Amplifiers

Model 60S1G6

Features:

- 60 W CW
- 0.7 6 GHz

Applications:

- Wireless, communication components, subsystems
- CDMA, W-CDMA, TDMA, GSM
- EMC Test applications

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 Certified The Model 60S1G6 is a solid-state, Class A design, self-contained, air-cooled, broadband amplifier designed for applications where instantaneous bandwidth, high gain and linearity are required. Housed in a stylish contemporary cabinet, the unit is designed for benchtop use, but can be removed from the cabinet for immediate equipment rack mounting.



The 60S1G6, when used with a sweep generator, will provide a minimum of 60 watts of RF power. The Model 60S1G6 will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.

Included is a front panel gain control which permits the operator to conveniently set the desired output level. The 60S1G6 is protected from RF input overdrive by an RF input leveling circuit which controls the RF input level to the RF amplifier first stage when the CW RF input level is increased above 0 dBm. Cooling is provided by forced air and the RF amplifier stages are protected from over-temperature by removing the DC voltage to them if an over-temperature condition occurs due to cooling blockage or fan failure. There is a digital display on the front panel to indicate the operate status and fault conditions if an overtemperature or power supply fault has occurred. The unit can be returned to operate when the condition has been cleared. All amplifier control functions and status indications are available

remotely in GPIB/IEEE-488 format, RS-232 hardwire and fiber optic, USB, and Ethernet. The bus interface connector is located on the back panel and positive control of local or remote operation is assured by a Local/Remote switch on the front panel of the amplifier.

The low level of spurious signals and linearity of the Model 60S1G6 make it ideal for use as a driver amplifier in testing wireless and communication components and subsystems. It can be used as a test instrument covering multiple frequency bands and is suitable for 2G to 5G testing applications. It is also suitable for EMC Test applications where undistorted modulation envelopes are desired.

The export classification for this equipment is 3A001. 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.



• 60 W

• 0.7 – 6 GHz

Electrical Specifications					
Parameter	Symbol	Minimum	Typical	Maximum	Unit
Rated Power Output (0.7 - 6 GHz)	PSAT	60			W
Input for Rated Output	Pin			1	mW
• •				U	aßm
Power Output @ 1 dB Compression	P1dB	50	60		W
Power Output @ 3 dB Compression	P3dB	65	80		W
Operating Frequency	BW	0.7		6.0	GHz
Gain (Small Signal)		48			dB
Gain Reduction Adjustment (when below compression)		10			dB
Flatness	۵G		±1.5	±2.5	dB
Input Impodance	Z in		50		Ohm
			1.5:1	2.0:1	VSWR
Output Impedance	Z out		50		Ohm
3 rd Order Intercept	IP3		+56		dBm
Noise Figure	NF		10		dB
Harmonic Distortion @ 60 W	H2, H3			-20	dBc
Spurious			-73		dBc
Power Consumption	PD			550	W

Mechanical Specifications		
Parameters	Typical	Unit
Dimensions (With Cabinet) (W x H x D)	50.3 x 20.3 x 54.6	cm
	19.8 x 8.0 x 21.5	in
Dimensions (No Cabinet) – 4U for 19" Rack	48.3 x 17.8 x 54.6	cm
	19 x 7.0 x 21.5	in
Weight (With Cabinet)	28.4	kg
	62.5	lb
Weight (No Cabinet)	20.2	kg
	44.5	lb
Cooling	Forced air (self-contained fans)	

Acoustical Noise Measured @ 1 Meter			
Typical Acoustical Noise	Typical	Unit	
Front	59	dBA	
Rear	63	dBA	
Side	62	dBA	



Model 60S1G6

• 60 W

• 0.7 – 6 GHz

RF Connector Interfaces		RF Communication Inter	RF Communication Interfaces		
Function	Туре	Function	Туре		
nput	N, female	IEEE-488	24-pin		
Output	N, female	RS-232	9 pin subminiature D		
	1	RS-232 (fiber-optic)	ST		
		USB 2.0	Туре В		
		Ethernet	RJ-45		
		Interlock	15-pin subminiature D		

Ordering Options



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



Model 60S1G6

- 60 W
- 0.7 6 GHz

Envelope Drawing









- 60 W
- 0.7 6 GHz

Recommended Operating Conditions				
Parameter	Minimum	Typical	Maximum	Unit
RF Drive Level - Peak		0	3	dBm
RF Load		1:1	6:1	VSWR
Ambient Temperature	+5	+25	+40	°C
AC Power	100		240	VAC
AC Power	50		60	Hz

Absolute Maximum Rating ¹				
Parameter	Minimum	Typical	Maximum	Unit
RF Drive			+13	dBm
RF Load Reflected ²			100	%
Storage Temperature	-20		+50	°C
Altitude			2000	М
Shock/Vibration	Normal Truck Transport			

¹Exposure to maximum rating conditions for extended periods may reduce device reliability. There is no damage to device with only one parameter set at the limit and all other parameters set at or below their normal value. Exceeding any of the limits listed here may result in permanent damage to the device.

²Will operate without damage or oscillation when connected to any load impedance without the aid of foldback circuitry.

Regulatory Compliance	
Туре	Standard
EMC	EN 61326-1
Safety	UL 61010-1
	CAN/CSA C22.2 #61010-1
	CENELEC EN 61010-1
RoHS	Directive 2011/65/EU
Export	3A001



- 60 W
- 0.7 6 GHz



TYPICAL OUTPUT POWER (Psat @ 0 dBm input)

TYPICAL OUTPUT POWER (P1 dB, P3 dB compression)





- 60 W
- 0.7 6 GHz



TYPICAL SMALL SIGNAL GAIN @ -20 dBm Input

TYPICAL HARMONICS @ 60 WATTS





- 60 W
- 0.7 6 GHz •



TYPICAL INPUT VSWR

TYPICAL NOISE FIGURE



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 certified

Revision 021121

