

Low Noise Amplifier

5-700MHz/1.5dB NF/24dB Gain/23dBm P1dB

Model: TLLA5M700M-24-15

TLLA5M700M-24-15 is a low noise amplifier with a minimum small signal gain of 24 dB and a nominal noise figure of 1.5 dB across the frequency range of 5 to 700 MHz. The DC power requirement for the amplifier is +12 V DC/150 mA. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 5-700MHz
- Gain: 24dB Min
- Noise Figure: 1.5dB Typ
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

Applications:

- Communication systems

电气特性 Electrical Characteristics:

参数 Parameter		Min	Typ	Max	单位 Units
频率范围 Frequency range		5		700	MHz
小信号增益 Small Signal Gain	@5MHz	24	26.7		dB
	@25MHz		26.8		
	@100MHz		26.9		
	@300MHz		27		
	@500MHz		27		
	@700MHz		26.9		
增益平坦度 Gain Flatness			±0.25	±0.5	dB
噪声系数 Noise Figure			1.5	1.8	dB
线性输出功率 Output P1dB@350MHz		21	23		dBm
输出三阶交调 Output IP3@350MHz		30	38		dBm
输入驻波 Input VSWR				1.2	:1
输出驻波 Output VSWR				1.4	:1
直流电压 DC Voltage		+11	12	+30	V DC
直流电流 DC Supply Current			150	180	mA
阻抗 Impedance		50			Ohms

机械特性 Mechanical Specifications:

参数 Parameter	指标 Value	单位 Units
输入/输出接口 Input /Output Connector	SMA Female/SMA Female	
直流偏置 DC Bias	Solder Pin	
尺寸 Size	31.75*31.75*14.29	mm

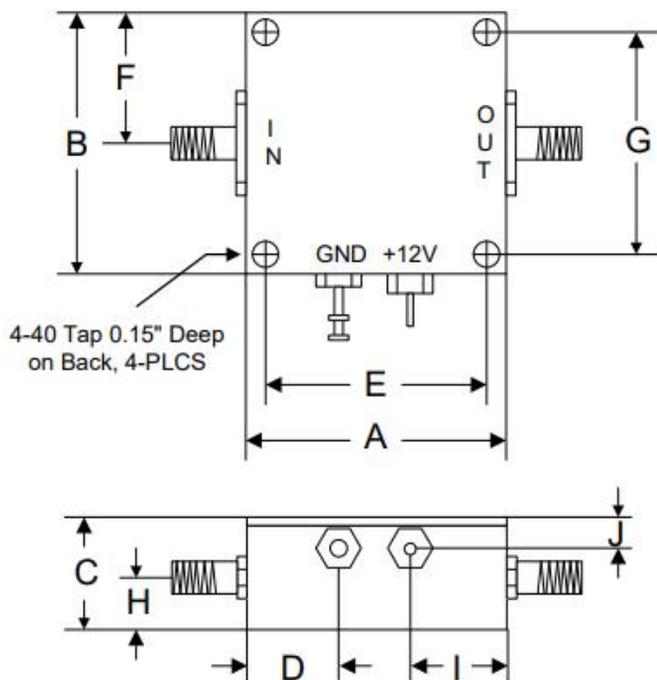
绝对最大值 Absolute Maximum Ratings:

参数 Parameter	指标 Value
供电偏置电压 Supply Bias Voltage	+35 V
输入功率 RF Input Power	+15 dBm
ESD灵敏度 ESD sensitivity (HBm)	Class 0, passed 150V



外形图 Outline Drawing:

Unit:mm



A	31.75mm
B	31.75mm
C	14.29mm
D	11.43mm
E	25.4mm
F	15.88mm
G	25.4mm
H	6.35mm
I	12.7mm
J	4.76mm

