

Description

Model MS020812 is a multi-octave high power amplifier operating from 2 to 8 GHz range with 12 Watts typical output power. It provides 52 dB of small signal gain with flatness ± 1.5 dB. MS020812 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:

- 12 Watts 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_s=Z_L=50Ω

Parameters	Symbol	Min	Typ	Max	Units
Operating Frequency	BW	2		8	GHz
RF Saturated Output Power	P _{sat}	13	16		W
Output power @ at P _{in} =3 dBm	P _{3dBm}	12	14		W
Small Signal Gain	G _{SS}	46	52	56	dB
Small Signal Gain Flatness	ΔG		±1.5	±2.5	dB
VSWR Input / Output	VSWR In/Out		1.5 / 1.7	2.5 / 2.5	
Operating Voltage	VDC	26	27	30	V
Operating Current @ P _{sat}	I _{DD}			2.4	A

Mechanical Specifications

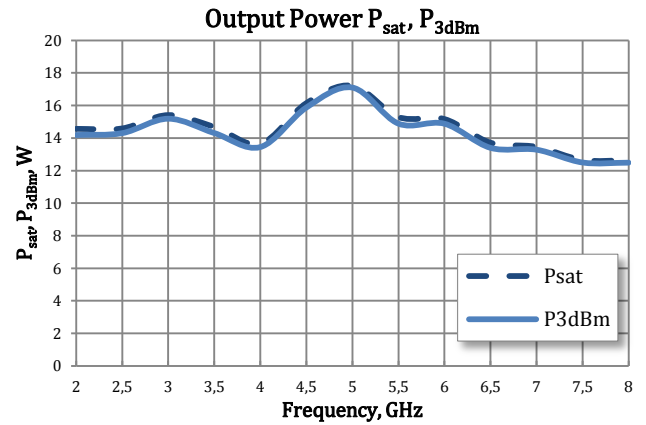
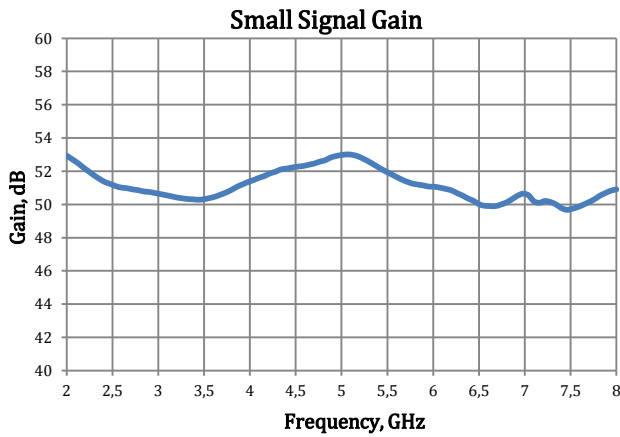
Parameters	Value	Unit	Limits
Dimensions	121.9 x 66.9 x 23.2 (4.8 x 2.63 x 0.91)	mm (inch)	Max
Weight	0.32 (0.71)	kg (lb)	Max
RF Connectors, Input / Output	SMA Female		
Interface connectors	X1: Harwin M80-5101022		
	X2 : Harwin M80-5T1022M2-01-331-01-331		
Cooling	External Heatsink		

Environmental Specifications

Parameters	Symbol	Min	Max	Unit
Operating Temperature (ambient)	T _a	-55	+60	°C
Operating Temperature (baseplate)	T _c	-55	+75	°C
Storage temperature	T _{stg}	-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
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)

