

Model 12000SP2z7G3z1

Features:

- 12 kW Pulse, 2.7 3.1 GHz
- Class B design
- Full VSWR tolerant
- CE & RoHS Compliant
- High Efficiency

Applications:

- EMC Test applications
- RADAR
- Science

To view our full amplifier portfolio visit:

www.arworld.us/amplifiers

AR RF/Microwave Instrumentation 160 Schoolhouse Rd Souderton, PA 18964 215.723.8181 info@arworld.us www.arworld.us ISO 9001:2015 Certified ISO 17025:2017 Accredited The Model 12000SP2z7G3z1 is a self-contained, forced-air-cooled, broadband solid-state microwave amplifier designed for pulse applications at low duty factors where instantaneous bandwidth and high gain are required. The unit provides a conservative 12 kW minimum peak RF pulse power at the amplifier output connector. Stated power specifications are at the fundamental frequency.



The Model 12000SP2z7G3z1 is equipped with a Digital Control Panel (DCP) which provides both local and remote control of the amplifier. The DCP uses a color LCD touch screen and a single rotary knob to offer status reporting and control capability. The display provides Forward Power and Reflected Power values plus amplifier status. Special features include a gain control and RF output level protection.

All amplifier control functions and status indications are available remotely in GPIB/IEEE-488 format, RS-232 serial and Ethernet. The bus interface connector is located on the back panel and positive control of local or remote operation is assured by a keylock on the front panel of the amplifier.

Housed in a stylish contemporary cabinet, the amplifier provides readily available pulsed RF power for a variety of applications in Test and Measurement, (including EMC RF pulse susceptibility testing), Industrial and University Research and Development, and Service applications. AR also offers a broad range of amplifiers for CW (Continuous Wave) applications.

The export classification for this equipment is 3A999.d. These commodities, technology or software are controlled for export in accordance with the U.S. Export Administration Regulations. Diversion contrary to U.S. law is prohibited.



Model 12000SP2z7G3z1

- 12 kW
- 2.7 3.1 GHz

Electrical Specifications					
Parameter	Symbol	Minimum	Typical	Maximum	Unit
Rated Power Output (2.7 – 3.1 GHz)	PSAT	12			kW
Input for Rated Output	Pin			1 0	mW dBm
Pulse Droop-50µs pulse@ 12 kW				-0.5	dB
Operating Frequency	BW	2.7		3.1	GHz
Gain (Small Signal)		71			dB
Gain Reduction Adjustment (when below compression)		20			dB
Flatness (@ rated power)	ΔG		±1	±2	dB
Input Impedance	Z in		50	≤2.0:1	Ohm VSWR
Output Impedance	Z out		50		Ohm
Noise Figure	NF			≤8	dB
Harmonic Distortion @ rated power	H2, H3			≤-30	dBc
Spurious				≤-60	dBc
Power Consumption	PD			6000	W

Absolute Maximum Rating Exceeding any of the limits listed here may result in permanent damage to the device.				
Parameter	Minimum	Typical	Maximum	Unit
RF Drive			+13	dBm
RF Load		1:1	3: 1 @ rated power	VSWR
RF Load Reflected Will operate without damage or oscillation when connected to any load impedance. Alarm and protection above 3 kW reflected power (load VSWR > 3:1 @ 12 kW; >6:1 @ 6 kW)			25	%
AC Power	100		264	VAC
AC Power	50		60	Hz
Ambient Temperature	+5	+25	+40	°C
Storage Temperature	-20		+50	°C
Altitude			2000	m
Shock/Vibration	Normal Truck Transport			

 $AR\,RF/Microwave\ Instrumentation •\ 160\ School house\ Rd, Souderton, PA\ 18964 •\ 215-723-8181 •\ info@arworld.us •\ www.arworld.us •\ ISO\ 9001:2015\ Certified •\ ISO\ 17025:2017\ Accredited$



- 12 kW
- 2.7 3.1 GHz

Mechanical Specifications			
Parameters	Typical	Unit	
Dimensions (With Cabinet) (W v II v D)	50.3 x 53.3 x 83.8	cm	
Dimensions (With Cabinet) (W x H x D)	19.8 x 21 x 33	in	
Dimensions (No Cabinet) – 11U for 19" Rack, dual	48.3 x 48.8 x 77.5	cm	
drawer 3U + 8U	19 x 19.2 x 30.5	in	
Waight (With Cahinat)	114	kg	
Weight (With Cabinet)	250	lb	
Waight (No Cabinat)	102	kg	
Weight (No Cabinet)	225	lb	
Cooling	Forced air (self-contained fans)		
Acoustical Noise Measured @ 1 Meter	67	dBA	