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



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

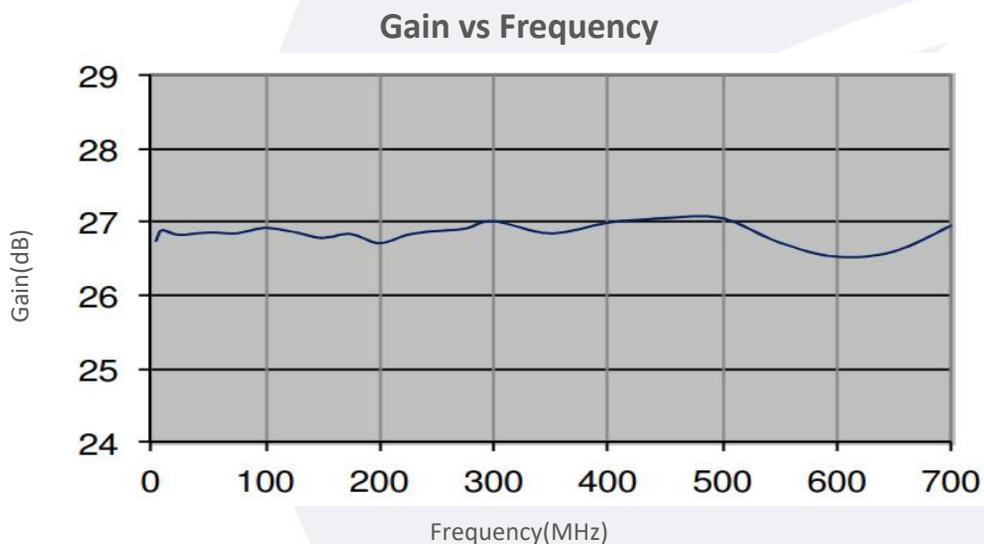
温度环境 Environmental Conditions:

参数 Parameter	Min	Typ	Max	单位 Units
操作温度 Operating Temperature	-40		+85	°C
存储温度 Non-operating Temperature	-55		+125	°C
相对湿度 Relative humidity		95		%
海拔 Altitude	50,000			feet
震动 Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
冲击 Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

订货信息 Ordering Information:

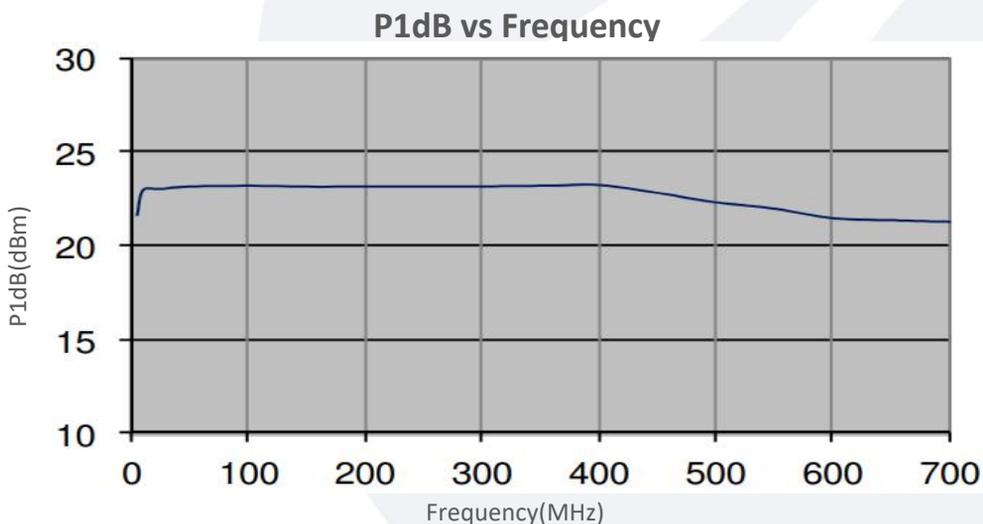
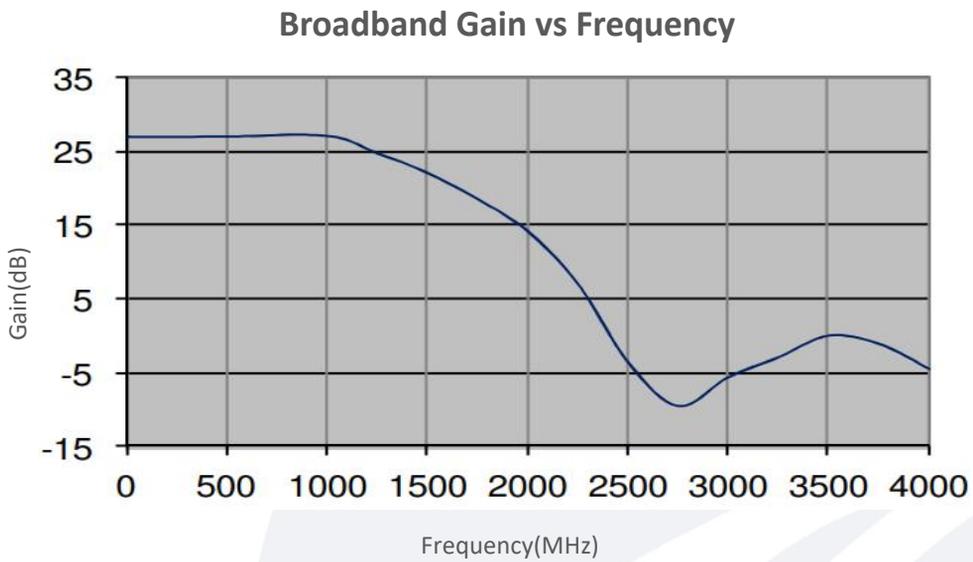
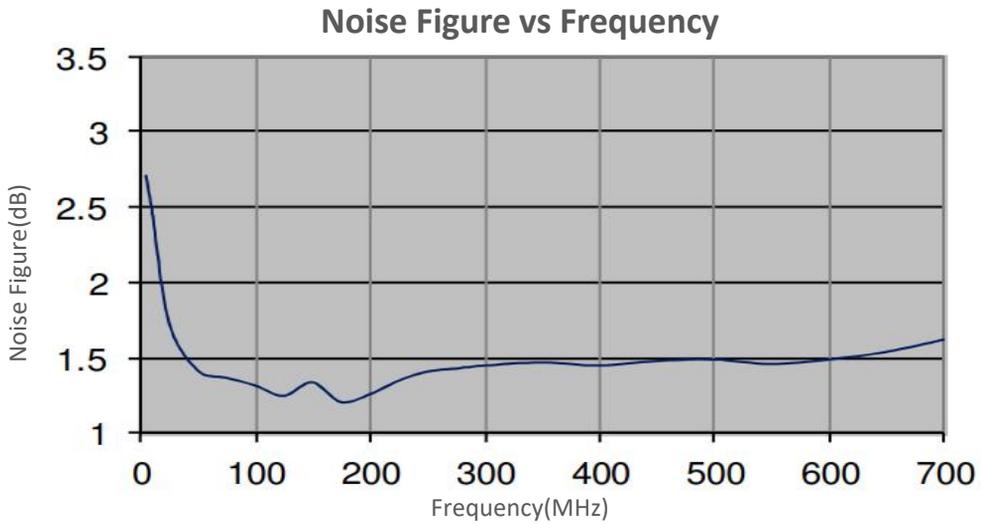
标准型号 Base Number	描述 Description	版本号 Revision
TLLA5M700M-24-15	Low Noise Amplifier, 5-700MHz, Noise Figure:1.5dB, Gain:24 dB,P1dB:23dBm,+12V DC,Without Heatsink	Rev.1.1
TLLA5M700M-24-15-HS	Low Noise Amplifier, 5-700MHz, Noise Figure:1.5dB, Gain:24 dB,P1dB:23dBm,+12V DC,With Heatsink	Rev.1.1

典型曲线 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.

