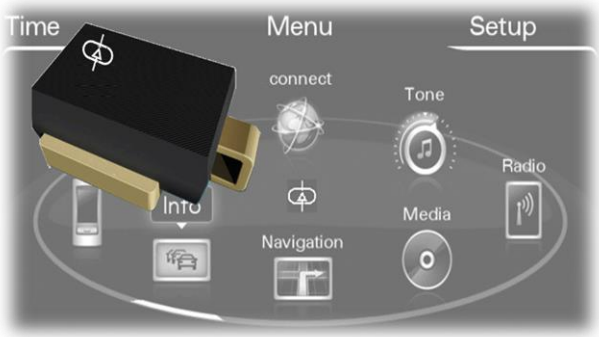
HIGH POWER TVS ARRAY

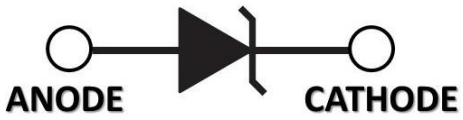
DESCRIPTION:



The ALPAMD5SXXA series are **AECQ101 approved** and designed for robust high-power load dump applications. It has a peak pulse of 3600W 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
- 3600 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 (tp =10/1000µs)	P_{PPM}	3600	Watts
Peak Pulse Power Dissipation (tp =10/10000µs)	P_{PPM}	2800	Watts
Peak Forward Surge Current, 8.3ms single half sinewave	I_{FSM}	500	Amps
Power Dissipation on Infinite Heaksink, T_C = 25°C (Figure 2)	P_D	5.0	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					
ALPAMD5S14A	14.0	15.6	17.2	5.0	23.2	155	10	150
ALPAMD5S15A	15.0	16.7	18.5	5.0	24.4	148	10	150
ALPAMD5S16A	16.0	17.8	19.7	5.0	26.0	138	10	150
ALPAMD5S17A	17.0	18.9	20.9	5.0	27.6	130	10	150
ALPAMD5S18A	18.0	20.0	22.1	5.0	29.2	123	10	150
ALPAMD5S20A	20.0	22.2	24.5	5.0	32.4	111	10	150
ALPAMD5S22A	22.0	24.4	26.9	5.0	35.5	101	10	150
ALPAMD5S24A	24.0	26.7	29.5	5.0	38.9	93	10	150
ALPAMD5S26A	26.0	28.9	31.9	5.0	42.1	86	10	150
ALPAMD5S28A	28.0	31.1	34.4	5.0	45.4	79	10	150
ALPAMD5S30A	30.0	33.3	36.8	5.0	48.4	74	10	150
ALPAMD5S33A	33.0	36.7	40.6	5.0	53.3	68	10	150
ALPAMD5S36A	36.0	40.0	44.2	5.0	58.1	62	10	150

