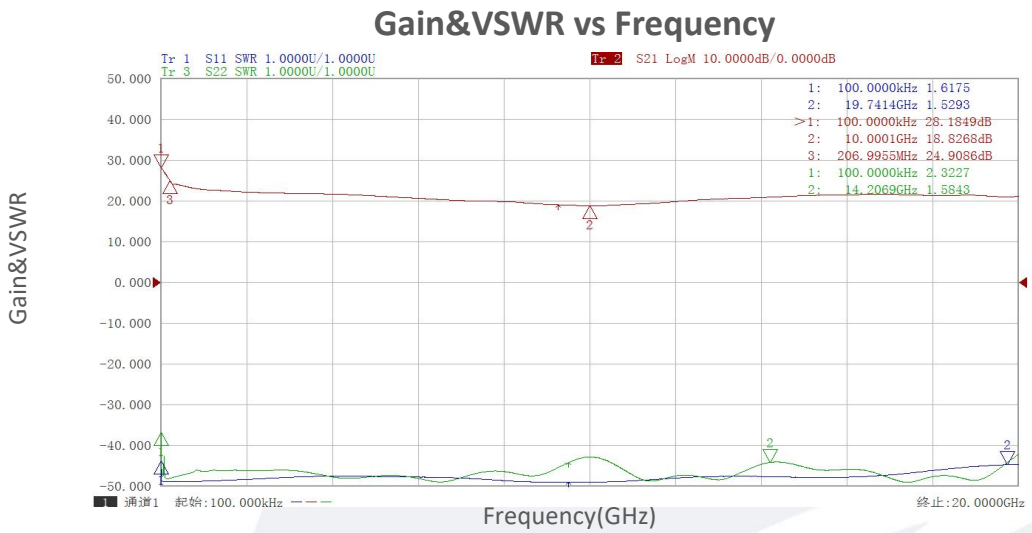
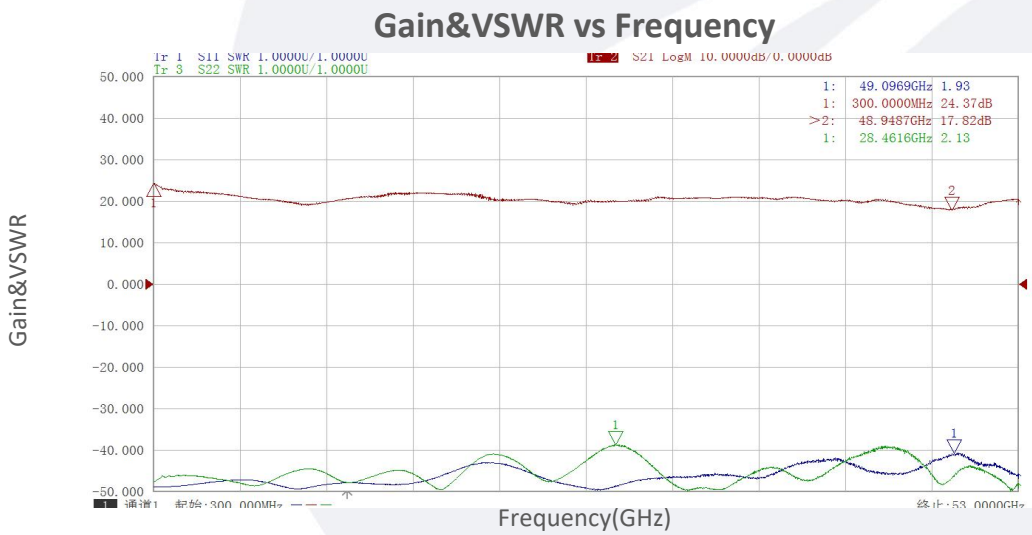
Ordering Information:

Base Number	Desciption	Revision
TLLA50K53G-12-50	Low Noise Amplifier, 50KHz-53GHz, Noise Figure:5.0dB, Gain:12 dB,P1dB:15dBm,+8V DC,Without Heatsink	Rev.1.1
TLLA50K53G-12-50-HS	Low Noise Amplifier, 50KHz-53GHz, Noise Figure:5.0dB, Gain:12 dB,P1dB:15dBm,+8V DC,With Heatsink	Rev.1.1

Typical Performance Data:





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.

