50HM1G6-47

- 50 Watts
- 0.7–6GHz
- Solid-State, Class A
- +28V DC single bias
- Operating Case Temperature –20°C to +60°C
- High Reliability and ruggedness
- Over-voltage protection

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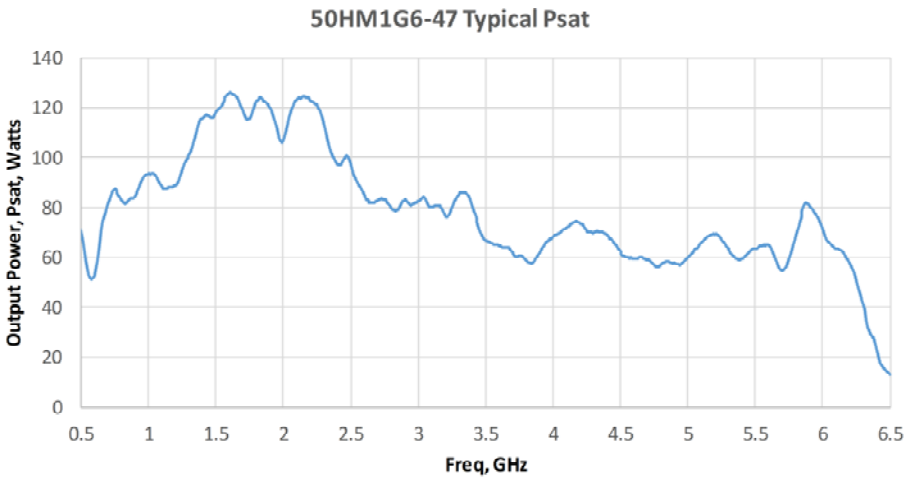
Features

The Model 50HM1G6-47 is a compact, wideband, hybrid power amplifier module that covers 0.7-6 GHz. When used with a sweep generator, the Model 50HM1G6-47 provides a minimum of 50W of RF power instantaneously from 0.7-6 GHz with RF_{IN} = 0dBm. Max RF input is 13 dBm.

The Model 50HM1G6-47 operates from a single DC voltage (+28V) and shuts off if the voltage exceeds 30V. It provides 55dB of typical small signal gain with excellent gain flatness, noise figure and low intermodulation distortion. It is designed to have low spurious output signals, high linearity and is extremely load tolerant which enables it to be used in many RF applications that require linearity, power and wide bandwidth. It is a 50 ohm, cascadable building block and can be used as a microwave power amplifier for both the military and commercial industries.

The amplifier circuitry is based on the latest developments in semiconductor device technology. The active devices are in chip form, eutectic-die attached and wire-bonded, providing solid-state reliability and long operating life. Special materials and process techniques were selected to achieve excellent thermo-dissipation and capability for meeting stringent military-environment test requirements. The module should be bolted to a heat sink for good heat dissipation and have a proper cooling fan to keep case temperature below 60°C. If case temperature exceeds 80°C, there will be a thermal shutdown to protect the module.

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.



Specifications

50HM1G6-47

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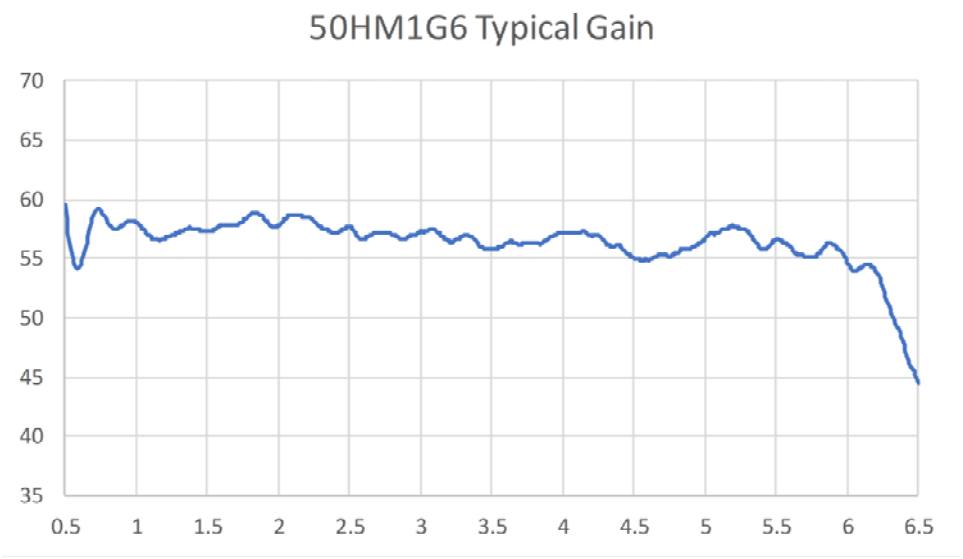

