

Power Amplifier

0.7-6GHz/53dB Gain/50dBm Psat

Model: TLPA0.7G6G-53-50

TLPA0.7G6G-53-50 is a power amplifier with a minimum power gain of 53 dB and a minimum Psat of 50 dBm across the frequency range of 0.7 to 6 GHz. The DC power requirement for the amplifier is +28 VDC/22 A. The input port configuration offers coax adapter structure with SMA female and output port configuration offers coax adapter structure with N Female.

Features:

- Frequency range: 0.7-6GHz
- Gain: 53dB Min
- Output Power Psat: 50dBm 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	0.7		6	GHz
Power Gain	53	56		dB
Gain Flatness		±4	±6	dB
Output Psat	50	51		dBm
Supurious			-60	dBc
Harmonics			-10	dBc
Input VSWR			2.0	:1
DC Voltage		+28		V DC
DC Supply Current		22		A
Impedance		50		Ohms

Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	SMA Female/N Female	
DC Supply Connector	D-SUB-15	
Size	270*160*27	mm

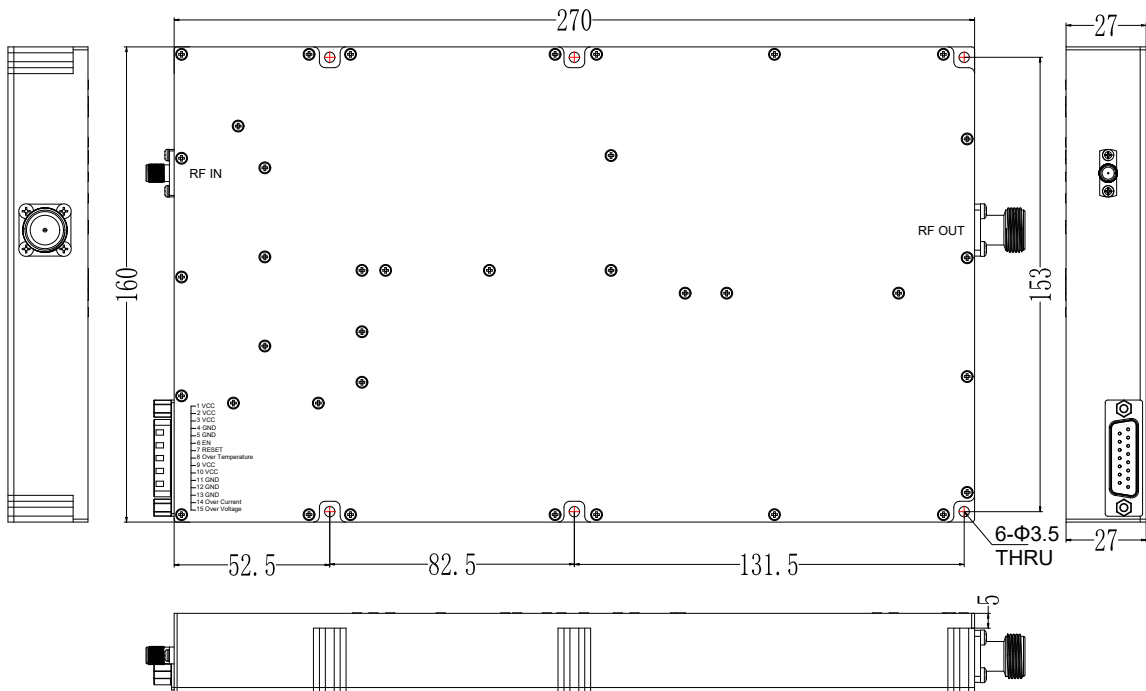
Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+28 V
RF Input Power	+3 dBm
ESD sensitivity (HBm)	Class 0, passed 150V



Outline Drawing:

