

## General Description

The P350W1-6CP SSPA is a high power, broadband, solid state power amplifier housed in a custom hub mountable chassis. The amplifier incorporates a wide input range DC-DC power supply, fan-forced convective thermal management, and an internal driver amplifier. The amplifier is appropriate for high-power wide-band testing, communications, radar, or any application requiring capability for simultaneous power amplification of signals across the 1.0-6.0 GHz spectrum.

The P350W1-6CP incorporates high efficiency GaN MMICs, spatially combined in a compact structure to achieve robust, high performance power amplification across the 1.0-6.0 GHz frequency range.

The P350W1-6CP will be delivered in 3RU box or hub mount format. A top level functional block diagram is shown below, not shown in the block diagram are the front panel display, control, health monitoring features, output directional coupler with power detector and Ethernet interface.

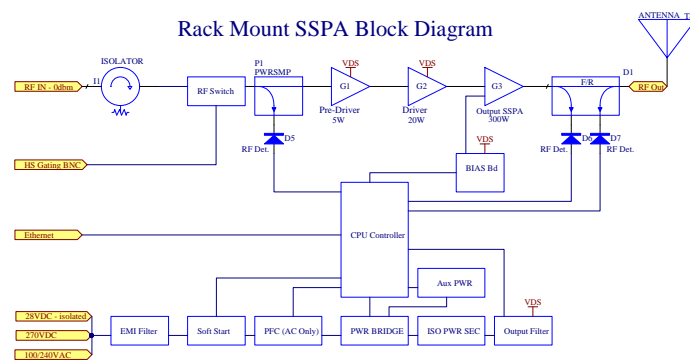


## Product Features

- 1.0-6.0 GHz
- 350 Watts saturated
- RF rise and fall times using gate - 5ns typical
- Gating frequency - 100kHz, burst to 1MHz
- 62 dB small signal gain
- 55 dB nominal power gain
- 28VDC input voltage
- Weight 25lbs - depends on options
- Ethernet monitor and control
- Air cooling - back panel inlet and outlet
- Liquid or conduction cooled options

*Performance is typical across frequency. Please reference electrical specification table and data plots for more details.*

## Functional Block Diagram



## Applications

- Radar
- Communications
- Test & Measurement
- EMI Testing

## Ordering Information

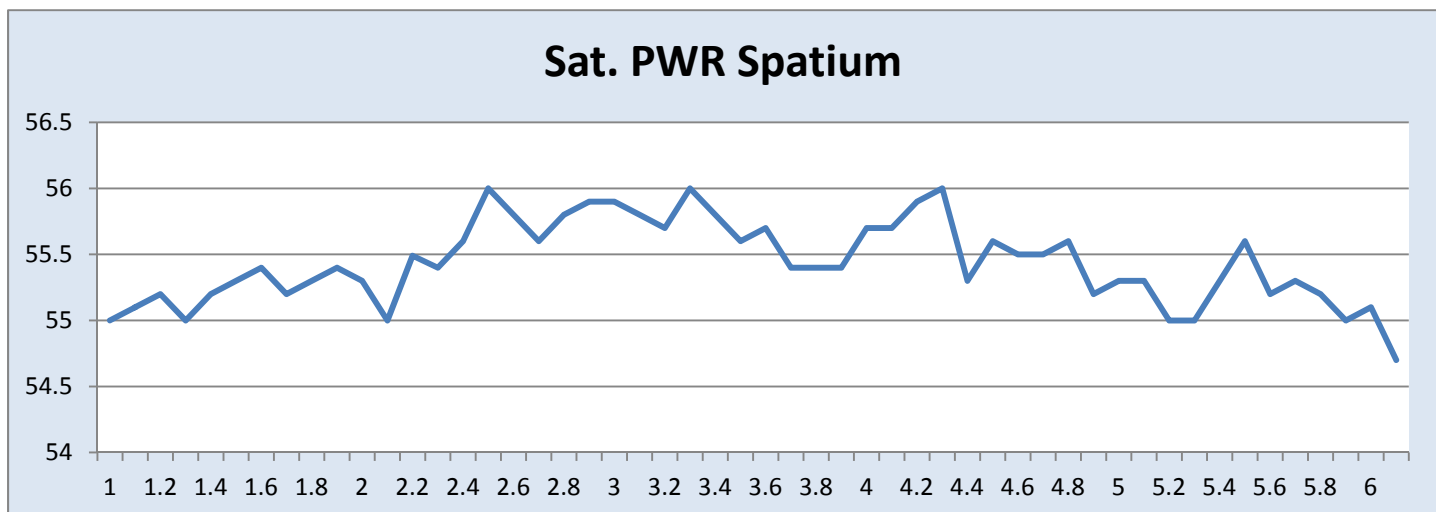
Part No.	ECCN	Description
P350W1-6CP	3A611.X	1.0-6.0 GHz 100 Watt Amplifier

