

**Model 50S1G6**  
**M1 through M3**  
**50 Watts CW**  
**0.7GHz–6GHz**



The Model 50S1G6 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.

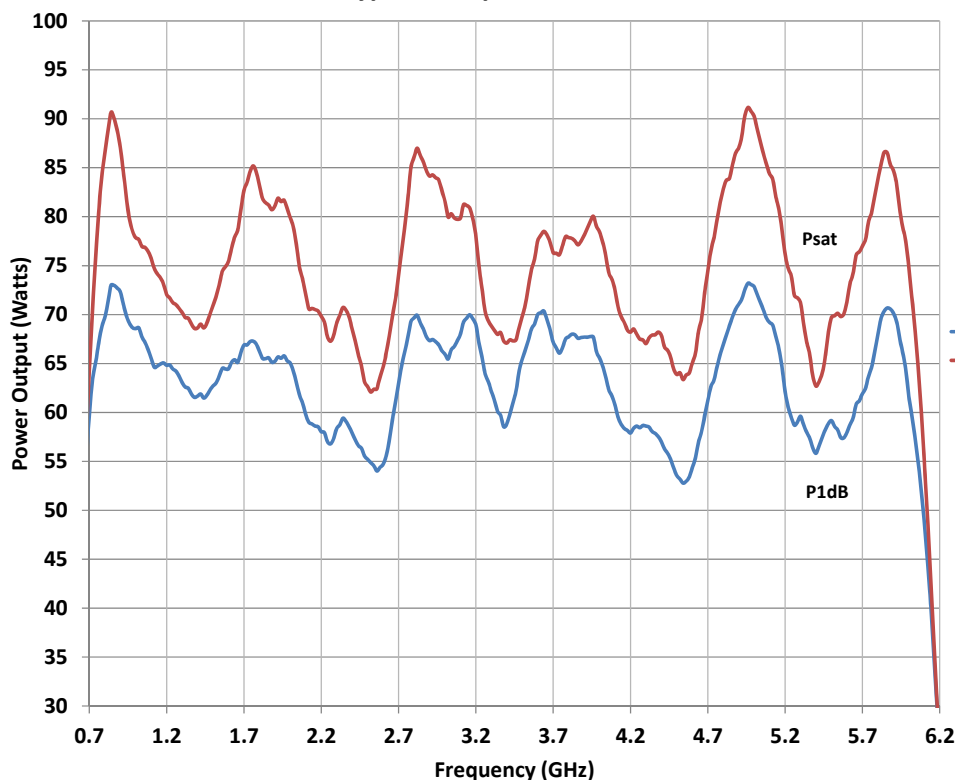
The 50S1G6, when used with a sweep generator, will provide a minimum of 50 watts of RF power. Included is a front panel gain control which permits the operator to conveniently set the

desired output level. The 50S1G6 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 RF input level is increased above 0 dBm. 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 over-temperature 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 50S1G6 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 a variety of communication technologies such as CDMA, W-CDMA, TDMA, GSM etc. 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.

**Typical Output Power 50S1G6**



## SPECIFICATIONS, MODEL 50S1G6

RATED POWER OUTPUT .....	50 watts minimum (0.7–6 GHz)
INPUT FOR RATED OUTPUT .....	1.0 milliwatt maximum
<b>POWER OUTPUT @ 3dB COMPRESSION</b>	
Nominal .....	65 watts
Minimum .....	50 watts
<b>POWER OUTPUT @ 1dB COMPRESSION</b>	
Nominal .....	50 watts
Minimum .....	40 watts
SMALL SIGNAL GAIN FLATNESS.....	±1.5 dB typical ±2.0 dB maximum
FREQUENCY RESPONSE .....	0.7–6 GHz instantaneously
GAIN (at maximum setting) .....	48 dB minimum
<b>GAIN ADJUSTMENT</b>	
(Continuous Range).....	10 dB minimum
(4096 steps remote)	
INPUT IMPEDANCE.....	50 ohms, VSWR 2.0:1 maximum
OUTPUT IMPEDANCE .....	50 ohms, nominal
MISMATCH TOLERANCE* .....	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. *See Application Note #27.
MODULATION CAPABILITY.....	Will faithfully reproduce AM, FM, or pulse Modulation appearing on the input signal
THIRD ORDER INTERCEPT .....	56 dBm typical
NOISE FIGURE .....	10 dB typical
HARMONIC DISTORTION .....	Minus 20 dBc maximum at 40 watts, (1.0–6.0 GHz) Minus 15 dBc typical at 40 watts, (0.7–1.0 GHz)
SPURIOUS.....	Minus 73 dBc Typ.
PHASE LINEARITY.....	±1.0 deg/100 MHz, Typ
PRIMARY POWER (Selected Automatically) .....	90-132, 180-264 VAC 50/60 Hz, single phase 525 watts maximum
<b>CONNECTORS</b>	
RF.....	Type N female
<b>REMOTE INTERFACES</b>	
IEEE-488.....	24 pin
RS-232 .....	9 pin Subminiature D
RS-232 (fiber optic) .....	Type ST
USB 2.0 .....	Type B
Ethernet .....	RJ-45
SAFETY INTERLOCK.....	15 pin Subminiature D
COOLING.....	Forced air (self contained fans)
EXPORT CLASSIFICATION .....	3A001

MODEL	RF INPUT	MODEL CONFIGURATIONS RF OUTPUT	WEIGHT	SIZE (W x H x D)
50S1G6	Type N female, front panel	Type N female, front panel	28.4 kg (62.5 lbs)	50.3 x 20.3 x 54.6 cm 19.8 x 8.0 x 21.5 in
50S1G6M1	Type N female, rear panel	Type N female, rear panel	28.4 kg (62.5 lbs)	50.3 x 20.3 x 54.6 cm 19.8 x 8.0 x 21.5 in
50S1G6M2	Same as 50S1G6 with enclosure removed for rack mounting		20.2 kg (44.5 lbs)	48.3 x 17.8 x 54.6 cm 19.0 x 7.0 x 21.5 in
50S1G6M3	Same as 50S1G6M1 with enclosure removed for rack mounting		20.2 kg (44.5 lbs)	48.3 x 17.8 x 54.6 cm 19.0 x 7.0 x 21.5 in