Unit:mm



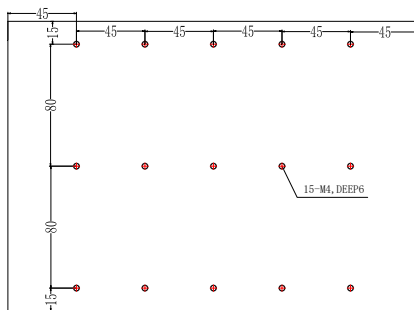
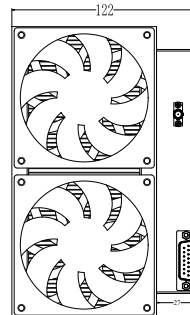
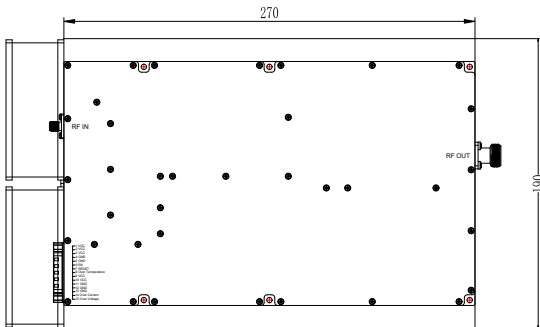
*****Heat Sink Required During Operation**



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

Outline Drawing:

Unit:mm



DC Supply Connector(DSUB-9 Female):

Pin	Name	Function
1	VCC	+26.0-30.0VDC
2	VCC	+26.0-30.0VDC
3	VCC	+26.0-30.0VDC
4	GND	Ground
5	GND	Ground
6	EN	Amplifier Enable: TTL High (5V) (Internally Pulled-High)
7	RESET	Resets PA when logic LOW is applied and released (Internally Pulled-High)
8	Over Temperature	When the temperature of the case exceeds 70 °C, the power amplifier will turn off and this pin will be pulled high. If the temperature of case drops to 60 °C, the power amplifier will return to normal operation, and this pin will be pulled low.

DC Supply Connector(DSUB-9 Female):

Pin	Name	Function
9	VCC	+26.0-30.0VDC
10	VCC	+26.0-30.0VDC
11	GND	Ground
12	GND	Ground
13	GND	Ground
14	Over Current	Current FAULT:(TTL High= Fault, TTL Low =Normal)
15	Over Voltage	Voltage FAULT:(TTL High= Fault, TTL Low =Normal)

Environmental Conditions:

Parameter	Min	Typ	Max	Units
Operating Temperature*	-20		+50	°C
Non-operating Temperature*	-30		+60	°C
Relative humidity		95		%
Altitude	10,000			feet
Shock / Vibration(MIL-STD-810F)	20g,11ms,saw-tooth			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

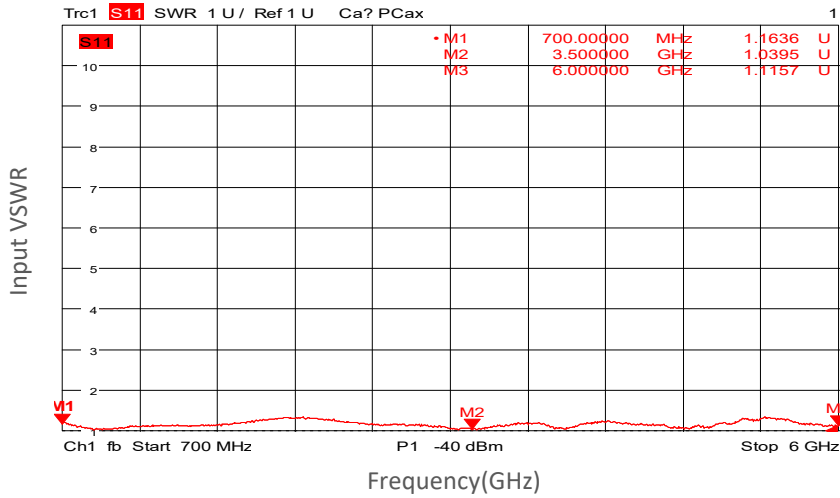
*Note: For a wider temperature range, please consult the manufacturer.

