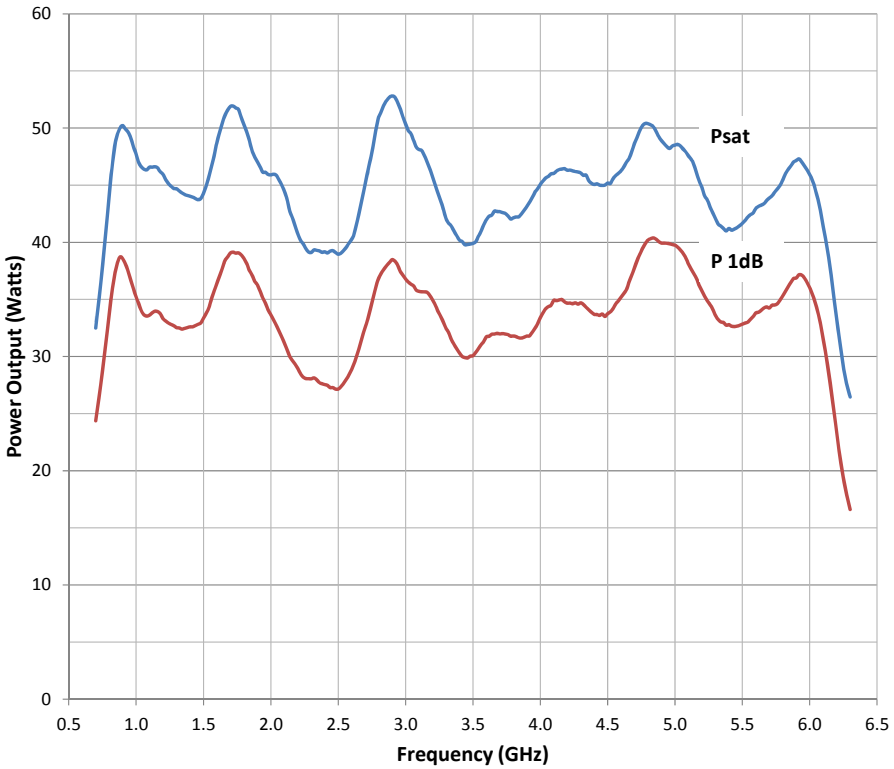
rf/microwave instrumentation

Model 25S1G6
M1 through M3
25 Watts CW
0.7GHz–6GHz

The Model 25S1G6 is a solid-state, Class A design, self-contained, air-cooled, broadband amplifier designed for applications where instantaneous bandwidth and high gain 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 25S1G6, when used with a sweep generator, will provide a minimum of 25 watts of RF power. Included is a front panel gain control which permits the operator to conveniently set the desired output level. The 25S1G6 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 when an over-temperature or power supply fault has occurred. The unit can be returned to operate when the condition has been cleared. The 25S1G6 includes digital control for both local and remote control of the amplifier. 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 export classification for this equipment is EAR99. 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.

25S1G6 Typical Power Output



SPECIFICATIONS, MODEL 25S1G6

RATED POWER OUTPUT ..... 25 watts minimum (0.7-6GHz)

POWER OUTPUT @ 3dB COMPRESSION
- Nominal ..... 35 watts
- Minimum ..... 25 watts

POWER OUTPUT @ 1dB COMPRESSION
- Nominal ..... 30 watts
- Minimum ..... 20 watts

SMALL SIGNAL GAIN FLATNESS ..... ±1.5 dB typical
±2.0 dB maximum

FREQUENCY RESPONSE ..... 0.7–6GHz instantaneously

INPUT FOR RATED OUTPUT ..... 1.0 milliwatt maximum

GAIN (at maximum setting) ..... 44 dB minimum

GAIN ADJUSTMENT (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

HARMONIC DISTORTION ..... Minus 20 dBc maximum at 25 watts (1-6GHz)
Minus 15 dBc typical at 25 watts (0.7-1GHz)

SPURIOUS ..... Minus 73 dBc typical

THIRD ORDER INTERCEPT POINT ..... 50 dBm typical

NOISE FIGURE ..... 10 dB typical

PRIMARY POWER (selected automatically) ..... 90-132, 180-264 VAC
50/60 Hz, single phase
300 watts maximum

CONNECTORS
- RF ..... Type N female
- REMOTE INTERFACES
  - IEEE-488 ..... 24 pin female
  - RS-232 ..... 9 pin Subminiature D (female)
  - 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 EAR99

OPTIONAL CONFIGURATIONS

MODEL	RF INPUT	RF OUTPUT	WEIGHT	SIZE (W x H x D)
25S1G6	Type N female on front panel	Type N female on front panel	18.2 kg (40 lbs)	50.3 x 15.5 x 37.6 cm 19.8 x 6.1 x 14.8 in
25S1G6M1	Type N female on rear panel	Type N female on rear panel	18.2 kg (40 lbs)	50.3 x 15.5 x 37.6 cm 19.8 x 6.1 x 14.8 in
25S1G6M2	Same as 15S1G6 with enclosure removed for rack mounting		12.5 kg (27.5 lbs)	48.3 x 12.7 x 37.6 cm 19.0 x 5.0 x 14.8 in
25S1G6M3	Same as 25S1G6M1 with enclosure removed for rack mounting		12.5 kg (27.5 lbs)	48.3 x 12.7 x 37.6 cm 19.0 x 5.0 x 14.8 in