



High Power Amplifier

Model:RPA-27G5-31G-158-IP54-T

27.5-31GHz 158W CW

Ultrabroad frequency range, high performance and exceptional RF characteristics

Features:

- Frequency range: 27.5-31GHz
- High output power at saturation, 52dBm Min.
- High gain, 52dB Min.
- Operates from AC line power: 220V

Applications:

- Laboratory test instrument
- RF Power stress test
- EMI and antenna testing
- Reliability testing

Product Overview:

The RPA-27G5-31G-158-IP54-T is a high power, rack mount amplifier with a self-contained AC power supply which can be used for a wide variety of laboratory testing applications. This rugged amplifier is capable of amplifying signals up to 158W output power over its entire operating bandwidth of 27.5 to 31GHz. Built-in safety features include fans alarms and automatic shut down mechanism to prevent damage in the event of excessive internal temperatures. The amplifier's output stage is further protected in the event of a fault condition, allowing high power operation for up to 5 minutes into an open or short load (refer to the maximum input power specifications). And it has built-in protection functions included over TEM, over voltage, over current and over VSWR protection. It can also be remotely controlled via RS422.



Electrical Specifications at 25°C:

Parameter	Symbol	Min	Typ	Max	Units
Frequency range	BW	27.5-31			GHz
Power Gain	GP	52			dB
Gain flatness	Δ GL		± 3	± 4	dB
Gain fluctuation@Full TEMP range	Δ G2		± 3		dB
Output Psat	Psat	52			dBm
Spurious	Spur			-60	dBc
Output IM3*	IM3			-25	dBc
Input VSWR	VSWRin		1.5		:1
Output VSWR	VSWRout		1.5		:1
AC Voltage	Vac		220		V AC
Power Consumption	Pdiss			1450	W
Ingress Protection Grade	IPG	IP-54			
Impedance	I/O-IMP	50			Ohms

*Note: Two-tone interval is 5 MHz,The total power of the two-tone synthesis is 48 dBm. The default waveguide only has waterproof gasket and no pressure window.If the pressure window is needed, consult with the manufacturer.

Mechanical Specifications:

Parameter	Value	Notes
Operating Temperature*	-20 to +40	°C
Non-operating Temperature*	-30 to +50	°C
Relative humidity	95	%
RF Input/Output Connector	2.92mm Female/WR28	
Communication Connector	J30J-15ZKP	
Power Supply Connector	Y50DX-1203	A1:L, A2:N, A3:GND
Digital Monitor & Control	Serial:RS422	Optional: GPIB
Cooling	Built in Cooling system,forced air cooling	
Altitude	10,000	feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis	



Mechanical Specifications:

Parameter	Value	Notes
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions	
Monitor functions	1,TEM; 2,Voltage; 3,Current; 4,Output/reflected power	
Dimensions W x H x D	350*318*125	mm
Weight	≤20	Kg

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

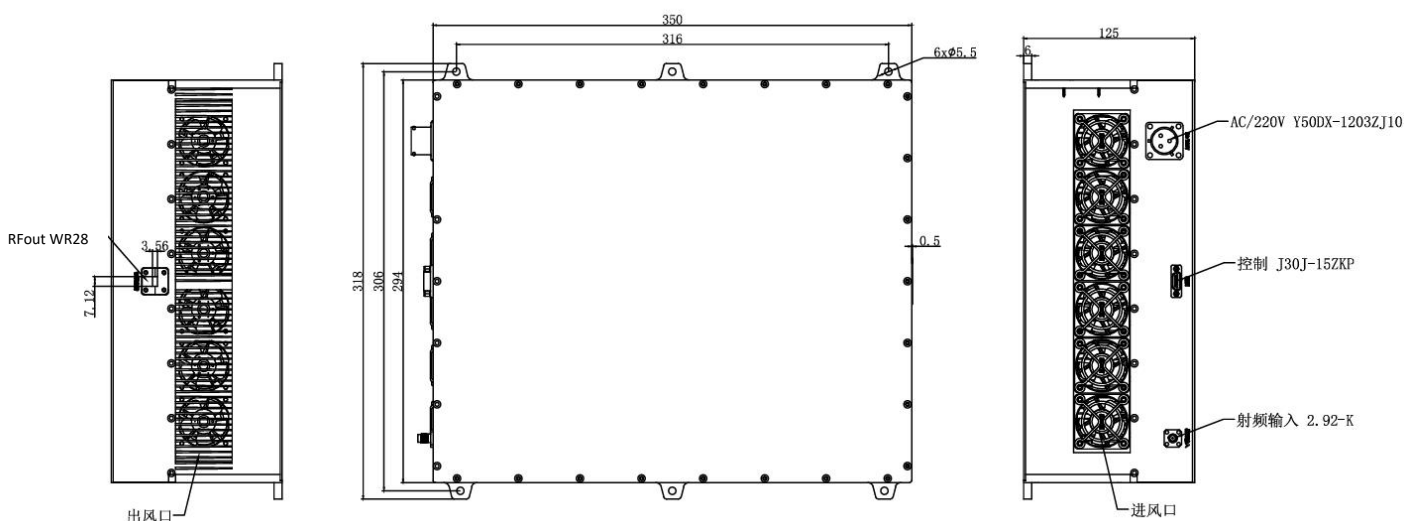
Absolute Maximum Ratings:

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

Outline Drawing:

Unit:mm

RPA-27G5-31G-158-IP54-T





Optional items:

Number	Parameter
1	LCD display touchscreen
2	Ingress protection grad
3	Customized operating temperature range
4	Built in Cooling system(air or liquid)
5	Types of RF,coupling and monitor&control interfaces

Outline Drawing:

Base Number	Description	Optional
RPA-27G5-31G-158-IP54-T	High Power Amplifier, 27.5-31GHz, 158W CW, Built in air or liquid cooling, without LCD.	Basic version
RPA-27G5-31G-158-IP54-T-M	High Power Amplifier, 27.5-31GHz, 158W CW, Built in air or liquid cooling, with LCD.	Add LCD display touchscreen