

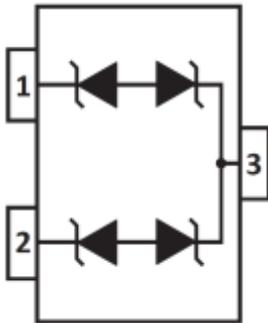
**CAN BUS ESD PROTECTION DIODE**

**DESCRIPTION:**



The ALPESD1CAN is designed to protect two automotive Controller Area Network (CAN) bus lines from the damaging effects of Electrostatic Discharge (ESD) and other transients.

This device is available in a SOT-23 package configuration and meets IEC 61000-4-2 and IEC 61000-4-4 requirements.



**FEATURES:**

- Compatible with IEC 61000-4-2 (ESD): Air ±15kV, Contact ±8kV
- Compatible with IEC 61000-4-4 (EFT): 40A - 5/50ns
- Compatible with IEC 61000-4-5 (Surge): 24A, 8/20µs
- 200 Watts Peak Pulse Power per Line (tp = 8/20µs)
- Two Lines of Protection
- ESD Protection > 25 kilovolts
- Low Clamping Voltage
- Low Capacitance
- Low Leakage Current
- RoHS Compliant
- REACH Compliant

**APPLICATIONS:**

- CAN Bus Protection
- Automotive Applications



*beyond boundaries...*

**ALPESD1CAN**  
**SOT-23**

**TYPICAL DEVICE CHARACTERISTICS**

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp = 8/20μs) - See Figure 1	P <sub>PP</sub>	200	Watts
Operating Temperature	T <sub>L</sub>	-55 to 150	°C
Storage Temperature	T <sub>STG</sub>	-55 to 150	°C
Peak Pulse Current - 8/20μs	I <sub>PP</sub>	3	Amps

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified					
PART NUMBER	RATED STAND-OFF VOLTAGE  V <sub>WM</sub> VOLTS	MINIMUM BREAKDOWN VOLTAGE  @ 5mA V <sub>(BR)</sub> VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ I <sub>p</sub> = 3A V <sub>c</sub> VOLTS	MAXIMUM LEAKAGE CURRENT  @V <sub>WM</sub> I <sub>d</sub> μA	TYPICAL CAPACITANCE  @0V, 1MHz C pF
ALPESD1CAN	24	25.4	70	0.05	11