Specifications

RATED POWER OUTPUT: 50W minimum

POWER OUTPUT @ 3dB COMPRESSION: Nominal, 50W; Minimum, 40W

POWER OUTPUT @ 1dB COMPRESSION: Nominal, 40W; Minimum, 25W

SMALL SIGNAL GAIN FLATNESS: ±2.5 dB typical; ±3.0 dB maximum

MAX INPUT LEVEL: +13dBm

FREQUENCY RESPONSE: 1–6 GHz instantaneously

GAIN: 47 dB minimum

NOISE FIGURE: 8.5 dB typical

INPUT IMPEDANCE: 50 ohms, VSWR 2.0:1 maximum

OUTPUT IMPEDANCE: 50 ohms, VSWR 2.0:1 maximum

MISMATCH TOLERANCE @ RATED Pout: 6:1 at all load phase.

MODULATION CAPABILITY: Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.

HARMONIC DISTORTION: Minus 20 dBc maximum at 30 watts

THIRD ORDER INTERCEPT POINT: 58 dBm typical

DC POWER: +28V/18A

CONNECTORS: SMA female

SIZE (W x L x H): 35 x 22 x 2.54 cm (13.8 x 8.8 x 1.0 in)

WEIGHT:
Amp: 4.76 kg (10.5 lbs)
Amp & Heatsink (M1): 13.15 kg (29 lbs)

EXPORT CLASSIFICATION: EAR99

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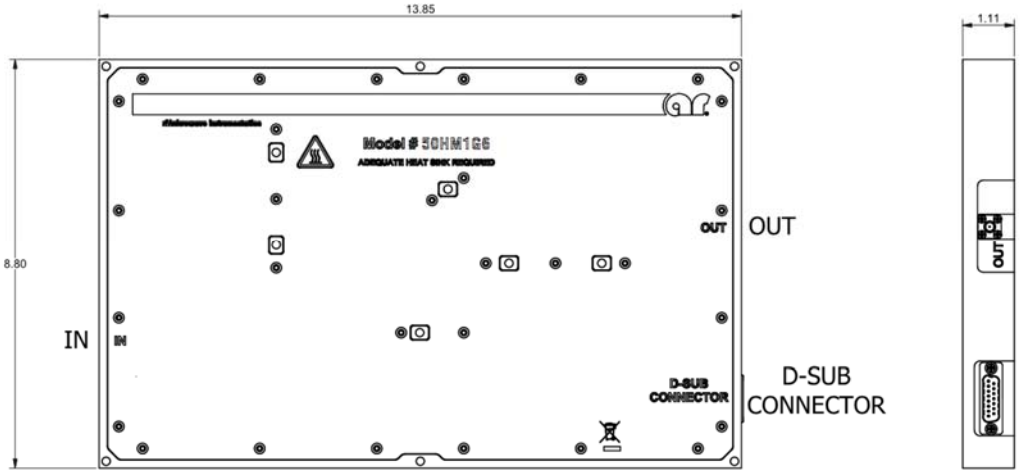
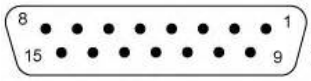


DC VOLTAGE PINOUT



PIN #	FUNCTION
1,2,9,10	+28V
4	TTL Inhibit (TTL low=normal operation; TTL high=inhibit DC supply)
5	Fault (TTL high=normal; TTL low=fault)
3*,6,11,13	Not Used
7,8,14,15	GND
12	Gain Control

*For M1 version, Pin 3 is connected internally to +28V supply for fans.

Model Configurations

Model	RF In/Out Connector	Housing
50HM1G6-47	SMA	Standard
50HM1G6-47M1	SMA	With heatsink and fan