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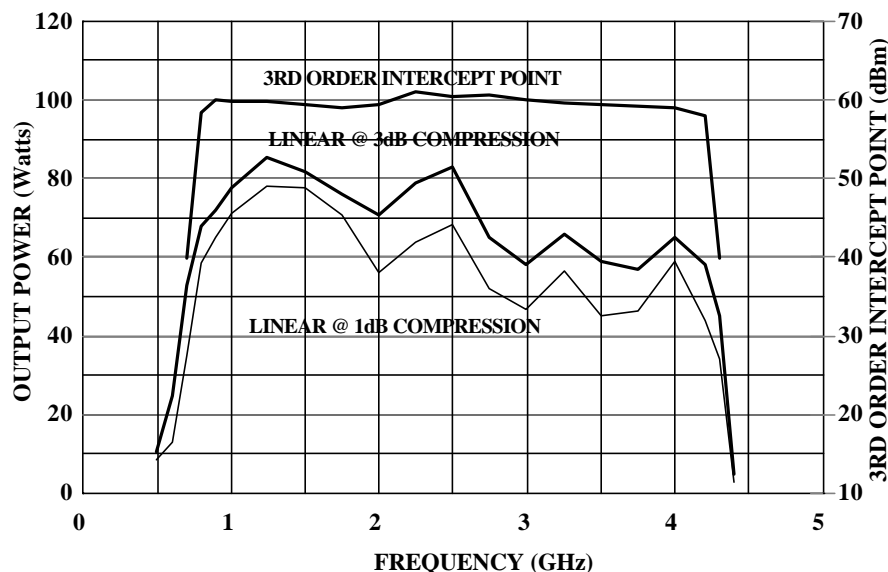
MODEL 50S1G4A
M1, M2, M3, M4
50 WATTS CW
0.8 – 4.2 GHz

The Model 50S1G4A is a solid state, 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 50S1G4A, 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 50S1G4A 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. The 50S1G4A digital panel provides control of all amplifier functions both locally and remotely via IEEE-488 (GPIB) or RS-232 interfaces.

The low level of spurious signals and linearity of the Model 50S1G4A 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.

50S1G4A
Typical Performance



REV072400

SPECIFICATIONS

Model 50S1G4A

RATED POWER OUTPUT 50 watts minimum

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

POWER OUTPUT @ 3dB COMPRESSSION

Nominal 70 watts
Minimum 50 watts

POWER OUTPUT @ 1dB COMPRESSION

Nominal 60 watts
Minimum 40 watts

FLATNESS ± 1.5 dB typical
..... ± 2.0 dB maximum

FREQUENCY RESPONSE 0.8 – 4.2 GHz
..... instantaneously

GAIN (at maximum setting) 47 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

THIRD ORDER INTERCEPT

See chart. The third order intercept points for this chart have been determined using two tones spaced 1 MHz apart. This is typical for W-CDMA systems. Closer tone spacing such as 60 kHz generally provides about a 1db to 3db improvement in the IP.

HARMONIC DISTORTION Minus 20 dbc
..... max at 50 watts

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
..... 600 watts maximum

CONNECTORS

RF Type N female

REMOTE INTERFACES

IEEE-488 24 pin
RS-232 9 pin Subminiature D

SAFETY INTERLOCK 15 pin Subminiature D

COOLING Forced air (self contained fans)

MODEL CONFIGURATIONS

MODEL NUMBER	RF INPUT	RF OUTPUT	WEIGHT	SIZE (W x H x D)
50S1G4A	Type N female on front panel	Type N female on front panel	45 kg (100 lbs)	50.3 x 24.9 x 37.6 cm 19.8 x 9.8 x 14.8 in
50S1G4AM1	Type N female on rear panel	Type N female on rear panel	45 kg (100 lbs)	50.3 x 24.9 x 37.6 cm 19.8 x 9.8 x 14.8 in
50S1G4AM2	Same as 50S1G4A with enclosure removed for rack mounting		32 kg (71 lbs)	48.3 x 22.2 x 37.6 cm 19.0 x 8.75 x 14.8 in
50S1G4AM3	Same as 50S1G4AM1 with enclosure removed for rack mounting		32 kg (71 lbs)	48.3 x 22.2 x 37.6 cm 19.0 x 8.75 x 14.8 in
50S1G4AM4	Same as 50S1G4A optimized for improved linear power output and 3 rd order Intercept point from 1.7 to 2.7 GHz. The power output and gain can be as much as 3dB lower than normal specification at 4.2 GHz		45kg (100 lbs)	50.3 x 24.9 x 37.6 cm 19.8 x 9.8 x 14.8 in

