

### Description

Model MS061810 is a multi-octave high power amplifier operating from 6 to 18 GHz range with 10 W typical output power. It provides 46 dB of small signal gain with flatness  $\pm 1.4$  dB. MS061810 uses advanced GaN microwave device technology and provides long term reliability and high ruggedness. Hermetically sealed package implements reliable operation in various harsh environments.



### Features:

- 10 W RF Output Power
- 50 Ohm Input / Output Impedance
- Digital 5 – bit gain control (0.9dB – 27.9dB)
- Built-in output power detector
- High switching speed (300 ns)
- Gain – temperature compensation
- High reliability and ruggedness

### Applications:

- Communications Systems
- Test Instrumentation
- Broadband RF Telemetry
- Point To Point Radio
- Fiber Optics

### Electrical Specifications @ T=25°C, VDC = +27 V, Z<sub>s</sub>=Z<sub>L</sub>=50Ω

Parameters	Symbol	Min	Typ	Max	Units
Operating Frequency	BW	6		18	GHz
RF Saturated Output Power	P <sub>sat</sub>	12	15		W
RF Output Power @ at P <sub>in</sub> = 3 dBm	P <sub>3dBm</sub>	10	14		W
Small Signal Gain	G <sub>SS</sub>	42	46	52	dB
Small Signal Gain Flatness	ΔG		±1.4	±2.0	dB
VSWR Input / Output	VSWR In/Out		1.8 / 1.4	2.2 / 2.0	
Operating Voltage	VDC	26	27	30	V
Operating Current @ P <sub>sat</sub>	I <sub>DD</sub>			3.5	A

### Mechanical Specifications

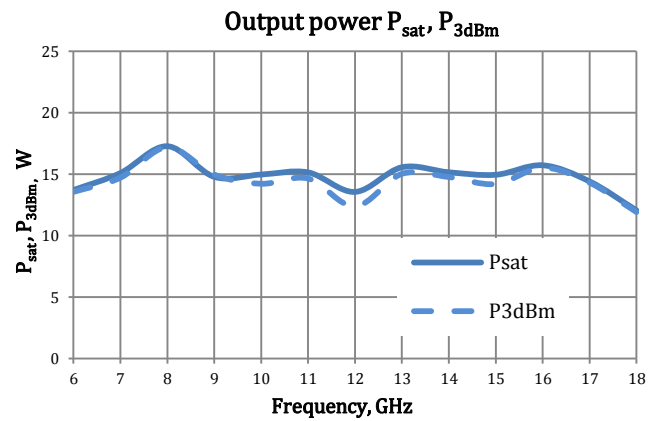
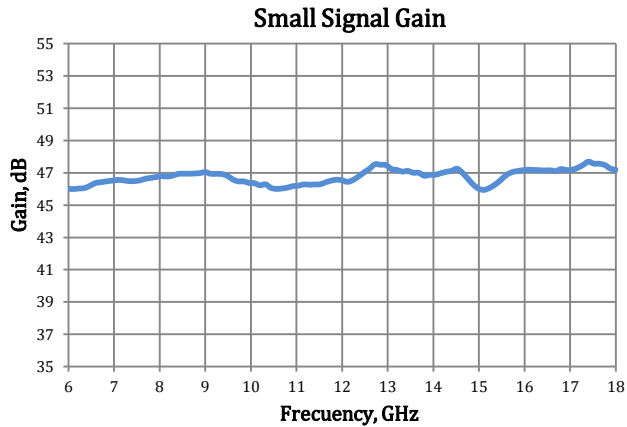
Parameters	Value	Unit	Limits
Dimensions	118.9 x 77.6 x 22.1 (4.68 x 3.06 x 0.87)	mm (inch)	Max
Weight	0.35 (0.77)	kg (lb)	Max
RF Connectors, Input / Output	SMA Female		
Interface connectors	X1: Harwin M80-5101022		
	X2 : Harwin M80-5T10222M2-01-331-01-331		
Cooling	External Heatsink		

### Environmental Specifications

Parameters	Symbol	Min	Max	Unit
Operating Temperature (ambient)	T <sub>a</sub>	-55	+60	°C
Operating Temperature (baseplate)	T <sub>c</sub>	-55	+75	°C
Storage temperature	T <sub>stg</sub>	-65	+85	°C
Relative Humidity	RH		98	%

### Performance Plots

Test Conditions :  $T=25^{\circ}\text{C}$ ,  $Z_s=Z_L=50\Omega$



### DC Interface Connectors

Connector	Pin#	Description	Specification
X1 Harwin M80-5101022	1	14.4	Bit 14.4 dB control
	2	7.2	Bit 7.2 dB control
	3	3.6	Bit 3.6 dB control
	4	1.8	Bit 1.8 dB control
	5	0.9	Bit 0.9 dB control
	6	DOUT	Power Detector Output
	7,10	G	Ground
	8	T	Analog Voltage Relative Temperature@10mV/°C
	9	Mod	RF Enable (0V or GND=RF Off, +5V or NC=RF On)
X2 Harwin M80-5T10222M2-01-331- 01-331	A	+27	DC Power (+26... +30VDC)
	B	G(-27)	Ground
	1,2	N/C	No Connection

### Mechanical Outline

(All dimensions in millimeters)

