TECHNICAL DATASHEET ***AVPR1100H56***

The AVPR1100H56 is a 400W Solid State High Power Pulsed Amplifier. This amplifier module utilizes the latest high power RF LDMOS transistors and also features built in control and monitoring, with protection functions to ensure high availability. This amplifier is suitable for high power pulse applications or Radar system.

Features

1.025 GHz-1.150GHz frequency range
Psat 56dBm type
Power gain 56dB
50 ohm input/output impedance
Built-in control, monitoring and protection circuits
Solid-state Class AB design
High Pulse Definition
Suitable for pulse applications or Radar system
Small and lightweight
High reliability and ruggedness

ELECTRICAL SPECIFICATIONS(T=25℃,DC Voltage=50V,PW=100us,DC=10%,50Ω System)

Description	Symbol	Min	Typ	Max	Unit
Operating Frequency	BW	1.025		1.150	GHz
Output Power	PPK	400	450		W
Pulse Width	PW	10		200	us
Duty Cycle	DC	1		15	%
Input Power for Rated PSAT	P_{IN}		0		dBm
Harmonics @ Pout =300W	2^{nd}		-40	-35	dBc
Spurious Signals@ Pout =400W	Spur		-60		dBc
Input Return Loss	S11		-25	-15	dB
Rise /Fall time(Pulse Performance)	TRISE/FALL/OFF(10-90)		50		ns
Power droop	Droop		0.6	1	dB
Operating Voltage	VDC	48	50	52	V
Peak Current Consumption @ Pout =400W	IDD		10	13	A
Average Current Consumption @ Pout =400W	IDD		2.7	3	Amp
Switching Time @ 1kHz TTL, P_{IN} = 0dBm	T_{ON}/T_{OFF}		1	2	μs

PROTECTION AND WARNING FUNCTION

Over threshold of duty cycle (High duty cycle)
Over threshold of current
Over threshold of temperature

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MECHANICAL SPECIFICATIONS

Cooling External Heat Sink Needed (Not Supplied)	
Length*Width*Height[mm]	200*150*30
Weight[Kg]	1.6
RF Connector Input	Type SMA, Female
RF Connector Output	Type N, Female

ENVIRONMENTAL SPECIFICATIONS (Design to Meet)

Module Operation Temperature	-20	65	℃
Storage Temperature Range	-25	70	℃
Relative-Humidity	N/A		
Altitude	N/A		
Vibration/Shock	N/A		

LIMITS

Input RF drive level without damage	Pin≤10	dBm
Load VSWR @ POUT =400W	VSWR≤5:1	N/A
Thermal Degradation	90	℃

DC INTERFACE CONNECTOR –[D-Sub 7W2, Male]

Pin #	Description	Specifications
A1	GND	Ground
A2	VDD	50VDC
1	CURRENT SENSE	Analog voltage relative to IDD @ 100mV per Ampere
2	TEMP SENSE	Analog voltage relative to Module's Temperature @ 10 mV/°C
3	ENABLE	Amplifier Enable: TTL Logic High (3.3V) (Internally Pulled-Low)
4	GND	Ground
5	N/C	No Connection

PLOTTED AND OTHER DATA

Notes:

1. Values at +25℃， sea level.
2. ESD Sensitive Material. Handle only in approved ESD Workstation.
3. Heat Sink required for Proper Operation, Unit is cooled by conduction to heat sink.

