

HIGH POWER TVS ARRAY

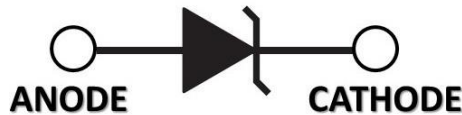
DESCRIPTION:



The ALPAMD6SXXA series are **AECQ101 approved** and designed for robust high-power load dump applications. It has a peak pulse of 4600W for multiple load hits and presents excellent production for the Automotive applications.

Used for High Reliability and Automotive Requirements.

This device series meets the ISO7637-2 Surge Specification and MSL Level 1, Per J-STD-020, LF Maximum Peak of 245°C



FEATURES:

- **AEC-Q101 Qualified.**
- Junction Passivation Optimized Design Passivated Anisotropic Rectifier Technology
- TJ = 175°C Capability Suitable for High Reliability and Automotive Requirements
- Unidirectional Configuration
- Low Forward Voltage Drop
- High Surge Capability
- 4600 Watts Peak Pulse Power per Line (tp = 10/1000µs)
- Meets ISO7637-2 Surge Specification (Varied by Test Condition)
- Meets MSL Level 1, Per J-STD-020, LF Maximum Peak of 245°C
- Available in Multiple Voltages
- RoHS Compliant
- REACH Compliant

APPLICATIONS:

- Digital Audio Tuner for Automotive
- Automotive Entertainment Systems
- Automotive Navigation Systems

TYPICAL DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	SYMBOL	VALUE	UNITS
Operating Junction Temperature	T_J	-55 to 175	°C
Storage Temperature	T_{STG}	-55 to 175	°C
Peak Pulse Power Dissipation ($t_p = 10/1000\mu s$)	P_{PPM}	4600	Watts
Peak Pulse Power Dissipation ($t_p = 10/10000\mu s$)	P_{PPM}	3600	Watts
Peak Forward Surge Current, 8.3ms single half sinewave	I_{FSM}	600	Amps
Power Dissipation on Infinite Heatsink, $T_C = 25^\circ C$ (Figure 2)	P_D	6.0	Watts
Typical Thermal Resistance, Junction to Case	$R_{\theta JC}$	0.95	°C/W

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified								
PART NUMBER (Note 1)	REVERSE STAND-OFF VOLTAGE V_{RWM} VOLTS	BREAKDOWN VOLTAGE $V_{(BR)}$ @ I_T VOLTS		TEST CURRENT @ I_T mA	MAXIMUM CLAMPING VOLTAGE (Fig. 1) @ I_P, V_C VOLTS	MAXIMUM REVERSE SURGE CURRENT @ I_{PP} AMPS	MAXIMUM REVERSE LEAKAGE CURRENT @ V_{RWM} I_R μA	MAXIMUM REVERSE LEAKAGE CURRENT @ V_{RWM} 175°C I_R μA
		MIN	MAX					
ALPAMD6S14A	14.0	15.6	17.2	5.0	23.2	198	10	150
ALPAMD6S15A	15.0	16.7	18.5	5.0	24.4	189	10	150
ALPAMD6S16A	16.0	17.8	19.7	5.0	26.0	177	10	150
ALPAMD6S17A	17.0	18.9	20.9	5.0	27.6	167	10	150
ALPAMD6S18A	18.0	20.0	22.1	5.0	29.2	158	10	150
ALPAMD6S20A	20.0	22.2	24.5	5.0	32.4	142	10	150
ALPAMD6S22A	22.0	24.4	26.9	5.0	35.5	130	10	150
ALPAMD6S24A	24.0	26.7	29.5	5.0	38.9	118	10	150
ALPAMD6S26A	26.0	28.9	31.9	5.0	42.1	109	10	150
ALPAMD6S28A	28.0	31.1	34.4	5.0	45.4	101	10	150
ALPAMD6S30A	30.0	33.3	36.8	5.0	48.4	95	10	150
ALPAMD6S33A	33.0	36.7	40.6	5.0	53.3	86	10	150
ALPAMD6S36A	36.0	40.0	44.2	5.0	58.1	79	10	150

NOTES
1. For all types, maximum VF = 1.9V at IF 100A, measured on 8.3ms single half-sine wave or equivalent square wave. Maximum duty cycle = 4 pulses per minute.

