Solid State High Power Amplifiers

Featuring LDMOS, and GaN ICs

UHF, L, S, X, and Ku Band SSPAs

Power Levels from 25 watts to Multiple Kilowatts

Radar, Communication, Electronic Counter Measures, and Laboratory Instrumentation

TELEDYNE MICROWAVE SOLUTIONS
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Your single source for microwave electronics, Teledyne Microwave Solutions delivers the world's most advanced microwave technologies for demanding aerospace, military, commercial, and industrial applications.

Teledyne Microwave Solutions
Solid State High Power Amplifiers (SSHPAs)

Teledyne's Solid State High Power Amplifier (SSHPA) product line offers the industry's best performance to address demanding requirements of most modern radars and communication transmitters.

The new line of SSHPAs offers small packages by utilizing state-of-the-art amplifier devices, and building them into compact, thermally-efficient packages. These amplifiers are offered in baseplate-mounted assemblies, air-cooled rack-mount packages and can be modified to suit most customer-specific outlines as well.

For X-band radar applications, TMS has developed a compact solution that is truly modular, providing greater packaging flexibility, easier system integration and reduced service costs. TMS also has proprietary combiner technology to provide highly efficient combining of multiple modules.

Features and Available Options:

- Frequency bands:
  - UHF
  - L Band
  - S Band
  - X Band
  - Ku Band
- Output power from 25W to multiple kilowatts at system level
- Both CW and pulsed operation
- Narrow to multi-octave bandwidths
- Remobe monoitoring and control
- Low Harmonic performance of –60dBc with Low Pass Filter
- Internal Circulator for protection from open and short conditions
- Internal Output Forward and Reflected Power Monitoring capability

Sample Product Offering

Note: Performance specifications are typical and may be configured to meet custom requirements. Contact TMS for details.

Model	Frequency Range	P sat Watt	P1 (Min) Watt	Duty Cycle	Pulse Width	Small Signal Gain	Gain Flatness (Peak to Peak)
MEC-7001U	400-500 MHz	1kW	0.9kW	CW	N/A	>30dB	0.5dB
MEC-7002L	1.2-1.4 GHz	1kW	0.9kW	10%	300µsec	>30dB	0.5dB
MEC-7003S	2.7-3.5 GHz	220W	200W	10%	100µsec	>20dB	0.5dB
MSX-035X	X-Band	350W	300W	0-20%	100µsec	>30dB	1.5dB
MSX-055X	X-Band	550W	500W	0-20%	100µsec	>50dB	1.5dB
MSX-100X	X-Band	1.1kW	1kW	0-20%	100µsec	>50dB	1.5dB
MEC-7005S	2.7-3.5 GHz	1.1kW	1.0kW	10%	100µsec	>30dB	0.5dB
MEC-7006S	S-Band	12kW	10kW	5%	100µsec	>30dB	0.5dB
MEC-7011U	225-400 MHz	200W	100-160W	CW	N/A	>50dB	±1.5dB

teledynemicrowave.com
Tel: 916.638.3344 or Fax: 916.636.7453

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Solid State High Power Amplifiers (SSHPAs)

TMS designs and manufactures SSHPAs to meet stringent airborne, shipboard and transport vehicle environments for use in today's ECM, radar and communications markets.

With the advent of high power solid-state devices such as LDMOS transistors for frequencies up to S-Band, GaN PHEMT ICs for frequencies up to Ku-Band, SSHPAs can be a more cost effective alternative to TWTs for narrow and broadband applications.

Teledyne Microwave Solutions
1kW X-Band
Solid State High Power Amplifier (SSHPA)

Harmonics w/ LPF	VSWR	Operating Temperature	DC Power	Size L" x W" x H"	RF Connectors In/Out	DC Connectors Monitor/Control
-60 dBc	1.5	-40 to +60 ° C	2200W	10" x 6" x 5"	SMA/Type N	Terminal Block/D-Sub
-60 dBc	1.5	-40 to +80 °C	300W	9" x 12" x 1.75"	SMA/Type N	D-sub
-60 dBc	1.5	-40 to +80 °C	80W	3" x 9" x 1.25"	SMA/Type N	D-sub
-50 dBc	1.5	-40 to +80 °C	400W	9"x 8.5" x 2.5"	SMA/Type N	Terminal Block/D-Sub
-60 dBc	1.5	-40 to +80 °C	600W	9"x 8.5" x 2.5"	SMA/WG	Terminal Block/D-Sub
-60 dBc	1.5	-40 to +80 °C	1.2kW	13"x 8.5" x 2.5"	SMA/WG	Terminal Block/D-Sub
-60 dBc	1.5	-40 to +80 °C	710W	9" x 12" x 6.5"	Type N/Type N	Terminal Block/D-Sub
-60dBc	1.3	-40 to +60 °C	2000W	12" x 18" x 24"	TNC/WG	Terminal Block/D-Sub
-60 dBc	1.5	-40 to +60 °C	600W	6.5" x 12.5" x 1.5"	SMA/Type N	D-sub

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TEL: (800) 832-6869
FAX: (916) 636-7453
WEB: www.teledynemicrowave.com

Prices subject to change without notice.