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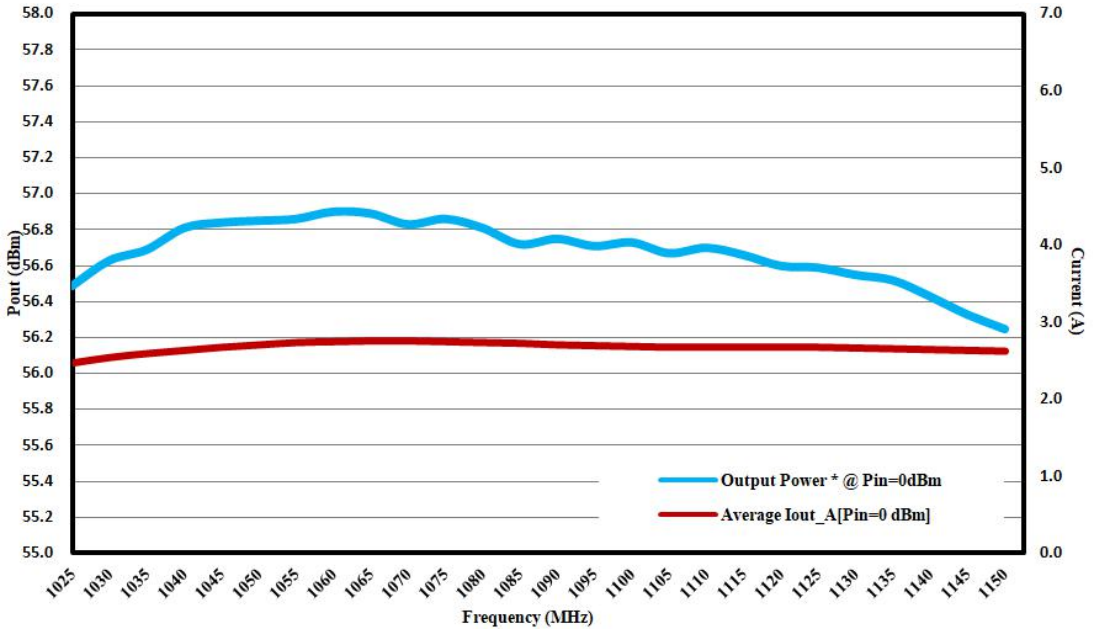
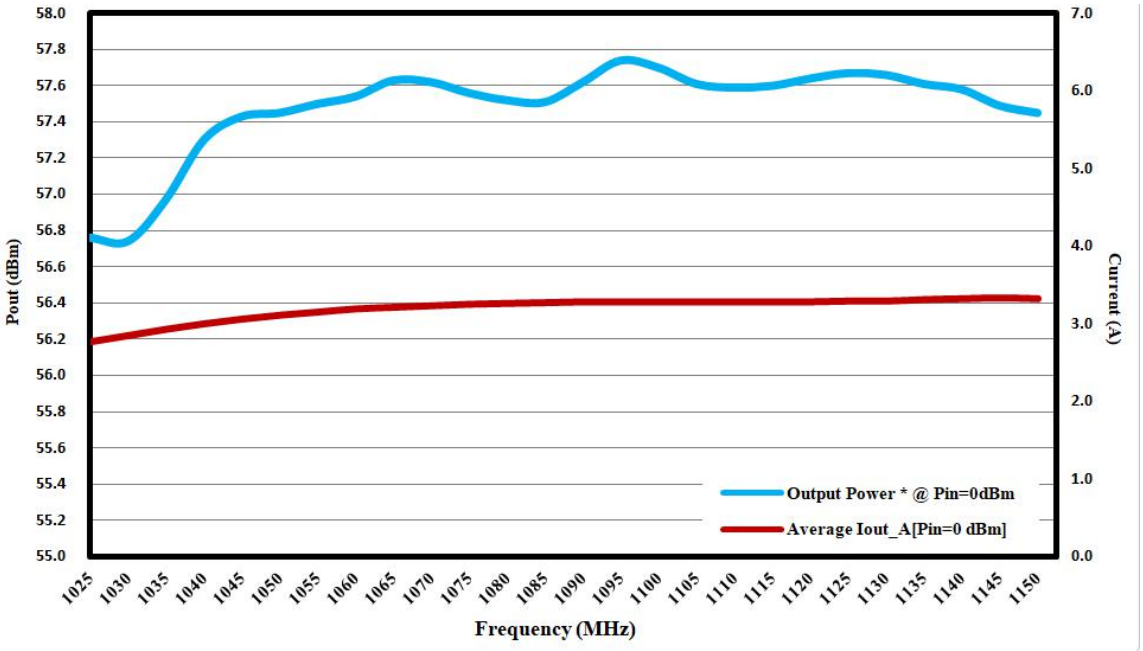
TYPICAL PERFORMANCE DATA

Pout && IDC [Pin=0dBm Ambient Temp= 25℃, VSWR<1.2, Duty Cycle=10%,Pulse Width=100uS]



Pout && IDC [Pin=0dBm Ambient Temp= -20℃, VSWR<1.2, Duty Cycle=10%,Pulse Width=100uS]



