

Model 50HM1G6AB-47
50 Watts
1GHz-6GHz

The Model 50HM1G6AB-47 is a compact, wide-band, hybrid power amplifier module that covers 1-6GHz. When used with a sweep generator, the Model 50HM1G6AB-47 provides a minimum of 40W of RF power instantaneously from 1-6 GHz with $RF_{IN} = 0dBm$. Max RF input is +13 dBm.

The Model 50HM1G6AB-47 operates from a single DC voltage (22V to 28V) and shuts off if the voltage exceeds 29V. It provides 48dB of typical gain with excellent gain flatness, noise figure and low intermodulation distortion. It is designed to have low spurious signals, linearity and is extremely load tolerant which enables it to be used in many RF applications that require linearity, power and wide bandwidth. The circuitry consists of balanced topology which provides good input and output return loss and stability. It is a 50 ohm, cascadable building block and can be used as a microwave power amplifier for both the military and commercial industries.

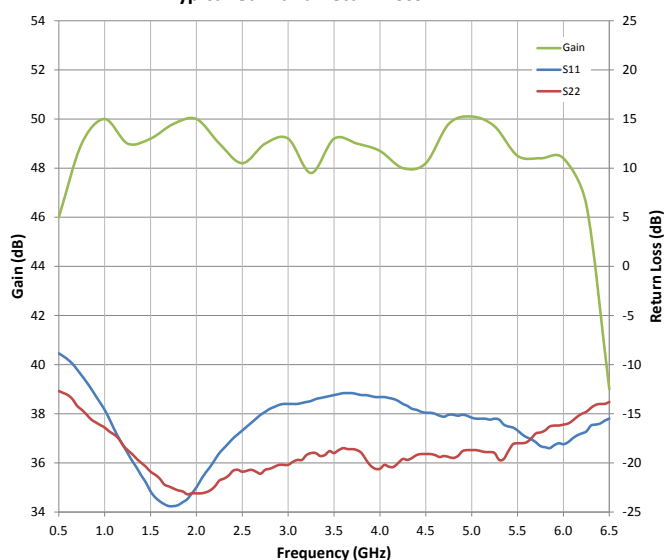
The amplifier circuitry is based on the latest developments in thin film substrates. It incorporates plated-thru holes and air bridge technology to ensure optimum RF performance. The active devices are in chip form, eutectic-die attached and wire-bonded, providing solid-state reliability and long operating 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 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.

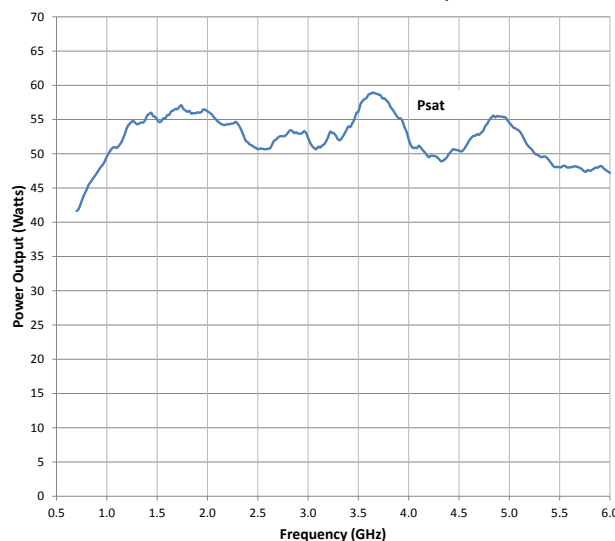


- Solid-state, Class AB design
- +28V DC single bias
- Operating temperature -20°C to +70°C
- Over-voltage protection
- High reliability and ruggedness
- Soft-fail design

Typical Gain and Return Loss



50HM1G6AB-47 Power Output



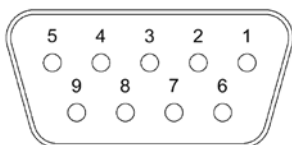
SPECIFICATIONS, 50HM1G6AB-47

RATED POWER OUTPUT	40W minimum
POWER OUTPUT @ 3dB COMPRESSION	
Nominal	50W
Minimum	40W
POWER OUTPUT @ 1dB COMPRESSION	
Nominal	25W
Minimum	15W
SMALL SIGNAL GAIN FLATNESS.....	±1.0 dB typical ±2.0 dB maximum
MAX INPUT LEVEL	+13 dBm
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.....	3:1 at all load phase.
MODULATION CAPABILITY.....	Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.
HARMONIC DISTORTION.....	Minus 15 dBc typical at 40W
THIRD ORDER INTERCEPT POINT	48 dBm typical
DC POWER.....	+28V/12A
CONNECTORS.....	SMA female
SIZE (W x L x H)	28 x 21 x 2.54 cm (11 x 8.25 x 1 in)
WEIGHT	2.85 kg (6.3 lb)
EXPORT CLASSIFICATION	3A001

Model Configurations

Model	RF In/Out Connector	Housing
50HM1G6AB-47	SMA	Standard
50HM1G6AB-47M1	SMA	With heatsink and fan

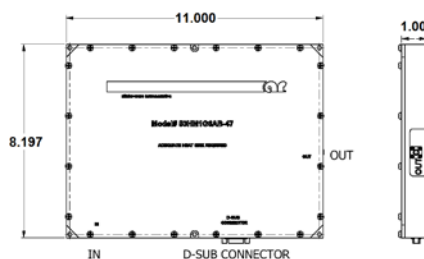
DC VOLTAGE PINOUT



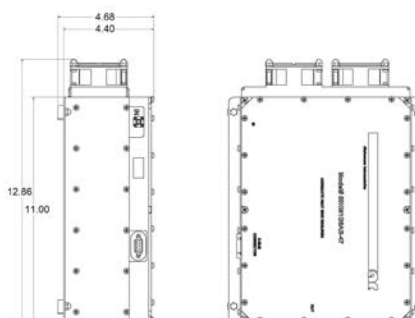
PIN #	FUNCTION
1,2,6,7	+28V
3,8,9	GND
5	FAULT
4	NOT USED*

TTL High: Normal
TTL Low: Fault

*For M1 versions, Pin 4 is connected internally to +24V supply for fan.



50HM1G6AB-47



50HM1G6AB-47M1