Ordering Information:

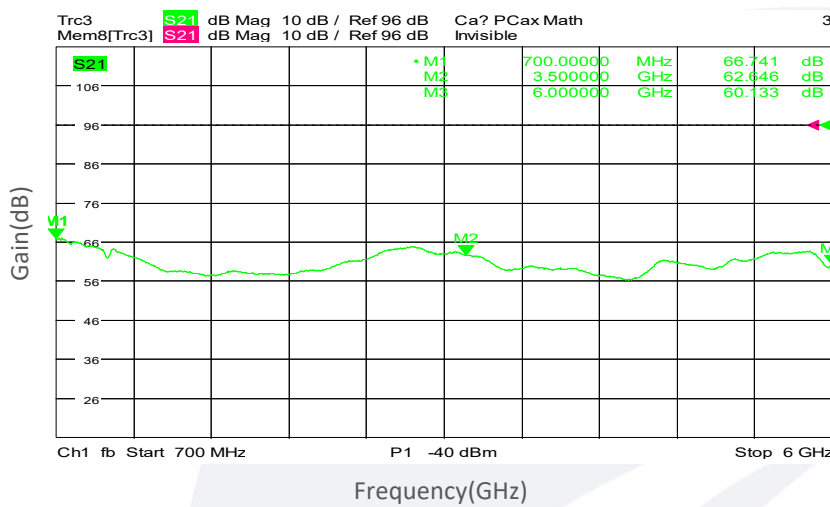
Base Number	Description	Revision
TLPA0.7G6G-53-50	Power amplifier 0.7-6GHz, Gain:53dB,Psat:50dBm,+28V DC,Without Heatsink	Rev.1.1
TLPA0.7G6G-53-50-HS	Power amplifier 0.7-6GHz, Gain:53dB,Psat:50dBm,+28V DC,With Heatsink	Rev.1.1

Typical Performance Data:

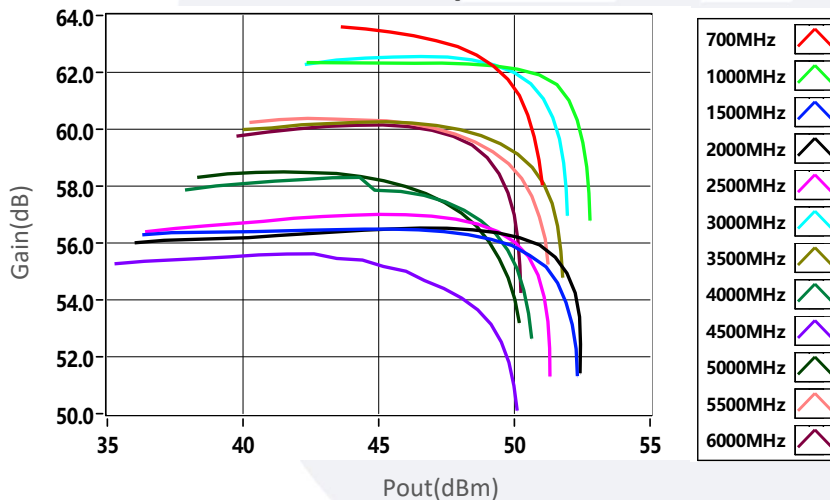
Input VSWR vs Frequency



Small Signal Gain vs Frequency



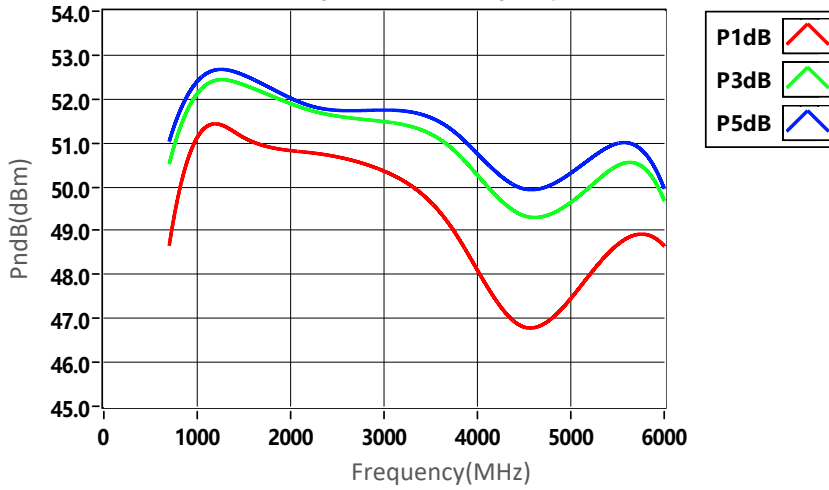
Gain vs Output Power



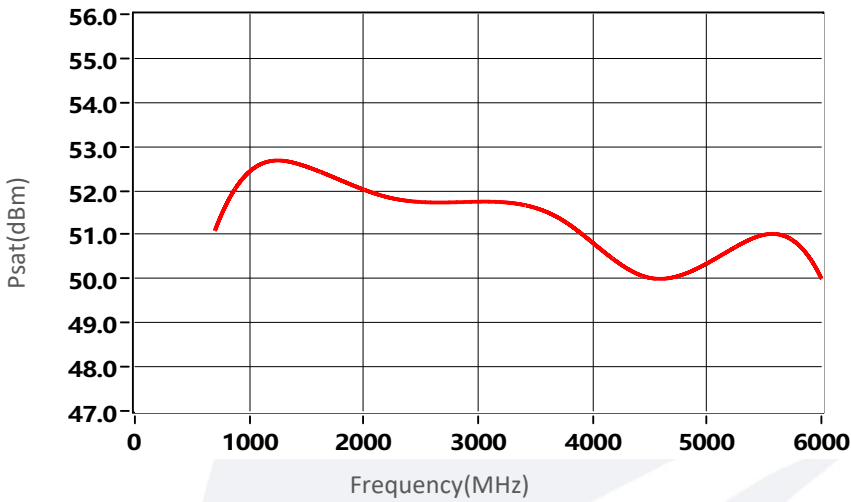
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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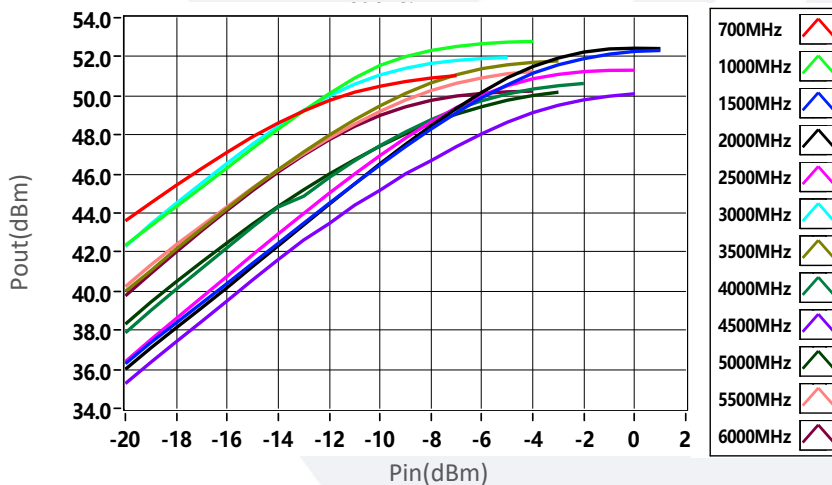
PndB vs Frequency