## Performance Plots

Please reference data plots for more details.

Parameter	Conditions <sup>(1)</sup>	Min	Typ	Max	Units
Operational Frequency Range	Pulsed @ +25C Duty 100%	32.0		38.0	GHz
Output Power ( $P_{IN} = +5\text{dBm}$ )	1 GHz		55		dBm
	2 GHz		55.1		dBm
	3 GHz		55.7		dBm
	4 GHz		50.6		dBm
	5 GHz		55.5		dBm
	6 GHz		54.7		dBm
Power Gain ( $P_{IN} = +5\text{dBm}$ )	1 GHz		55		dB
	2 GHz		55.1		dB
	3 GHz		55.7		dB
	4 GHz		50.6		dB
	5 GHz		55.5		dB
	6 GHz		54.7		dB
Small Signal Gain	1 GHz		64		dB
	2 GHz		64		dB
	3 GHz		63.2		dB
	4 GHz		63.5		dB
	5 GHz		62		dB
	6 GHz		61		dB
Small Signal Gain Flatness			See plot		dB
Non-Harmonic Spurious	$F_0 = 1-6\text{ GHz}, P_{IN} = 5\text{ dBm}$			-60	dBc
DC Input Power (average)			1400	1700	W
DC Fuse	100A, 50V				

Notes: Test conditions unless otherwise noted:  $V_{dc} = 18\text{V}$ , Air Temp = +25 °C, 50 Ω system.



## Absolute Maximum Ratings

Parameter	Rating
RF Input Power, CW, 50 $\Omega$ , $T_{CASE}=25\text{ }^{\circ}\text{C}$	+10 dBm
Load VSWR	3.0:1
DC Current (22, 28, 30VDC)	80, 65, 60 A
Storage Air Temperature	-30 to +75 $^{\circ}\text{C}$
Operating Air Temperature	-5 to +40 $^{\circ}\text{C}$

## Recommended Operating Conditions

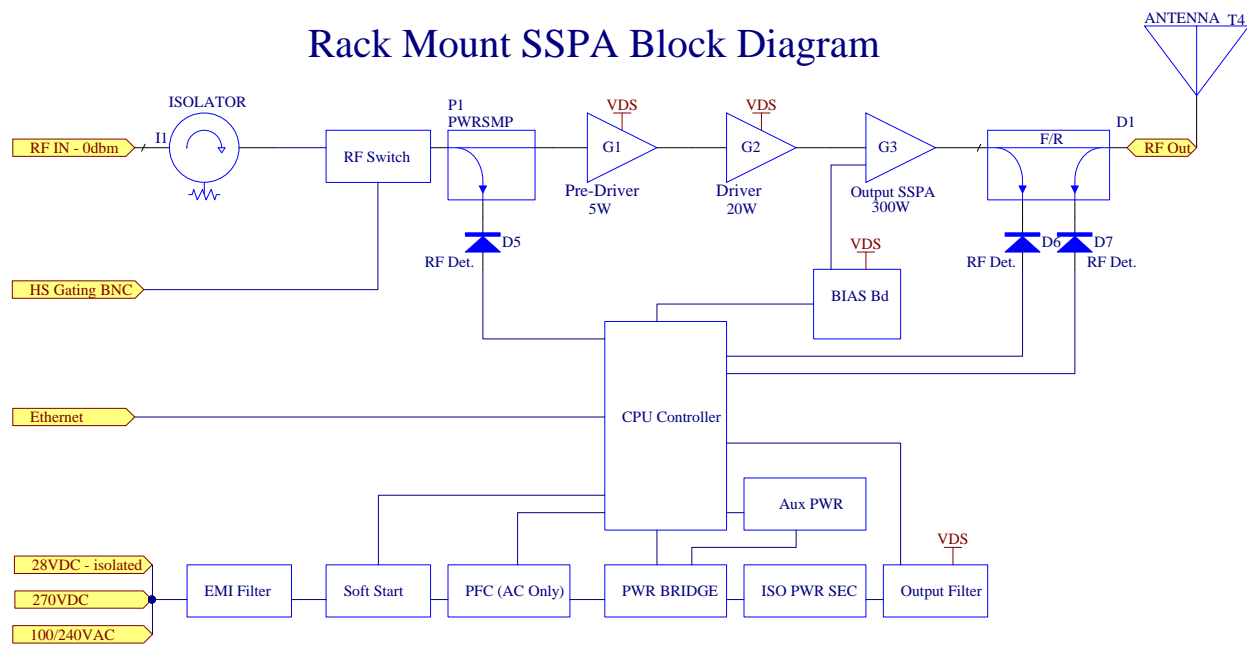
Parameter	Min	Typ	Max	Units
Voltage ( $V_{dc}$ )	22	28	30	$V_{dc}$
Current (dc)	60	65	80	A
Operating Air Temperature	0	25	40	$^{\circ}\text{C}$
RF Input Power, CW		0	+5	dBm