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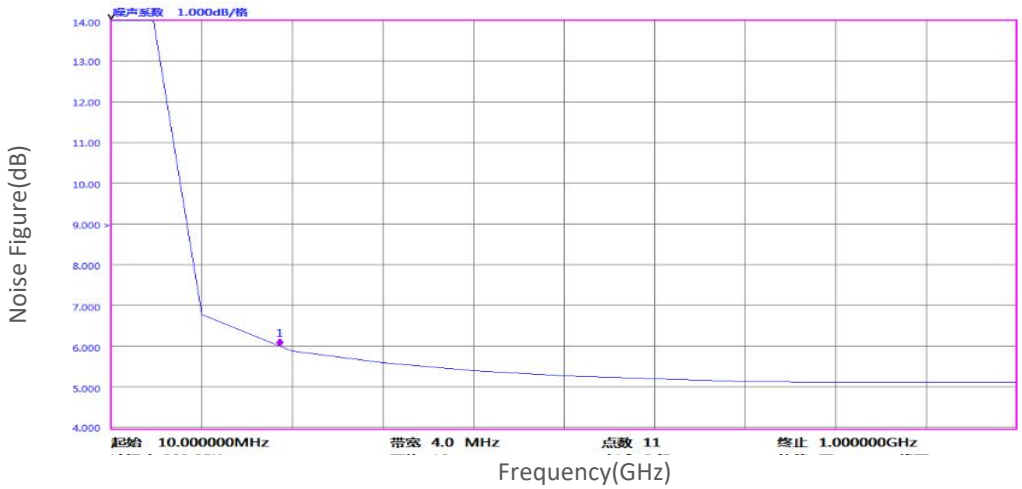
Typical Performance Data:

Noise Figure vs Frequency



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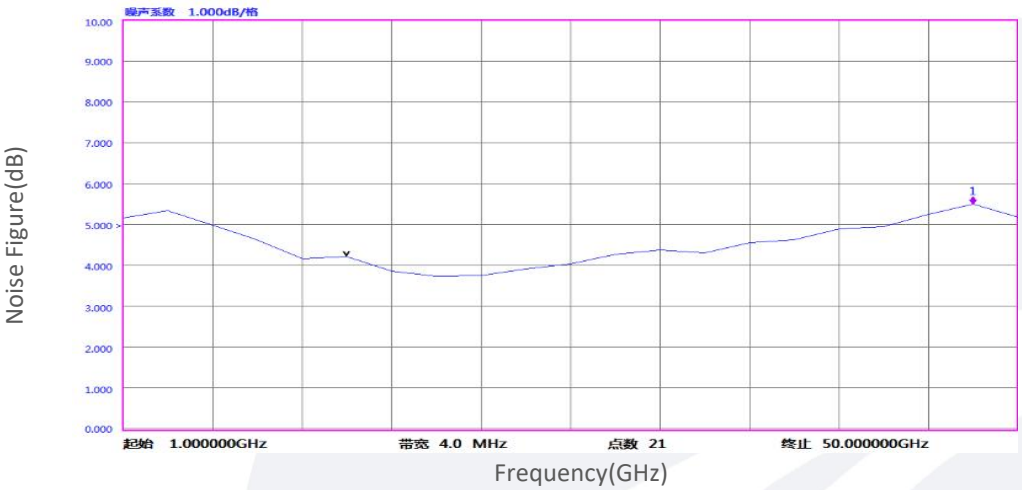
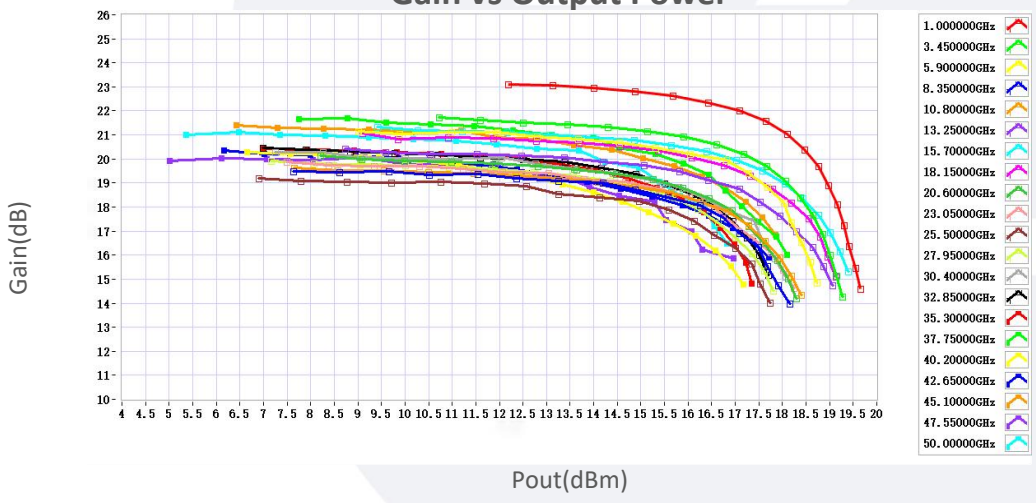


