



Teledyne Microwave Solutions' **350W to 1kW X-Band Solid State Power Amplifier (SSPA)** offers superior RF performance for the 9-10 GHz radar market. Designed in a compact, environmentally sealed housing, the SSPA can reliably handle any airborne or ground-based environment.

Operating from 9.0 to 10.0 GHz with shifted/extended bandwidth options, the amplifier is available with 350W, 550W and 1000W peak output power. These amplifiers can also be combined to achieve even higher output power levels.

Options include a voltage converters for alternate input voltages, a harmonic filter which can improve the harmonic performance to -80 dBc and remote monitoring and control to conform to various system requirements.

#### FEATURES

- Multiple Power Levels
- Low Spurious Emissions and Phase Noise
- Temperature and Module Fail Alarms
- DC-DC Converter

#### OPTIONS

- Harmonic Filter
- Remote Monitoring and Control
- Alternate input voltages

#### TYPICAL SPECIFICATIONS

- 9.0-10.0 GHz
- 350W to 1kW Peak Power
- 28V DC Input
- 10% Duty Cycle
- -40C to +75C Operating

## General Electrical Specifications

PARAMETER	NOTES	SPECIFICATION	UNITS
Operating Frequency Power Levels Available Duty Cycle	Range Rated Power At 1kW output, "B" package	9.0-10.0 std. 350, 550 and 1000 0 - 10	GHz W %
Gain (Large Signal) Gain Flatness	0 dBm input typical per 200 MHz	55.5 (350W) - 60(1kW) 1.5	dB dB pk-pk
Pulse Droop	10 - 90% @ rated power, 100 $\mu$ s pulse width (typical)	0.5	dB
Conducted Harmonics	2nd harmonic @ rated power 3rd harmonic @ rated power	-35 -55	dBc dBc
Spurious	Non-harmonic, max, up to PRF/2	-90	dBc
Group Delay	Linear	<12	ns
Noise Power Density	Transistors biased on	-40	dBm/MHz
Prime Power	Input per 300W at 10% Duty Cycle Input Voltage	125 19-36	W V

## Environmental Specifications

PARAMETER	NOTES	LIMITS	UNITS
Operating Temperature	Baseplate, 10% Duty	-40 to +75	°C
Storage Temperature	Non-Operating	-50 to +100	°C
Relative Humidity	Non-Condensing	0 to 95%	%
Cooling System	Conduction-cooled	N/A	N/A

## Mechanical Specifications

PARAMETER	NOTES	LIMITS	UNITS
Size	Length Width Height	9.2 (13.2 for 1kW) 8.4 2.6	Inches Inches Inches
Weight	1kW SSPA	12.3 (1kW)	lbs
Endurance	Shock Vibration	20, 11 2.1, 5-2000	g pk, mS grms, Hz
Output	TNC Female		
Input	SMA female		

Specifications are subject to change without notice.