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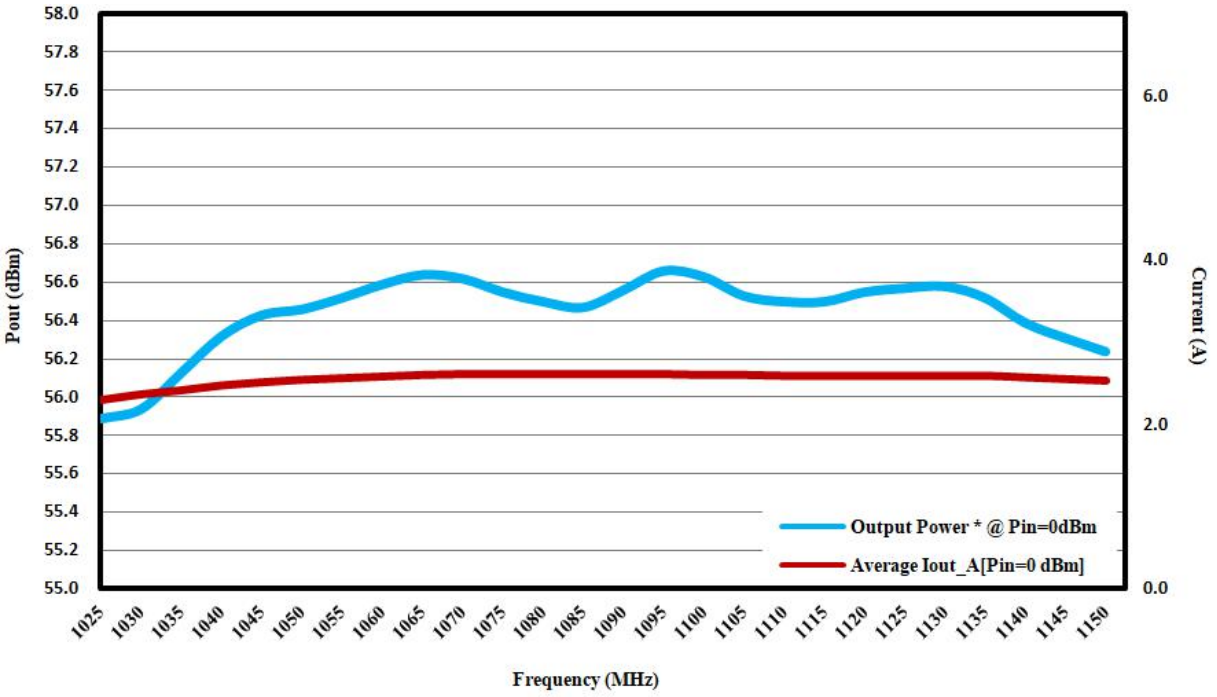
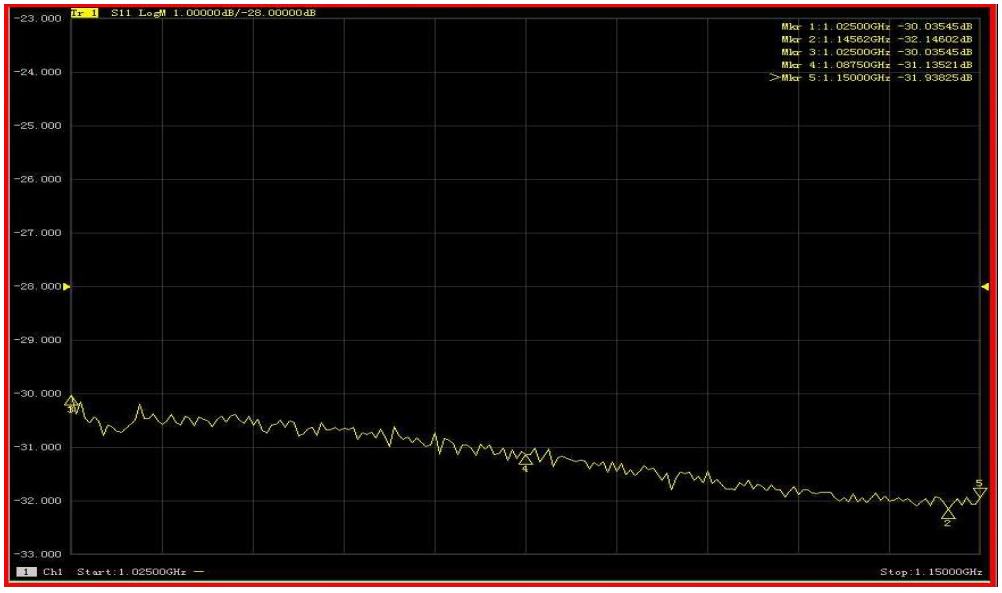
Pout && IDC [Pin=0dBm Ambient Temp= +65℃, VSWR<1.2, Duty Cycle=10%,Pulse Width=100uS]