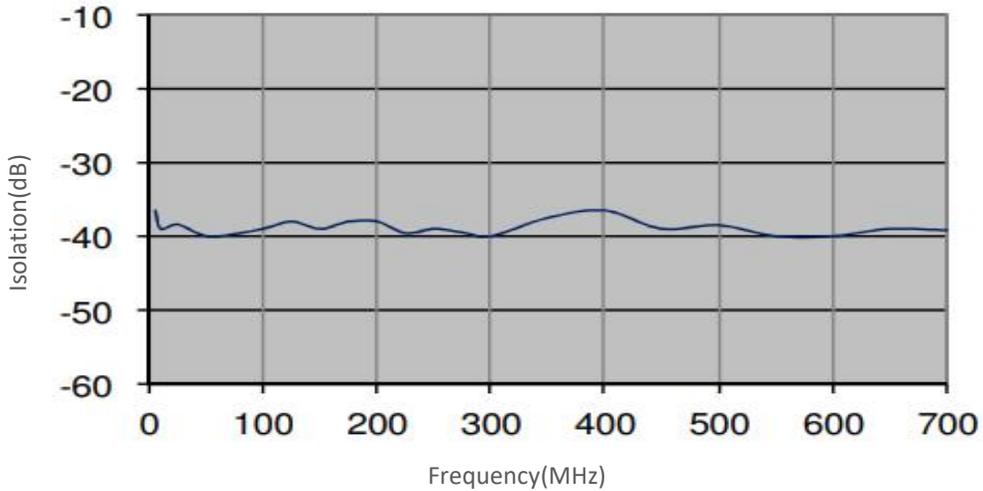
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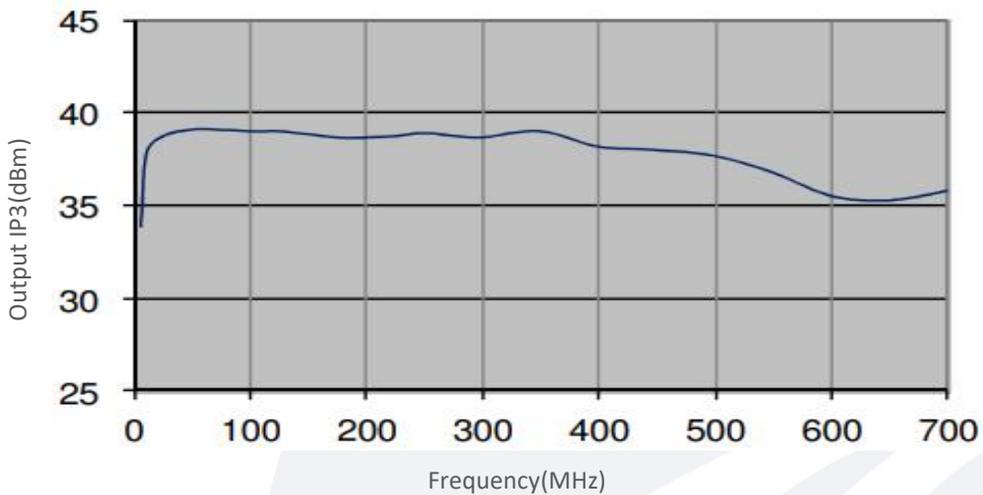
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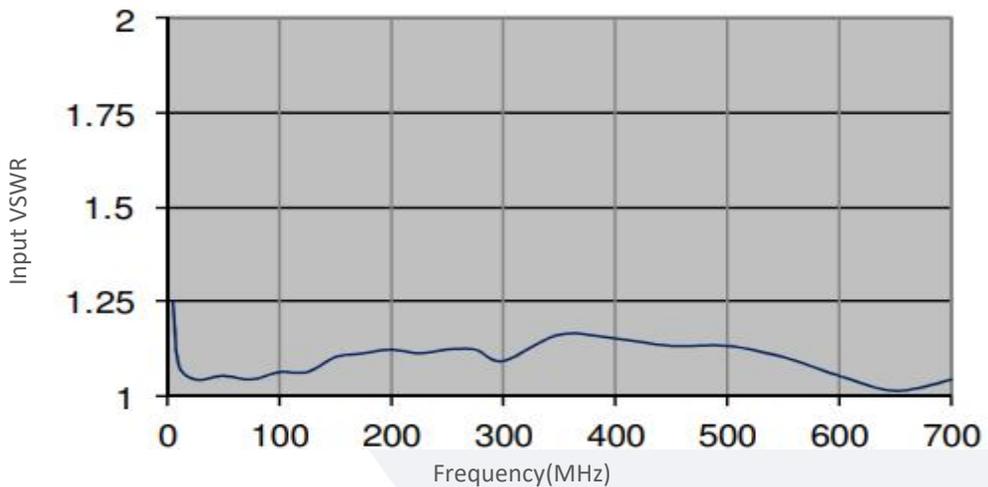
Isolation vs Frequency



