



## 1.0 – 1.10 GHz POWER AMPLIFIER MODULE WPM1011A<sup>1</sup>

WPM1011A is a high power and high linearity amplifier. The amplifier offers +/- 0.25 dB exceptional gain flatness, 31.0 dB gain, 40.0 dBm P<sub>sat</sub>, and output 48 dBm IP<sub>3</sub> at the frequency range from 1.0 GHz to 1.10 GHz.

WPM1011A is designed for avionic communication and measurement applications. It either can work in continuous or pulse mode.

WPM1011A is designed to meet the rugged standards of MIL-STD-202, MIL-STD-883, and MIL-STD-810F.

**Additional heat sink required for the normal continuous operation!**

### Key Features:

Operation Class:	A
Operation Mode:	Continuous or Pulse
MTBF <sup>2</sup> :	>150,000 hrs (17 Years)
Impedance:	50 Ohm
Output IP <sub>3</sub> :	48.0 dBm
Gain:	31.0
NF:	4.0 dB
Gain Flatness:	+/-0.25 dB
Input VSWR:	1.25:1 typical
Output VSWR:	1.25:1 typical
P <sub>sat</sub> :	40.0 dBm
Single Power Supply:	750 mA, @ +28 V
Frequency Range:	1.0 ~ 1.10 GHz
Operating Temperature:	-40 ~ +85 °C

Preliminary

### Absolute Maximum Ratings<sup>3</sup>:

Symbol	Parameters	Units	Absolute Maximum
V <sub>dd</sub>	DC Power Supply Voltage	V	30
I <sub>dd</sub>	Drain Current	mA	900
P <sub>diss</sub>	Total Power Dissipation	W	27
P <sub>In,Max</sub>	RF Input Power	dBm	13
T <sub>ch</sub>	Channel Temperature	°C	175
T <sub>STG</sub>	Storage Temperature	°C	-65 ~ 150
T <sub>O,MAX</sub>	Maximum Operating Temperature	°C	-40 ~ +85
R <sub>th,c</sub>	Thermal Resistance	°C/W	2.2

<sup>1</sup> Specifications are subject to change without notice.

<sup>2</sup> MTBF: Mean Time Between Failure, Per TR-NWT-000332, ISSUE 3, SEPTEMBER, 1990, T=40°C

<sup>3</sup> Operation of this device above any one of these parameters may cause permanent damage.

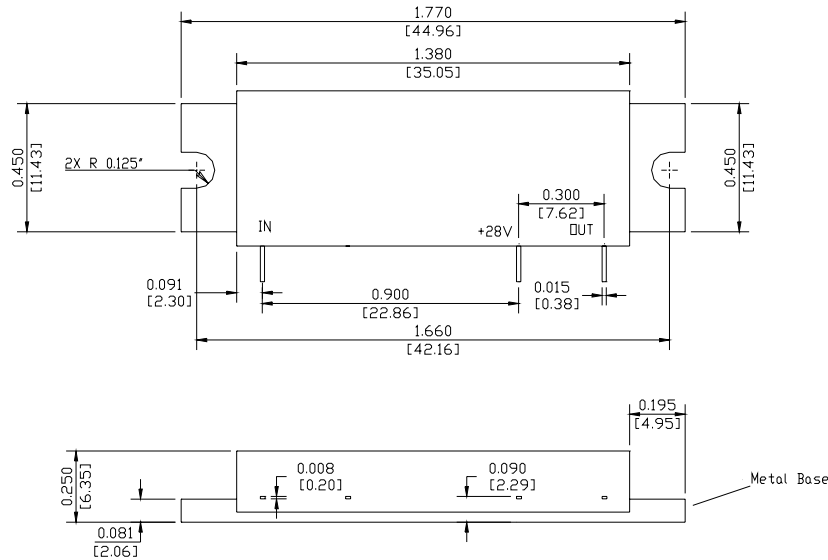


**Specifications:**

a) **Table 1** Summary of the electrical specifications of WPM1011A at room temperature

Index	Testing Item	Symbol	Test Constraints	Nom (RT)	Min	Max	Unit
1	Gain	$S_{21}$	1.0 – 1.10 GHz	31	29	33	dB
2	Gain Variation	$\Delta G$	1.0 – 1.10 GHz	+/- 0.25		+/- 0.35	dB
3	Input Return Loss	$S_{11}$	1.0 – 1.10 GHz	20	14		dB
4	Output Return Loss	$S_{22}$	1.0 – 1.10 GHz	18	14		dB
5	Reverse Isolation	$S_{12}$	1.0 – 1.10 GHz	40	35		dB
7	Output Saturation Power	$P_{sat}$	1.0 – 1.10 GHz	40	38		dBm
8	Output-Third-Order Interception point	$IP_3$	Two-Tone, Pout 20 dBm each, 1 MHz separation	48			dBm
9	Noise figure	NF	1.0 – 1.10 GHz	4.0			dB
10	Current Consumption	$I_{dd}$	$V_{dd} = +28$ V	750			mA
11	Power Supply Voltage	$V_{dd}$		+28	+26	+30	V
12	Operating Temperature	$T_o$			-40	+85	°C
13	Maximum Average RF Input Power	$P_{IN, MAX}$	1.0 – 1.10 GHz			13	dBm

**WPM1011A Mechanical Outline, WPM-1:**



**FIG. 1** WPM1011A Outline

**Ordering Information**

<b>Model Number:</b>	WPM1011A
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