Small Signal S11 [Pin= -30dBm, Ambient Temp= 25℃, VSWR<1.2, Duty Cycle=10%,Pulse Width=100uS]



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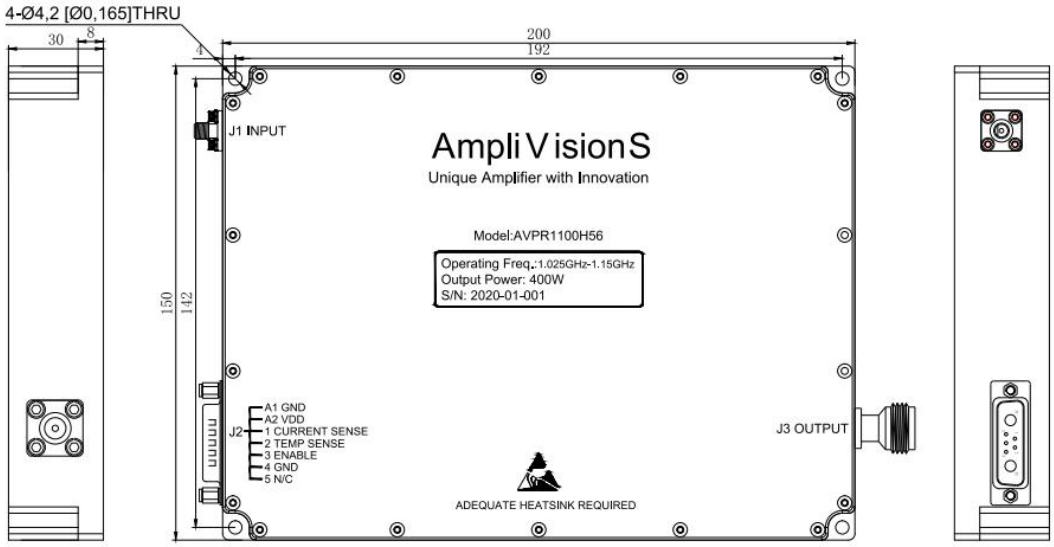
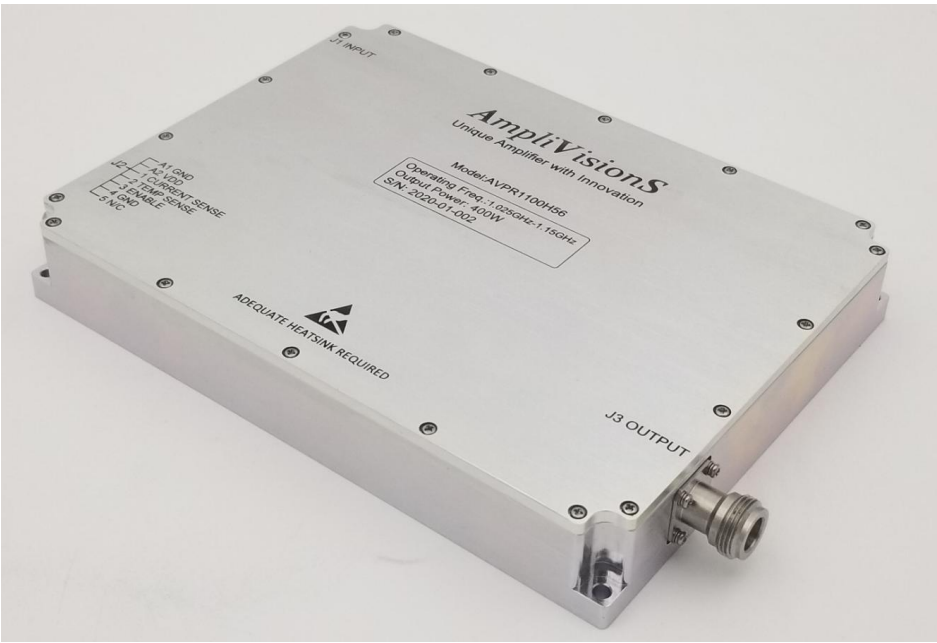
OUTLINE DRAWING (mm)





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