Output IP3 vs Frequency



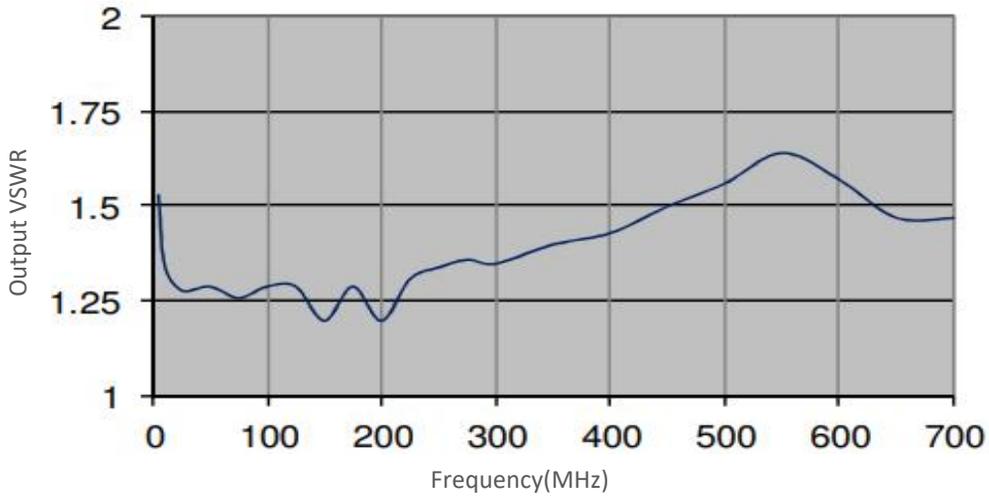
Input VSWR vs Frequency



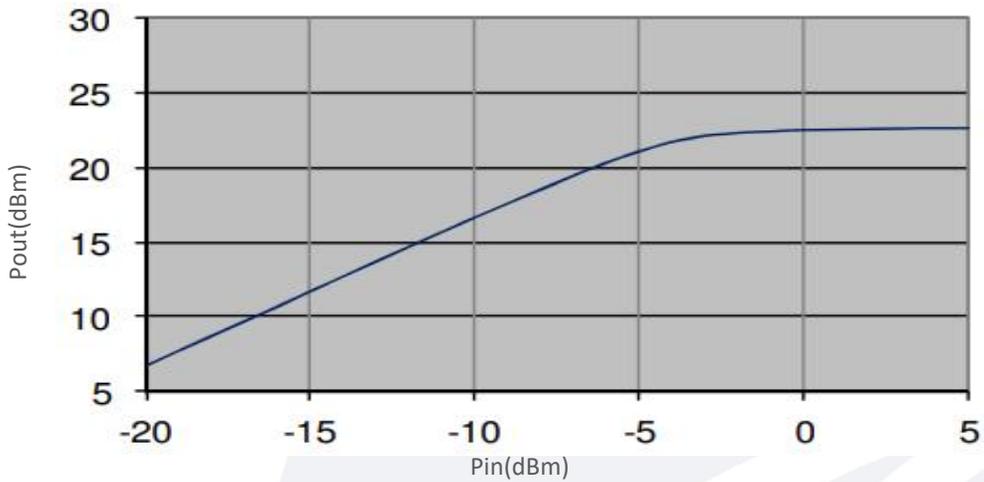
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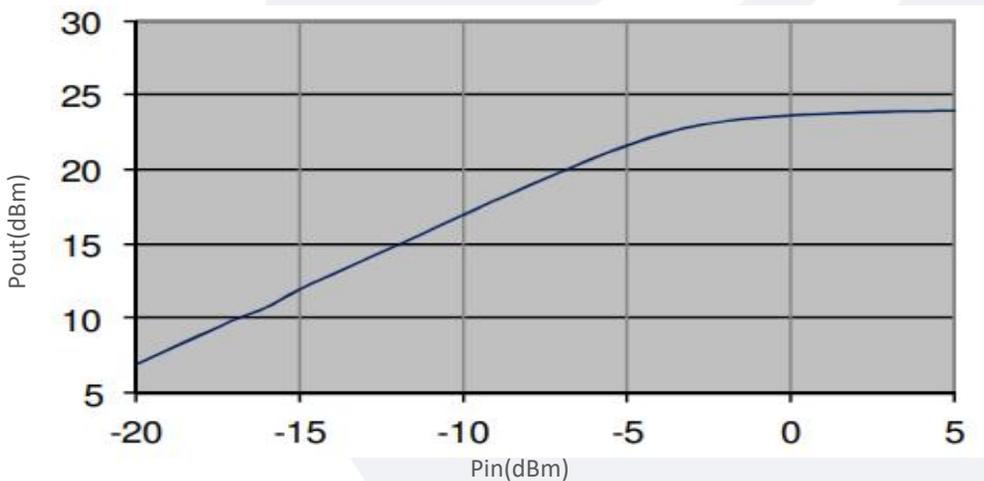
Output VSWR vs Frequency



