MS010620

1 – 6 GHz 30 W Wideband Amplifier

Description

Model MS010620 is a multi-octave high power amplifier operating from 1 to 6 GHz range with 30-40 Watts typical output power. It provides 59 dB of small signal gain with flatness ±2.0 dB. MS010620 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:

- 30 W RF Output Power
- 50 Ohm Input / Output Impedance
- Digital 5 – bit gain control (1dB – 31dB)
- 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=50 Ω

Parameters	Symbol	Min	Typ	Max	Units
Operating Frequency	BW	1		6	GHz
RF Saturated Output Power	P_{sat}	33	41		W
RF Output power @ at P_{in}=3dBm	P_{3dBm}	30	40		W
Small Signal Gain	G_{ss}	55	59	65	dB
Small Signal Gain Flatness	ΔG		±2.0	±2.5	dB
VSWR Input / Output	VSWR In/Out		1.3 / 1.4	2.0 / 2.5	
Operating Voltage	VDC	26	27	30	V
Operating Current @ Psat	I_{DD}			7	A

Mechanical Specifications

Parameters	Value	Unit	Limits
Dimensions	168.1 x 78.2 x 23.8 (6.62 x 3.08 x 0.93)	mm (inch)	Max
Weight	0.45(1.2)	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_a	-55	+60	°C
Operating Temperature (baseplate)	T_c	-55	+75	°C
Storage temperature	T_{stg}	-65	+85	°C
Relative Humidity	RH		98	%

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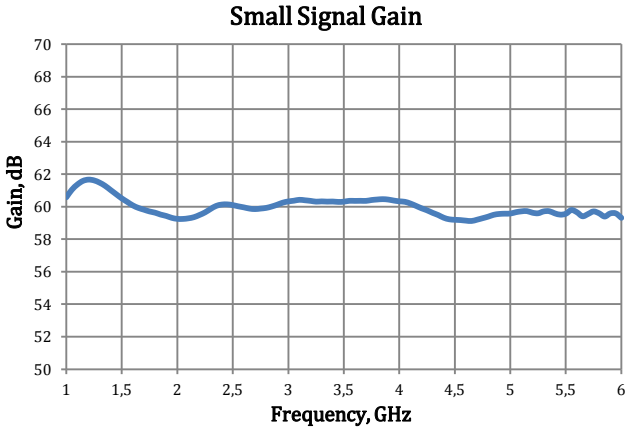
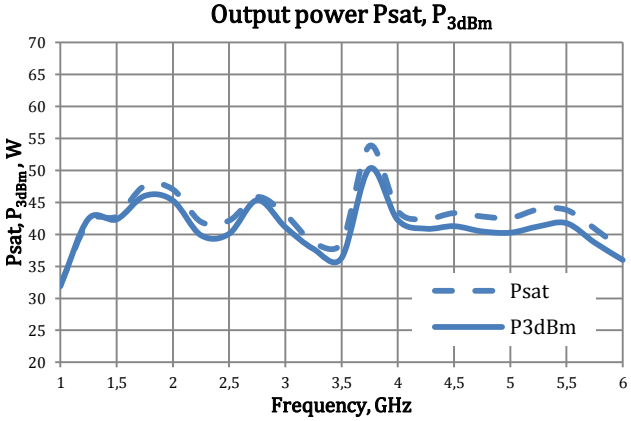
Performance Plots

Test Conditions : T=25°C, Z_S=Z_L=50Ω



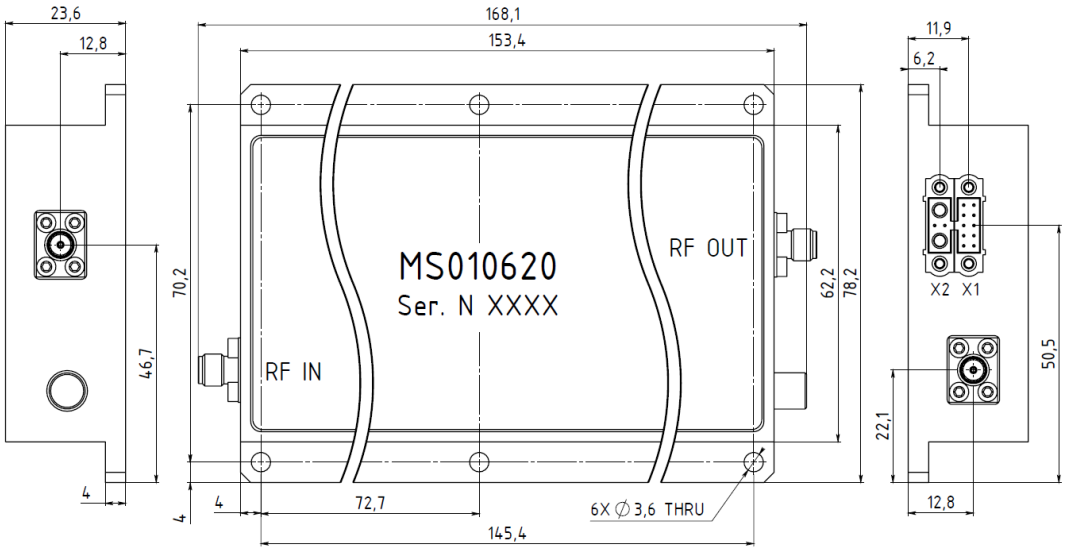


DC Interface Connectors

Connector	Pin#	Description	Specification
X1 Harwin M80-5101022	1	16	Bit 16 dB control
	2	8	Bit 8 dB control
	3	4	Bit 4 dB control
	4	2	Bit 2 dB control
	5	1	Bit 1 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)



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