

## Solid State High Power Amplifier Systems

300-500KHz/50dB Gain/49dBm Psat/220V AC

Model: TLPA300K500K-50-49-BC

TLPA300K500K-50-49-BC is a solid state high power amplifier systems provides high output power and high gain across the 300 to 500KHz frequency range. The amplifier features a built-in 220V power supply, making it easy to use in most lab environments. This model features thermal self protection, preventing damage to the amplifier and providing added reliability.

### Features:

- Frequency range: 300-500KHz
- Gain: 50dB Min
- Psat Output Power: 49dBm Min
- Protection: Over TEM, over voltage, over current, over VSWR protection
- 50 Ohm Matched Input / Output

### 电气特性 Electrical Characteristics:

参数 Parameter	代码 Symbol	Min	Typ	Max	单位 Units
频率范围 Frequency range	BW	300-500			KHz
功率增益 Power Gain	GP	50	52		dB
增益平坦度 Gain flatness	$\Delta$ GL		$\pm 0.5$	$\pm 1$	dB
线性输出功率 Output P1dB	P1dB	47	48		dBm
饱和输出功率 Output Psat	Psat	49	50		dBm
杂散 Spurious	Spur			-60	dBc
谐波 Harmonics	HAM		-15		dBc
输入驻波 Input VSWR	VSWRin		1.5	2	:1
交流电压 AC Voltage	Vac	110	220		V AC
交流电流 AC Supply Current	Iac		3		A
阻抗 Impedance	I/O-IMP	50			Ohms

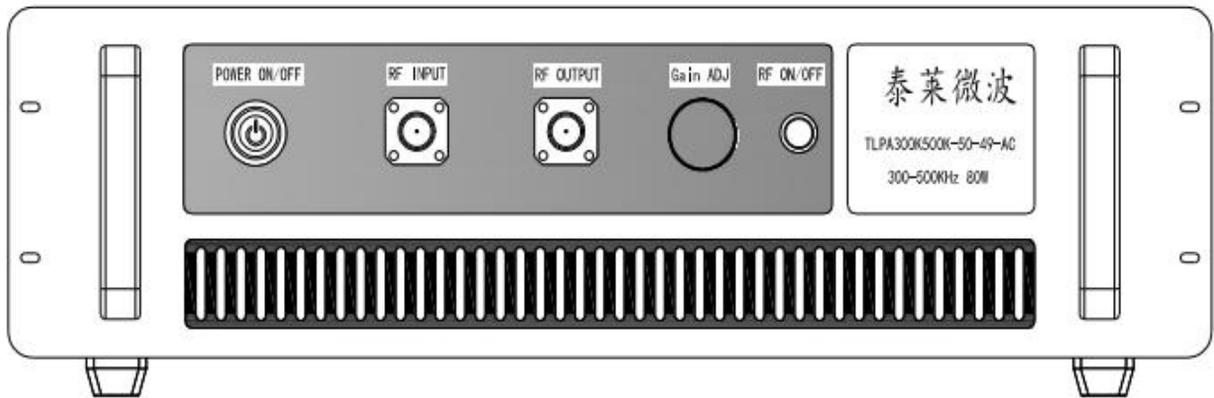
### 机械特性 Mechanical Specifications:

参数 Parameter	指标 Value	单位 Units
输入/输出接口 Input /Output Connector	N Female/N Female	
通信接口 Communication Connector	DB15	
尺寸 Size	3U*500	mm
重量 Weight	$\leq 10$	Kg

## 绝对最大值 Absolute Maximum Ratings:

参数 Parameter	指标 Value
输入功率 RF Input Power	+10 dBm
ESD灵敏度 ESD sensitivity (HBm)	Class 0, passed 150V

## 外形图 Outline Drawing: Unit:mm



## 主要功能 Key Features:

参数 Parameter	特点 Advantages
控制功能 Control functions	1, Power setting On/Off 2, ALC automatic level control
内置保护功能 Protection functions	1, Over TEM 2, Over voltage 3, Over current 4, Over VSWR
监控和控制 Remote control	RS422/Ethernet
冷却系统 Cooling system	Built in Cooling system, forced air cooling

## 温度环境 Environmental Conditions:

参数 Parameter	Min	Typ	Max	单位 Units
操作温度 Operating Temperature*	-20		+40	°C
存储温度 Non-operating Temperature*	-30		+50	°C
相对湿度 Relative humidity		95		%
海拔 Altitude	10,000			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			

