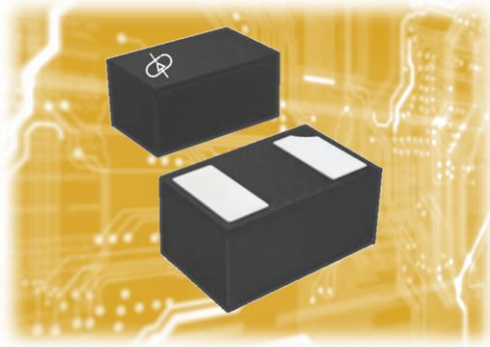


ULTRA LOW CAPACITANCE TVS ARRAY**DESCRIPTION:**

The ALPAMDF20521CAL is **AECQ101 approved** ultra low capacitance transient voltage suppressor array, designed to protect automotive applications from the damaging effects of Electrostatic Discharge and Electrical Fast Transients.

The ALPAMDF20521CAL meets IEC 61000-4-2 (ESD) and IEC 61000-4-4 (EFT) requirements. At higher operating frequencies or faster edge rates, insertion loss and signal integrity are a major concern. This device offers an ultra low capacitance and low leakage current in a miniature DFN-2-0402 package.

FEATURES:

- **AEC-Q101 Qualified.**
- Compatible with IEC 61000-4-2 (ESD): Air 15kV, Contact 8kV
- Compatible with IEC 61000-4-4 (EFT)
- Compatible with IEC 61000-4-5 (Surge)
- 80 Watts Peak Pulse Power per Line ($t_p = 8/20\mu s$)
- ESD Protection
- Low Clamping Voltage
- Protects One Bidirectional Line
- Ultra Low Capacitance: 0.4 pF (Typical)
- RoHS Compliant
- REACH Compliant

APPLICATIONS:

- Automotive Applications

TYPICAL DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified

PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp = 8/20µs) - See Figure 1	P _{PP}	80	Watts
Operating Temperature	T _A	-55 to 150	°C
Storage Temperature	T _{STG}	-55 to 150	°C

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

PART NUMBER	RATED STAND-OFF VOLTAGE V _{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE @ 1mA V _(BR) VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ I _P = 1A V _C VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ 8/20µS V _C @ I _{PP}	MAXIMUM LEAKAGE CURRENT @ V _{WM} I _D µA	TYPICAL CAPACITANCE @ 0V, 1MHz C _J pF
ALPAMDF20521CAL	5.0	6.0	14.0	20.0V @ 3.0A	1	0.4