Psat vs Frequency



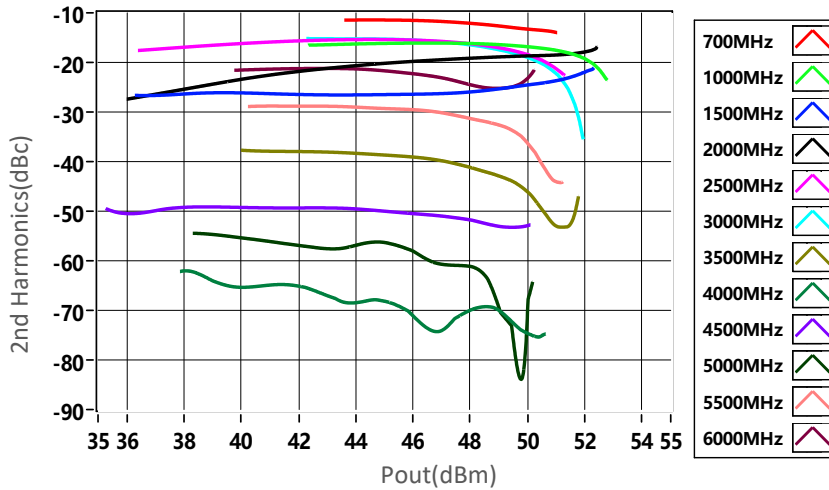
Pout vs Pin



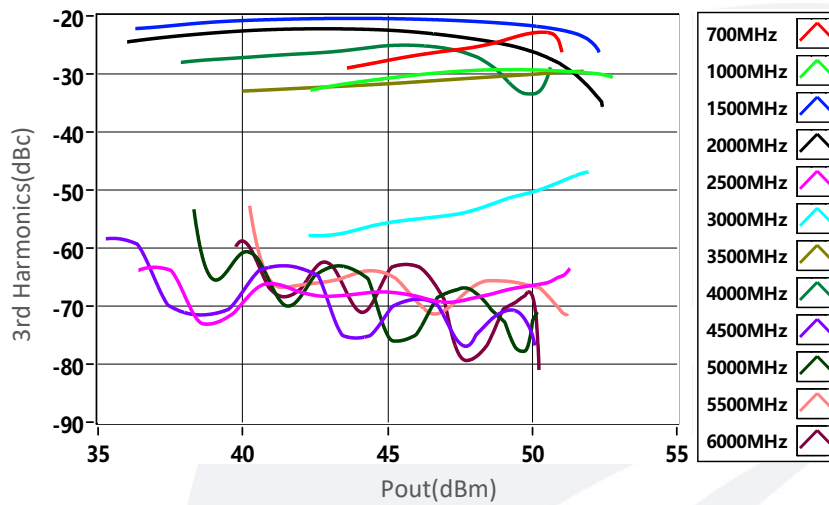
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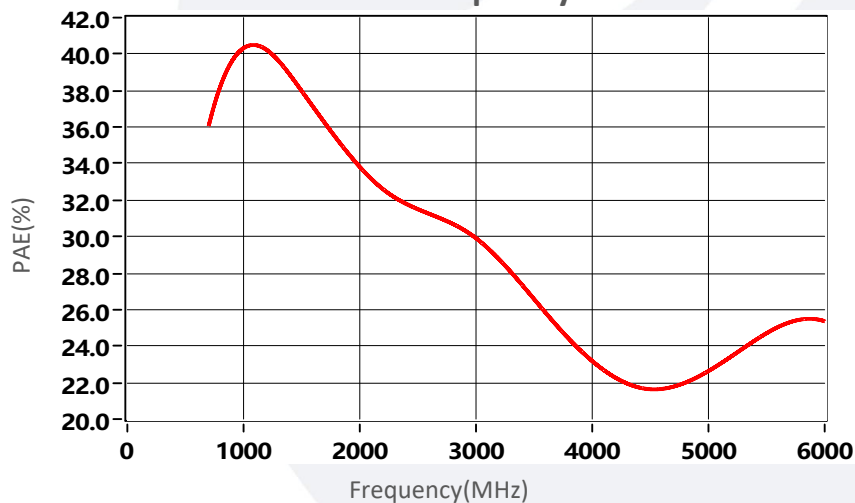
2nd Harmonics vs Output Power



3rd Harmonics vs Output Power



PAE vs Frequency



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