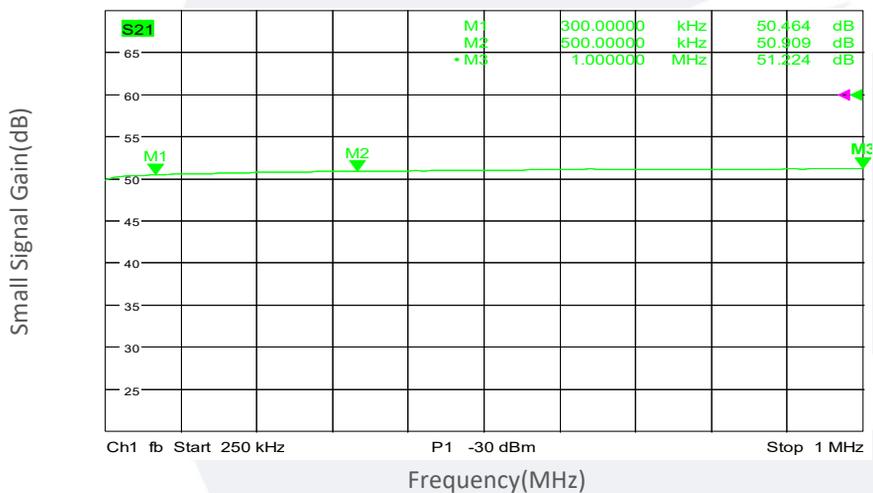
\*Note: For a wider temperature range, please consult the manufacturer.

## 订货信息 Ordering Information:

标准型号 Base Number	描述 Description	版本号 Revision
TLPA300K500K-50-49-BC	Solid State High Power Amplifier Systems 300-500KHz,Gain:50dB,Psat:49dBm,220V AC,Built in Fan Cooling	Rev.1.1