TYPICAL DEVICE CHARACTERISTICS CURVES

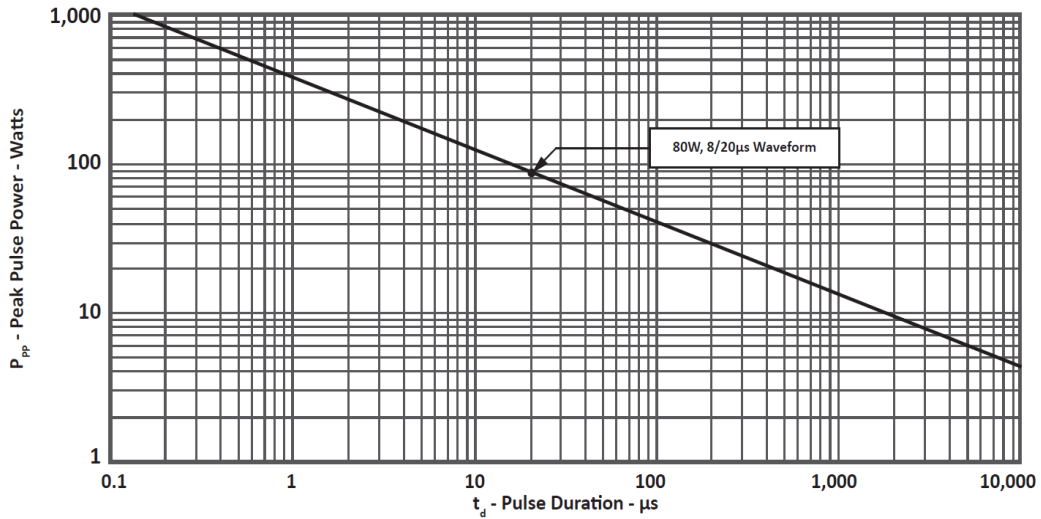


Fig1. PEAK PULSE POWER VS PULSE TIME

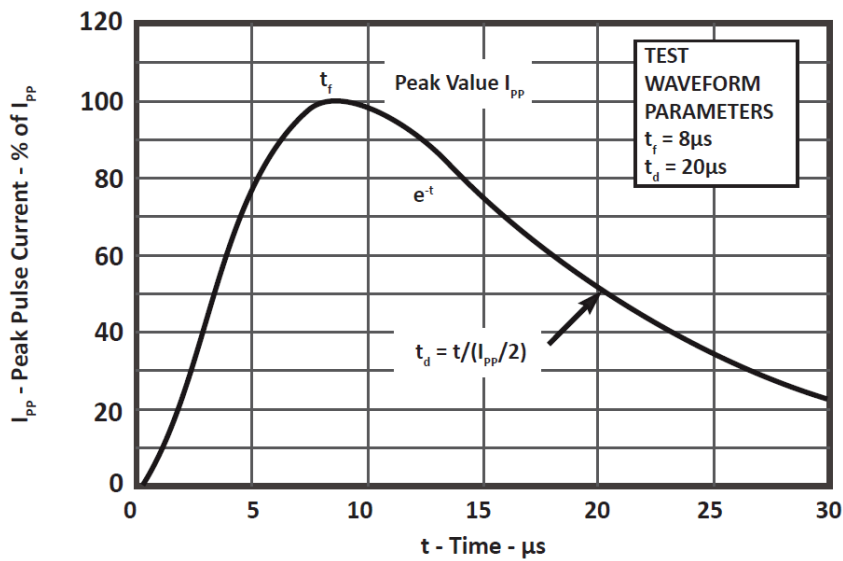
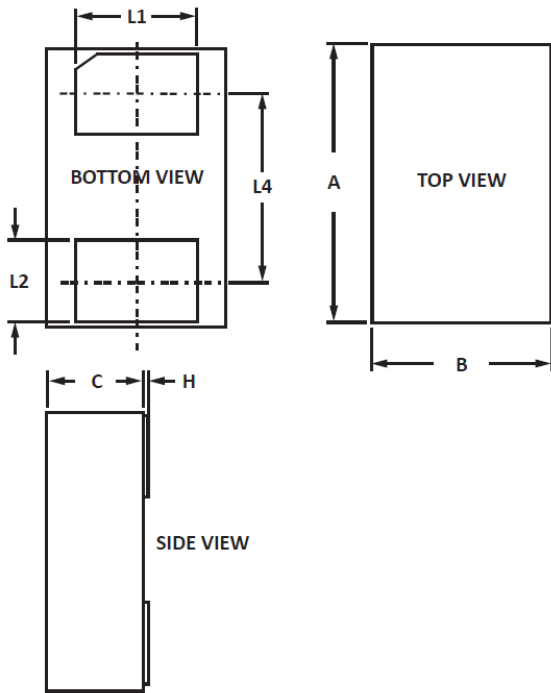


Fig2. PULSE WAVE FORM

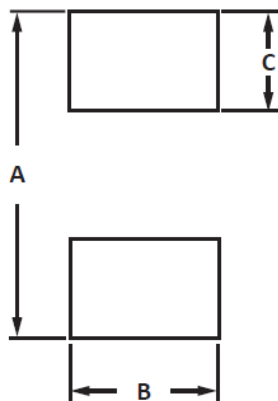
PACKAGE INFORMATION



OUTLINE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.914	1.06	0.036	0.042
B	0.533	0.660	0.021	0.026
C	0.553	0.635	0.021	0.025
H	0~0.10	0~0.10	0~0.004	0~0.004
L1	0.254	0.355	0.010	0.014
L2	0.279	0.406	0.011	0.016
L4	0.660 BSC		0.026 BSC	

NOTES

- Dimensions are exclusive of mold flash and metal burrs.
- Controlling dimension: inches.
- Dimensions are exclusive of mold flash and metal burrs.



PAD LAYOUT DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.39	1.60	0.055	0.063
B	0.457	0.558	0.018	0.022
C	0.558	0.660	0.022	0.026



beyond boundaries...

ALPAMDF20521CAL

DFN-2-0402

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