Electrical specifications are measured at specified test conditions. Specifications are not guaranteed over all recommended operating conditions.

Exceeding any one or a combination of the Absolute Maximum Rating conditions may cause permanent damage to the device. Extended application of Absolute Maximum Rating conditions to the device may reduce device reliability.

## Block Diagram and Description

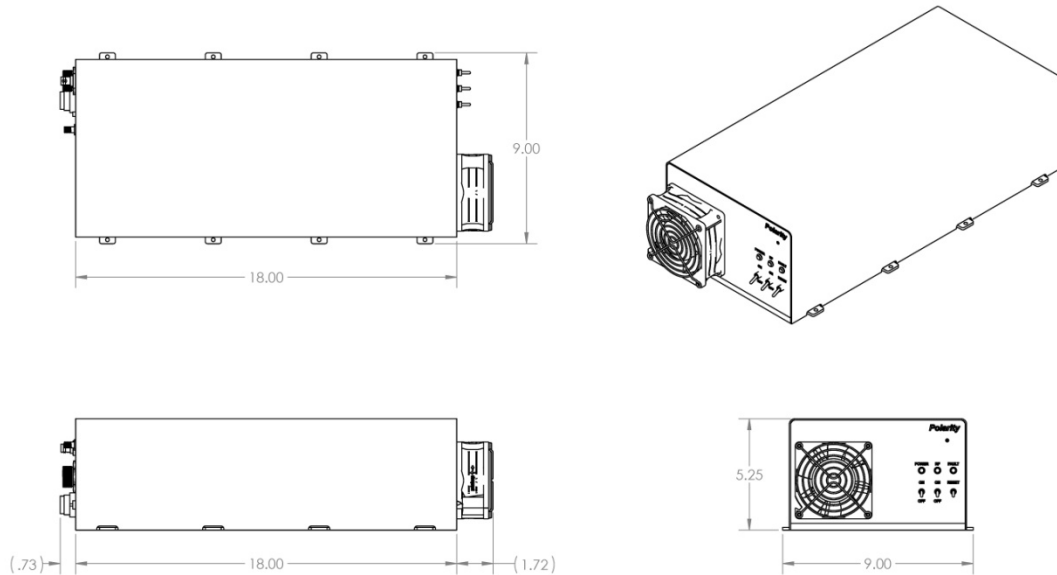
### Rack Mount SSPA Block Diagram



I/O Port	Label	Description
RF In	N/A	SMA RF Input
RF Out	N/A	N-type
DC Input	N/A	1/4/20 lugs

## Package Marking and Dimensions

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## Handling Precautions

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Caution!  
ESD-Sensitive Device

## Contact Information

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For the latest specifications, additional product information, worldwide sales and distribution locations

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