## 典型曲线 Typical Performance Data:

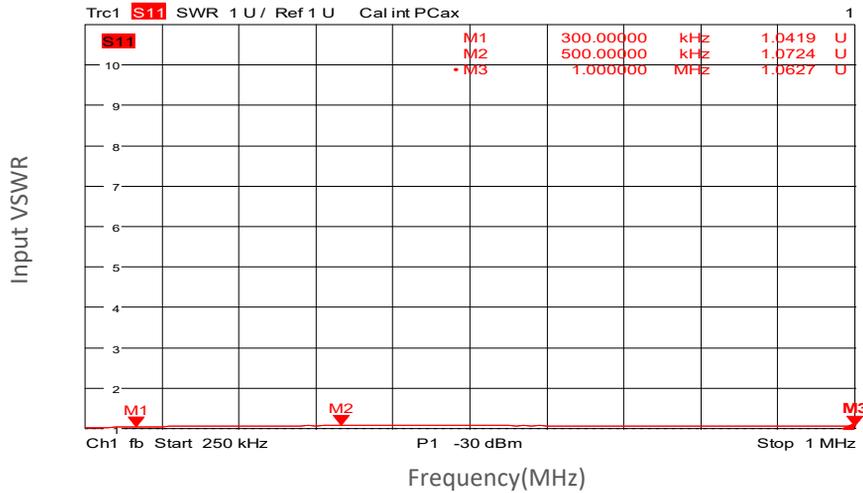
### Small Signal Gain vs Frequency



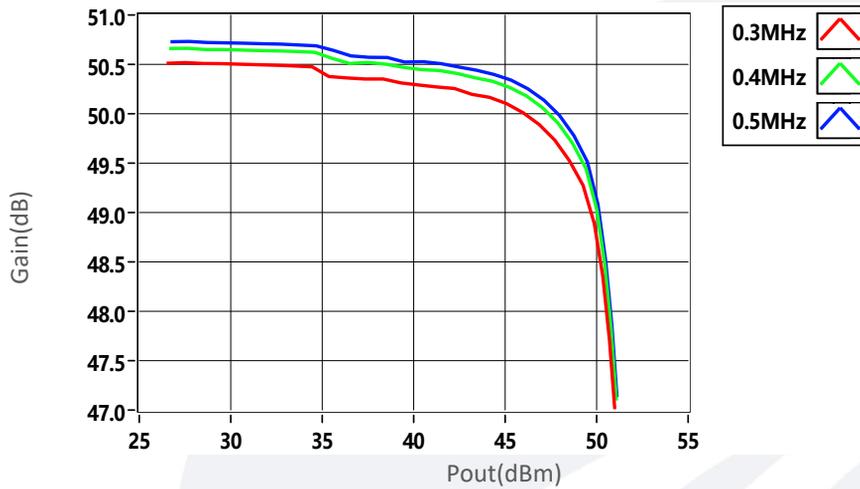
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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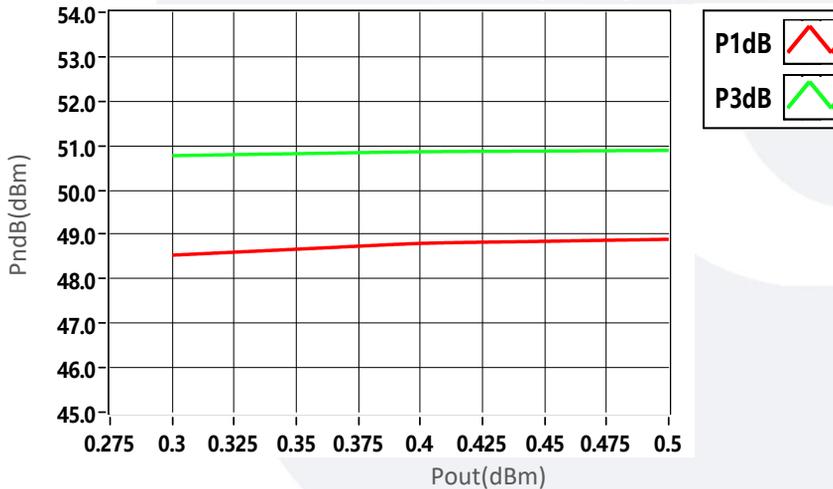
### Input VSWR vs Frequency



### Gain vs Output Power



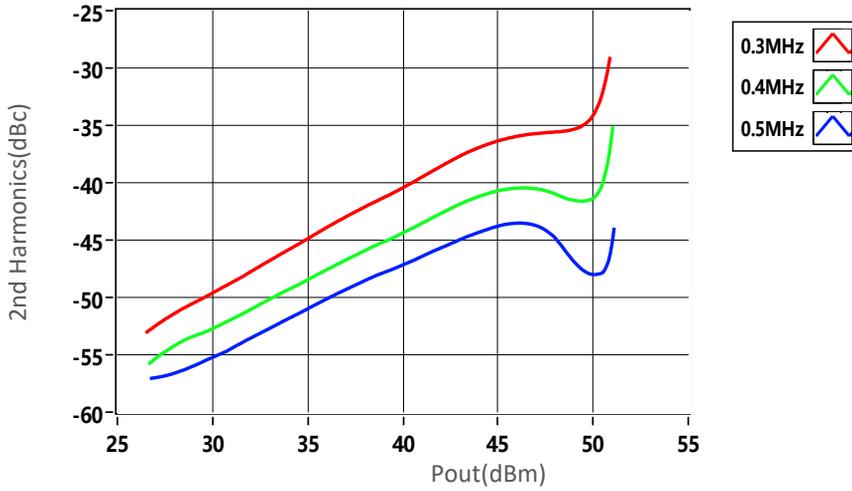
### PndB vs Frequency



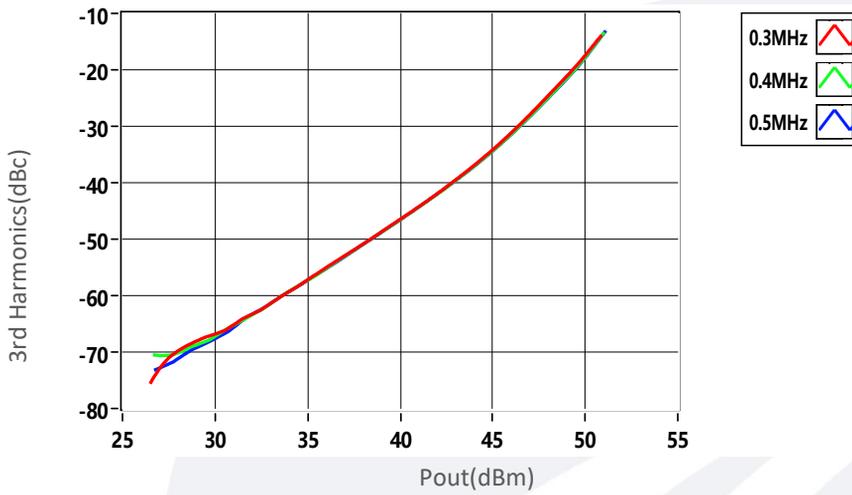
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**典型曲线 Typical Performance Data:**

**2nd Harmonics vs Output Power**



**3rd Harmonics vs Output Power**



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