Gain vs Output Power



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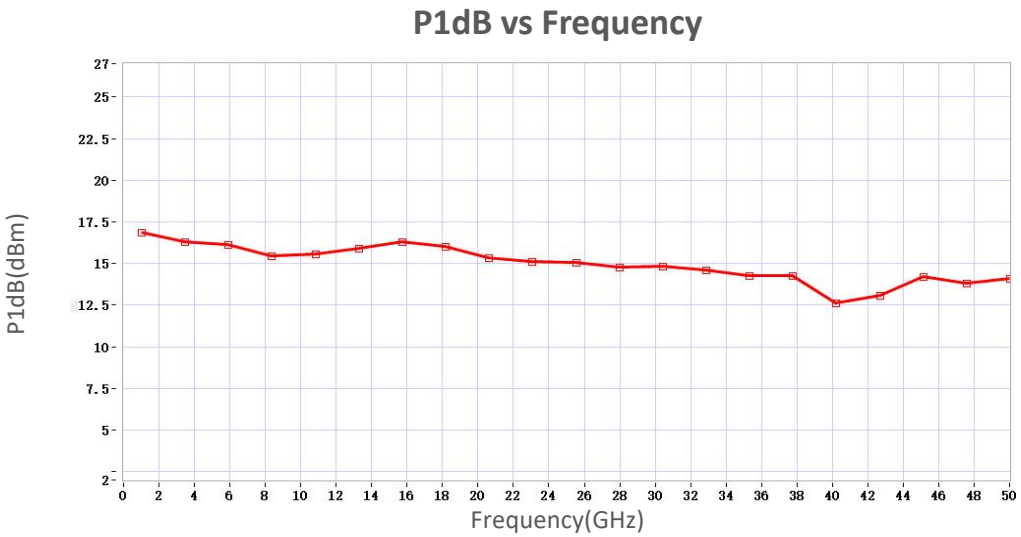

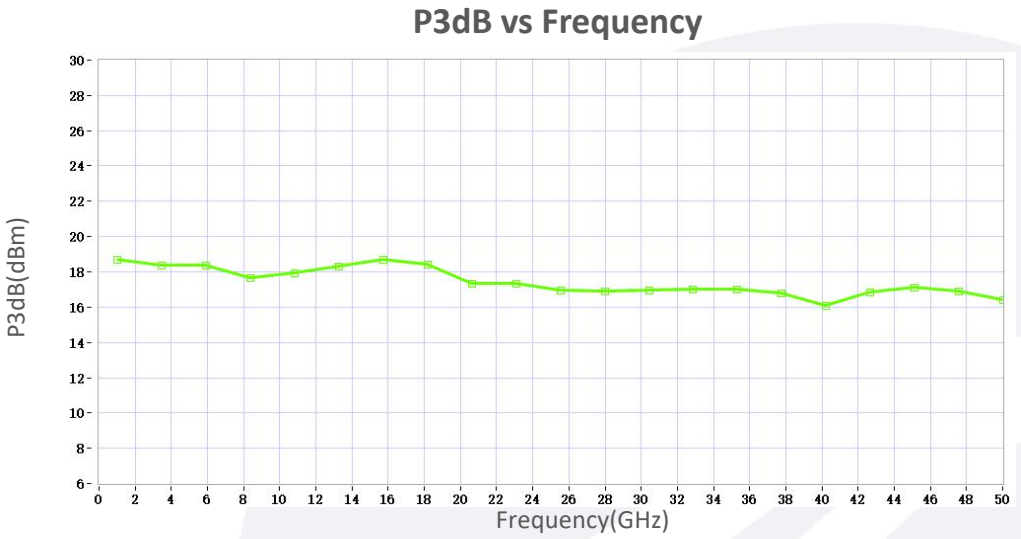

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