TYPICAL DEVICE CHARACTERISTICS CURVES

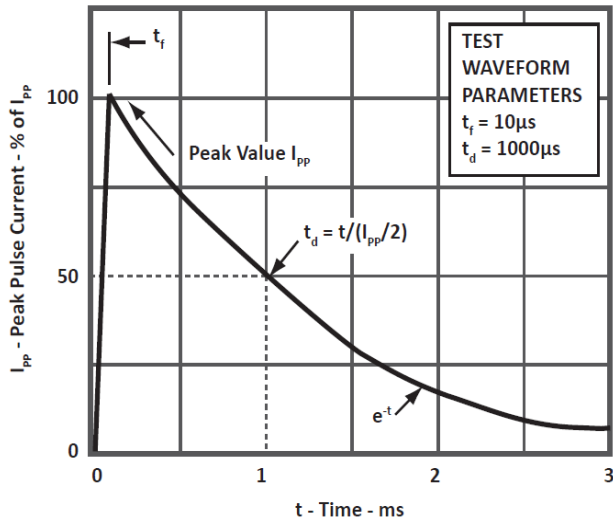


Fig1. PULSE WAVEFORM

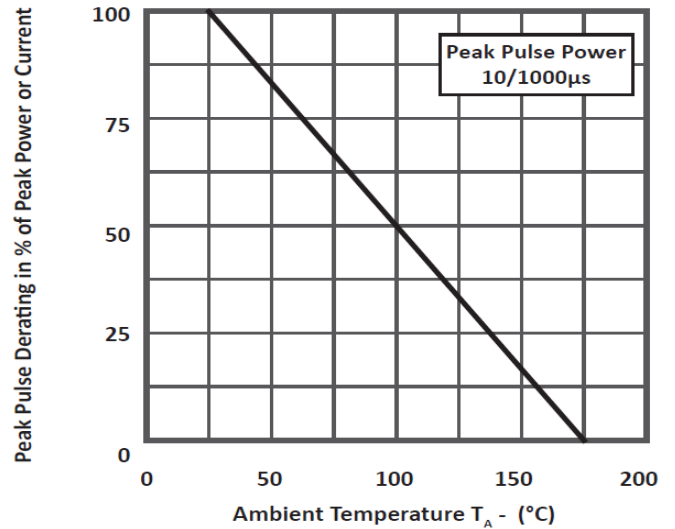


Fig2. POWER DERATING CURVE

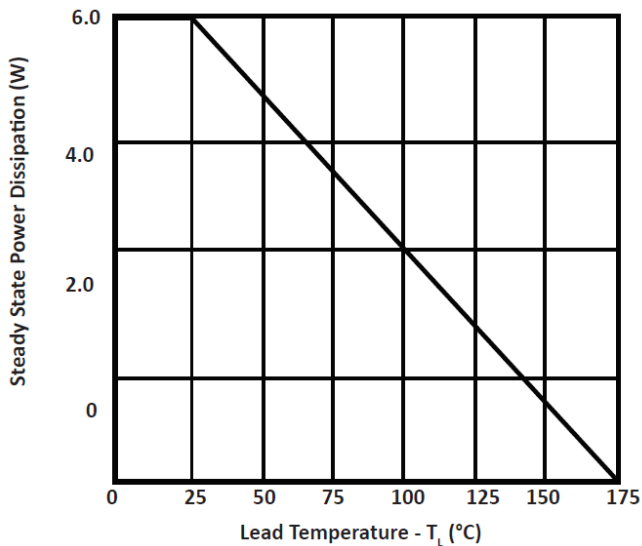


Fig3. STEADY STATE POWER DERATING CURVE

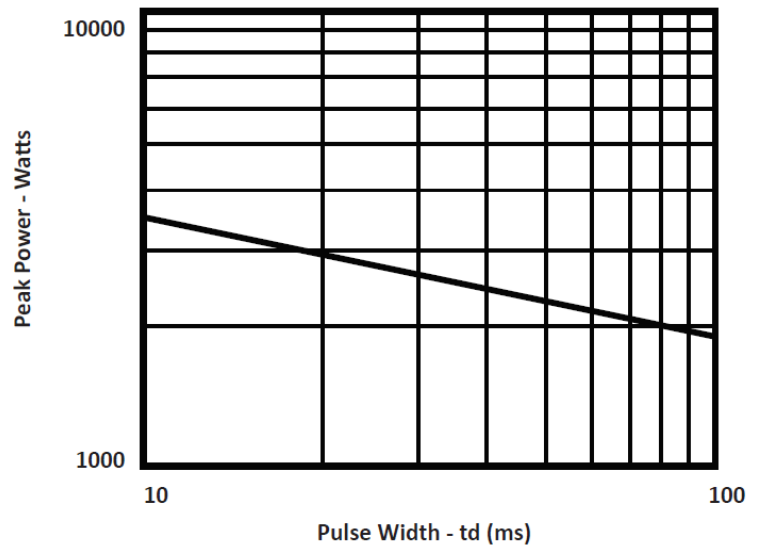
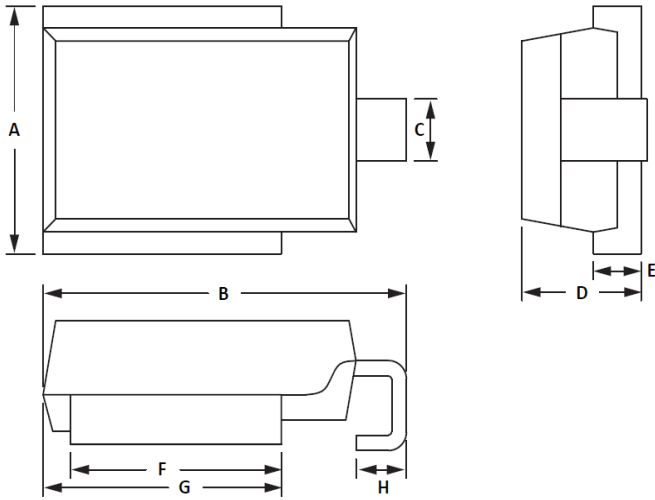