Pout vs Pin@5MHz



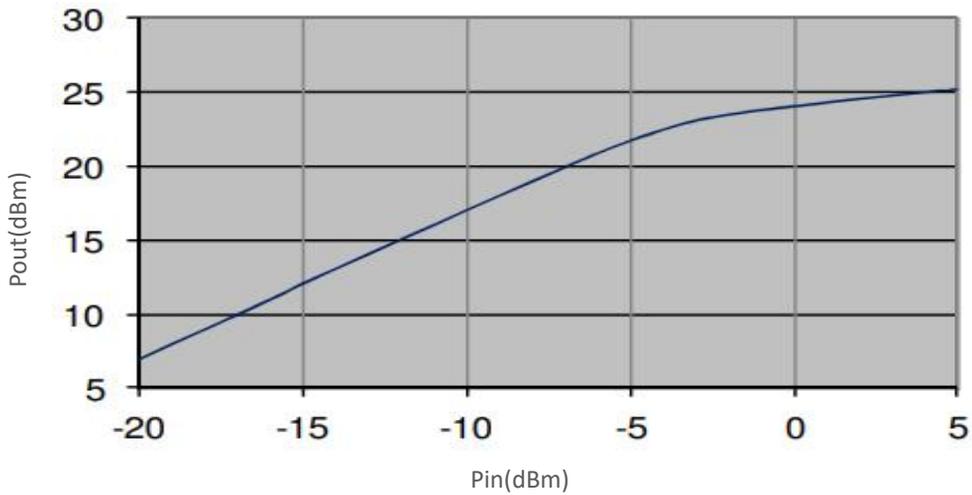
Pout vs Pin@10MHz



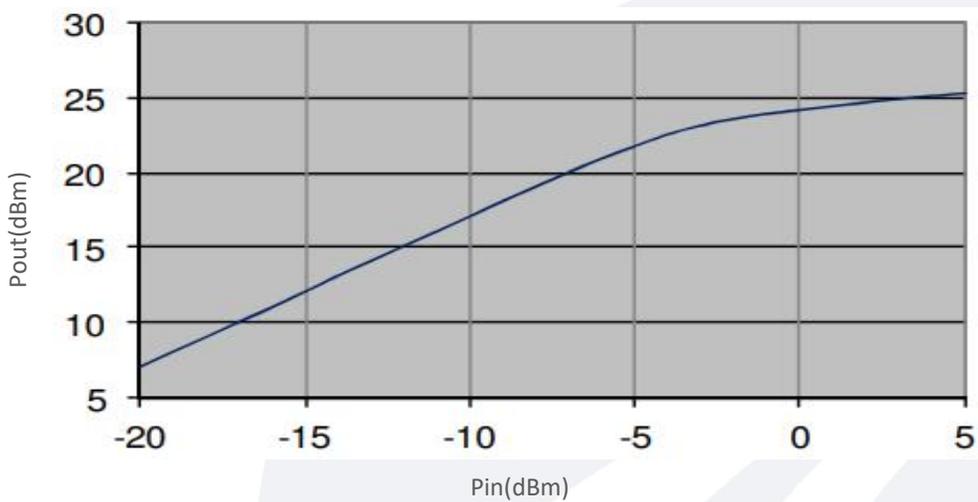
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典型曲线 Typical Performance Data:

Pout vs Pin@50MHz



Pout vs Pin@100MHz



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