Regulatory Compliance			
Туре	Standard		
EMC	EMC Directive 2014/30/UE		
Safety	Low Voltage Directive 2014/35/UE		
RoHS	Directive 2011/65/EU		
Export	3A999.d		

Connector Interfaces		
Function	Туре	
RF Input	N, female, front	
RF Output	7-16, female, rear	
RF Forward Sample	N, female, rear	
RF Reverse Sample	N, female, rear	
Pulse Input	BNC, female, rear	
IEEE-488	24-pin	
RS-232	9 pin subminiature D	
Ethernet	RJ-45	
Interlock	15-pin subminiature D	
AC	Jack: HARTING 09120022652 & 09200030301 Mating plug included: HARTING 09120022752 & 19200031421	

AR RF/Microwave Instrumentation • 160 Schoolhouse Rd, Souderton, PA 18964 • 215-723-8181 • info@arworld.us • www.arworld.us • ISO 9001:2015 Certified • ISO 17025:2017 Accredited



- 12 kW
- 2.7 3.1 GHz

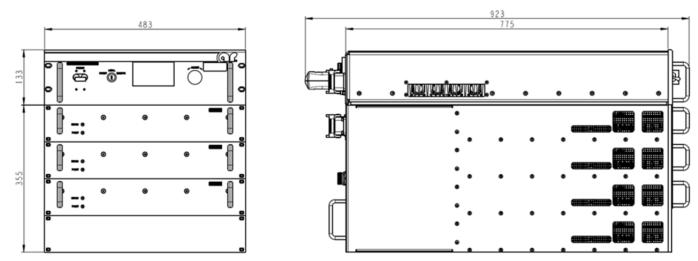
Pulse Capability		
Parameter	Value	
Pulse Width	0.1 – 50 μs	
Pulse Rate (PRF)	50 kHz maximum	
Duty Cycle	6% maximum	
RF Rise and Fall	30 ns maximum (10 - 90 %)	
Delay	≤1 µs from pulse input to RF 90%	
Pulse Width Distortion	±25 ns maximum (difference between Pulse input gate and RF pulse)	
Pulse Off Isolation	60 dB minimum	
Pulse Input	+5V nominal / 50 ohms internal termination	

Ordering Options

Model Number	RF Input	RF Output	
12000SP2z7G3z1	N (f), front	7-16, (f), rear	
12000SP2z7G3z1M1	N (f), rear	7-16, (f), rear	
12000SP2z7G3z1M2	Same as 12000SP2z7G3z1 with enclosure removed for rack mounting		
12000SP2z7G3z1M3	Same as 12000SP2z7G3z1M1 with enclosure removed for rack mounting		

Contact your AR RF/Microwave Instrumentation Sales Associate for specific model configuration pricing.

Envelope Drawing



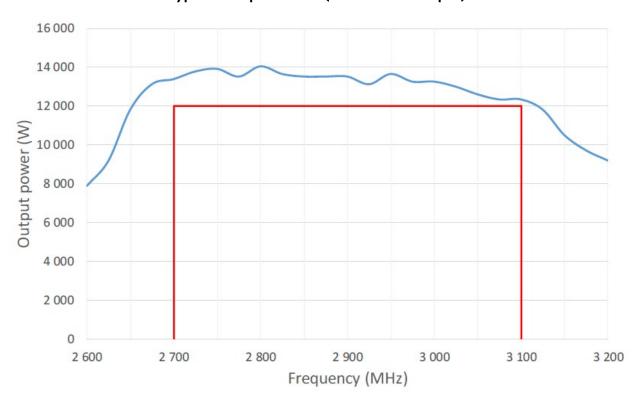
Units=mm; base model 12000SP2z7G3z1 shown

 $AR\,RF/Microwave\ Instrumentation •\ 160\ School house\ Rd, Souderton, PA\ 18964 •\ 215-723-8181 •\ info@arworld.us •\ www.arworld.us •\ ISO\ 9001:2015\ Certified •\ ISO\ 17025:2017\ Accredited$



- 12 kW
- 2.7 3.1 GHz

Typical Output Power (Psat @ 0 dBm input)



AR RF/Microwave Instrumentation • 160 Schoolhouse Rd, Souderton, PA 18964

To order AR Products, call: 215.723.8181. For an applications engineer, call: 800.933.8181. Direct to Service call: 215.723.0275 or email: service@arworld.us

For Faxing Orders: 866.859.0582 (Orders Only Please) info@arworld.us

Approved for public release by AR RF/Microwave Instrumentation ISO 9001:2015 Certified • ISO 17025:2017 Accredited

Revision 111821