TYPICAL DEVICE CHARACTERISTICS CURVES

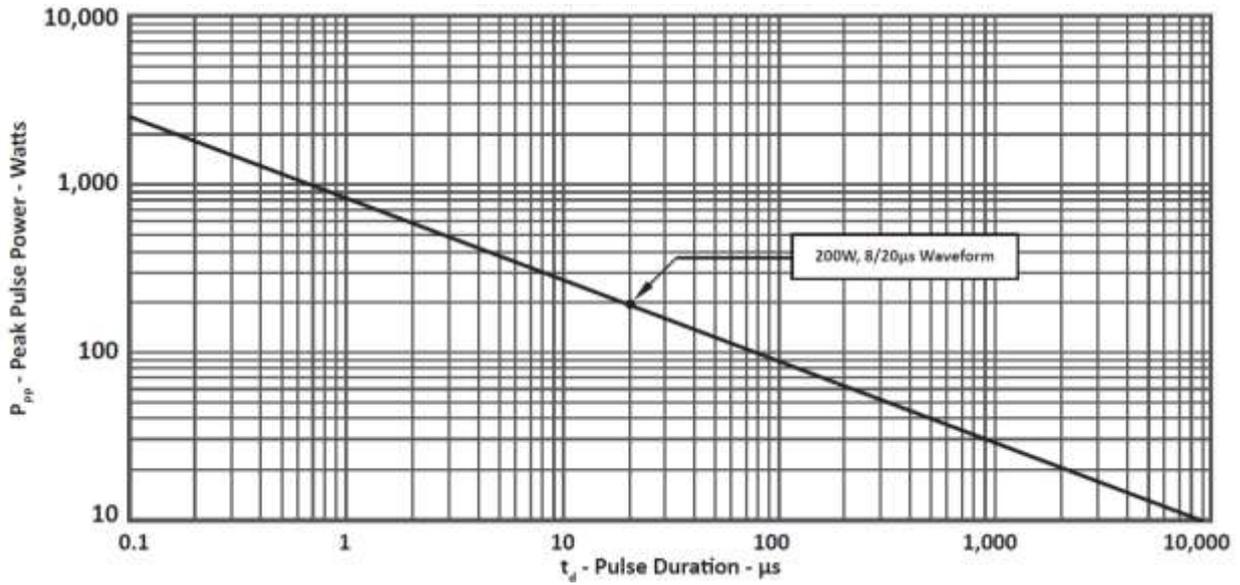


Fig1. PEAK PULSE POWER VS PULSE TIME

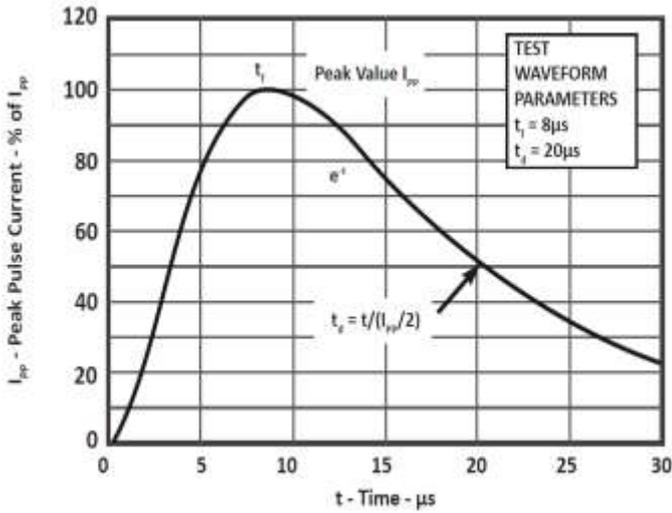


Fig2. PULSE WAVE FORM

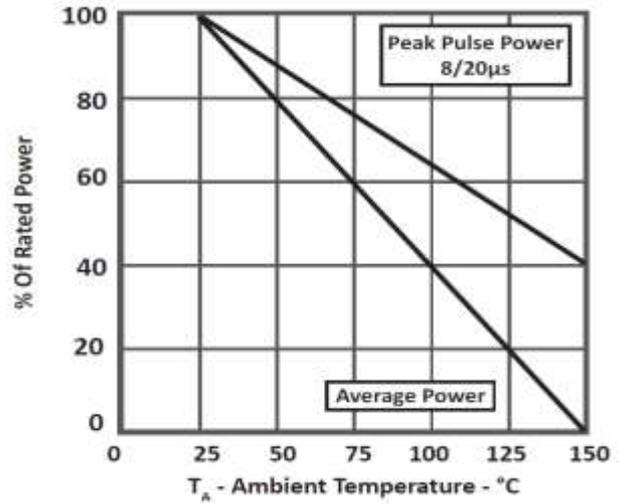
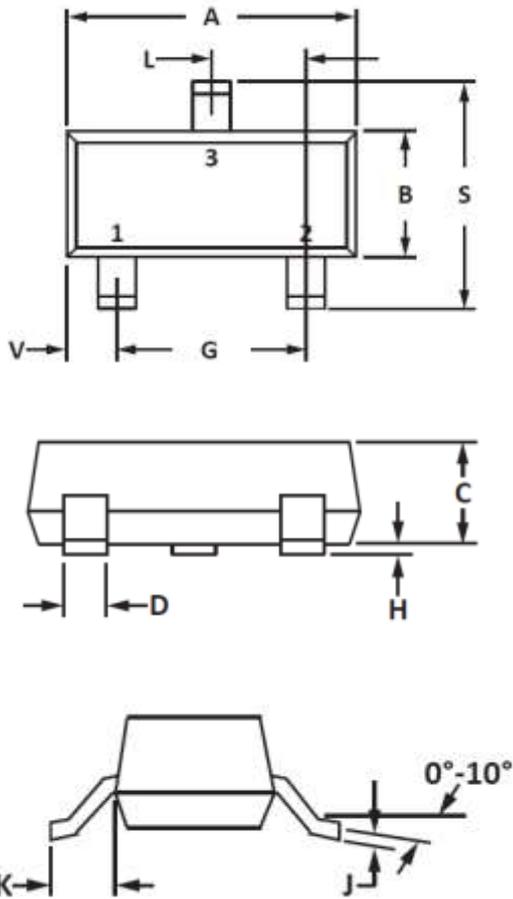


Fig3. POWER DERATING CURVE

**PACKAGE INFORMATION**

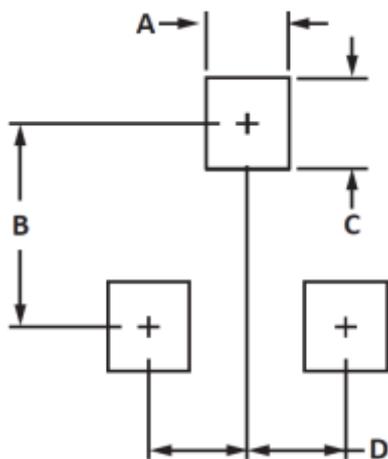


**OUTLINE DIMENSIONS**

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.80	3.04	0.110	0.120
B	1.20	1.40	0.047	0.055
C	0.89	1.11	0.035	0.044
D	0.37	0.50	0.015	0.020
G	1.78	2.04	0.070	0.081
H	0.013	0.100	0.001	0.004
J	0.085	0.177	0.003	0.007
K	0.45	0.60	0.018	0.024
L	0.89	1.02	0.035	0.040
S	2.10	2.50	0.083	0.098
V	0.45	0.60	0.018	0.024

**NOTES**

1. Controlling dimension: inches.
2. Dimensioning and tolerances per ANSI Y14.5M, 1985.
3. Pin 3 is the cathode (Unidirectional Only)
4. Dimensions are exclusive of mold flash and metal burrs.



**PAD LAYOUT DIMENSIONS**

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.71	0.97	0.028	0.038
B	1.88	2.13	0.074	0.084
C	0.71	0.97	0.028	0.038
D	0.81	1.07	0.032	0.042

**NOTES**

1. Controlling dimension: inches.



*beyond boundaries...*

**ALPESD1CAN**

**SOT-23**

**CUSTOMER NOTE:**

**DISCLAIMER**

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



[sales@alpinesemi.com](mailto:sales@alpinesemi.com)  
[www.alpinesemi.com](http://www.alpinesemi.com)