NOTES

1. For all types, maximum VF = 2.0V 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

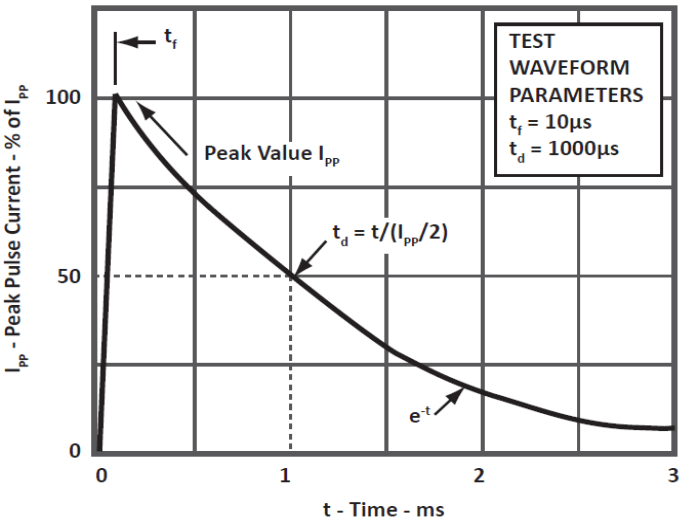


Fig1. PULSE WAVEFORM

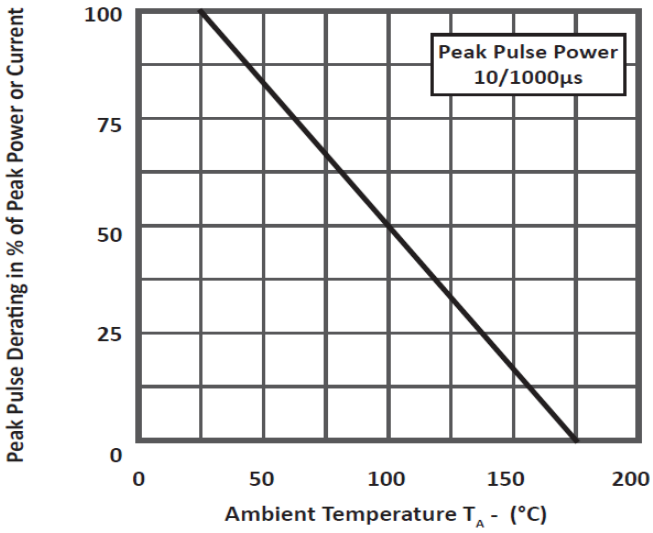


Fig2. POWER DERATING CURVE

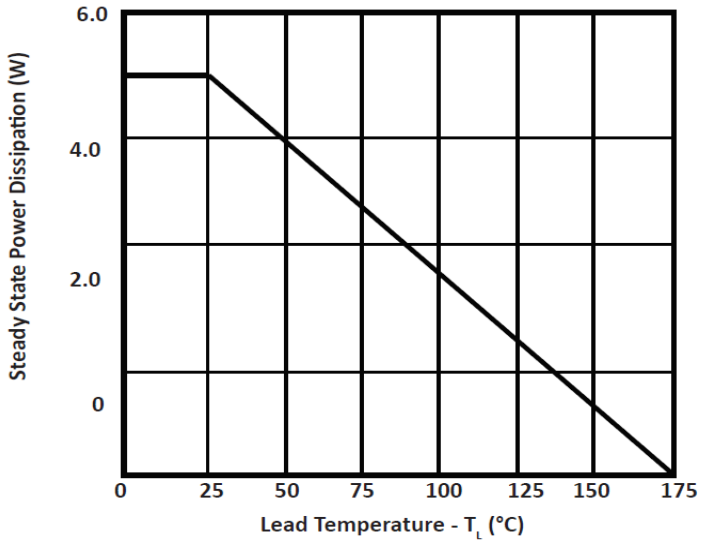


Fig3. STEADY STATE POWER DERATING CURVE

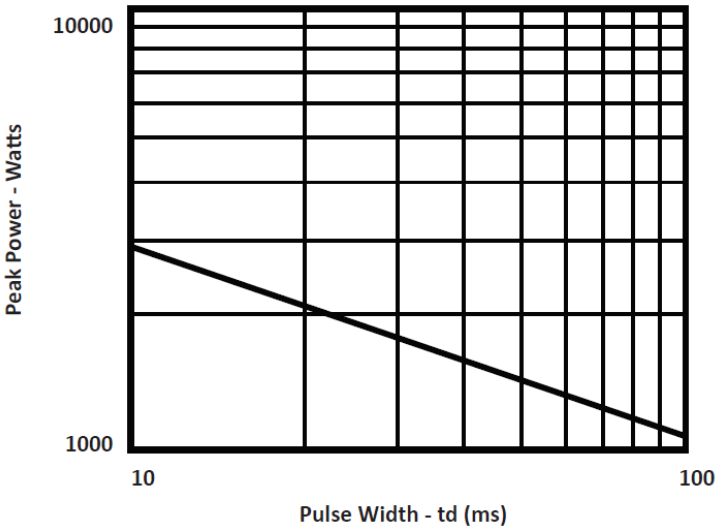
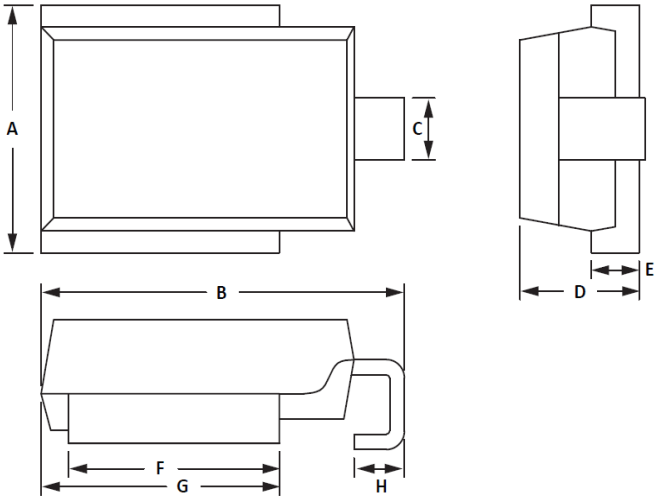


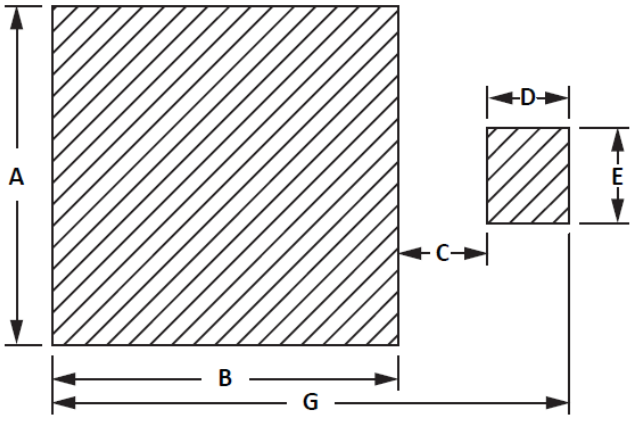
Fig4. PEAK PULSE POWER RATING CURVE

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

CUSTOMER NOTE:

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2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

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