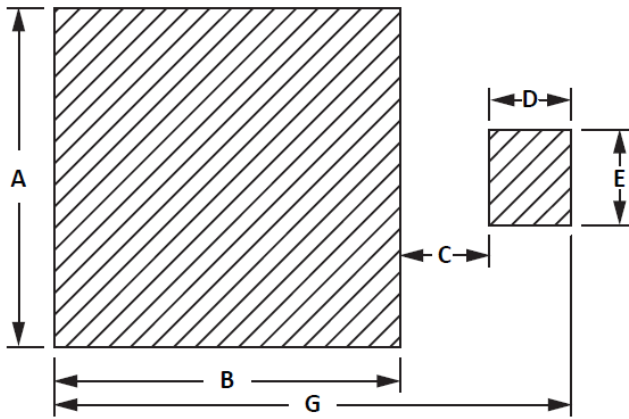
Fig4. PEAK PULSE POWER RATING CURVE

PACKAGE INFORMATION



OUTLINE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	9.50	10.50	0.374	0.413
B	15.00	16.00	0.591	0.630
C	2.30	2.90	0.090	0.114
D	4.80	5.20	0.189	0.205
E	1.95	2.11	0.077	0.083
F	8.70	9.30	0.342	0.366
G	9.70	10.30	0.382	0.405
H	1.70	2.70	0.067	0.106

NOTES
1. Dimensions are exclusive of mold flash and metal burrs.



PAD LAYOUT DIMENSIONS		
DIM	MILLIMETERS	INCHES
	NOM	NOM
A	11.0	0.433
B	9.5	0.374
C	3.3	0.130
D	3.0	0.118
E	3.5	0.137
G	15.8	0.662



beyond boundaries...

ALPAMD6SXXA Series

DO-218AB

CUSTOMER NOTE:

DISCLAIMER

The product information and the selection guide facilitates the selection of the ALPINESEMI™'s Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review the Data sheet(s) so as to confirm that the Device(s) meets functionality parameters for your application. The information furnished on the Data Sheet and the ALPINESEMI™'s Web Site is believed to be accurate and reliable at the time of preparation of this document. ALPINESEMI™ however, does not assume any inaccuracies that may arise when the components are mounted and removed. Furthermore, ALPINESEMI™ does not assume liability whatsoever, arising out of the application or the use of any of ALPINESEMI™'s product(s). Neither, does it convey any license under its patent rights nor the rights of others. These products are not guaranteed for use in life saving/support appliances or systems. ALPINESEMI™'s customers using these products (either as individual Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and ALPINESEMI™ will not be responsible in any way(s) for any damage(s) resulting from such use.

Please check the website www.alpinesemi.com for continues updates and revision of datasheets.

DESIGN CHANGES: ALPINESEMI™ strives for continuous improvement and reserves the right to change the specifications of its products without prior notice. ALPINESEMI™ reserves the right to discontinue product lines without prior notice. Any product selection is a recommendation based on best understanding of such product(s) by our engineers. However, buyers are advised to rely on their own judgment for such selection of the products.

ALPINESEMI™ makes no warranty, representation or guarantee regarding the suitability of its products for any particular applications. Neither does ALPINESEMI™ assume any liability arising out of the applications nor the use of such products. ALPINESEMI™ specifically disclaims all liabilities either consequential or incidental.

All rights of the product and datasheet are reserved to ALPINESEMI™.

All logos and information provided in the datasheets are for reference only. Any registered and/or trademark/logos belonging to respective companies be the property of those companies. ALPINESEMI™ extends the courtesy to them, if any of the information found in its datasheet.

Component Disposal Instructions

1. ALPINESEMI™ Semiconductor Devices are RoHS compliant and hence customers are requested to dispose as per the prevailing Environmental Legislation put forth in their specific country.
2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).



sales@alpinesemi.com
www.alpinesemi.com