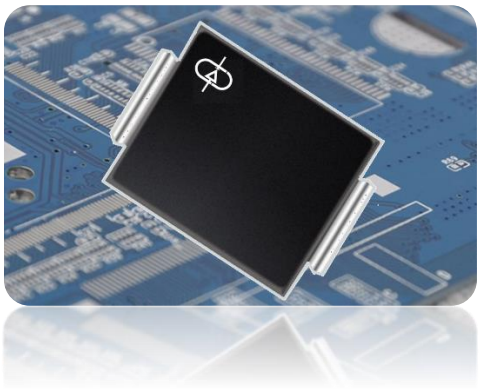
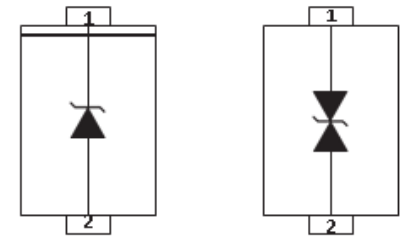
600 WATT TVS COMPONENT

DESCRIPTION:





UNI-DIRECTION BI-DIRECTION

The ALPAM6DOBAXXA/CA (UNI/BI) Series are multi-line transient voltage suppressor arrays with **AEC-Q101 approved** series that provides board level protection for standard TTL and MOS bus line applications against the damaging effects of ESD, tertiary lightning and switching transients.

The ALPAM6DOBAXXA/CA Series has a peak pulse power rating of 600 Watts for an 10/1000µs waveshape. This device series meets the IEC 61000-4-2, IEC 61000-4-4 and IEC 61000-4-5 requirements.

FEATURES:

- **AEC-Q101 approved**.
- Compatible with IEC 61000-4-2 (ESD): Level 4 - Air 15kV, Contact 8kV
- Compatible with IEC 61000-4-4 (EFT): 40A, 5/50ns
- Compatible with IEC 61000-4-5 (Surge): 8/20µs Waveform
- Glass Passivated Chip
- 600 Watts Peak Pulse Power per Line (tp = 10/1000µs)
- Low Leakage Current
- Bidirectional and Unidirectional Configurations
- Excellent Clamping Capability
- Very Fast Response Time
- Available in Multiple Voltages
- RoHS Compliant
- REACH Compliant

APPLICATIONS:

- Automotive application

TYPICAL DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	**SYMBOL**	**VALUE**	**UNITS**
Operating Temperature	T_J	-55 to 150	°C
Storage Temperature	T_{STG}	-55 to 150	°C
Typical Thermal Resistance Junction to Lead	$R_{\Theta JL}$	20	°C/W
Typical Thermal Resistance Junction to Ambient	$R_{\Theta JA}$	100	°C/W
Peak Pulse Power (tp =10/1000µs) - See Figure 1 and Note 1	P_{PP}	600	Watts
Power Dissipation on Infinite Heatsink at T_L = 75°C	P_D	5.0	Watts
Peak Forward Surge Current, 8.3ms single half sinewave - Unidirectional Only (Note 2)	I_{FSM}	100	Amps
Maximum Instantaneous Forward Voltage at 25A - Unidirectional Only (Note 3)	V_F	3.5/5.0	V

NOTE
1. Non-repetitive current pulse per Figure 2 and derated above T_A = 25°C per Figure 3.
2. Measured on 8.3ms single half sinewave or equivalent square wave, duty cycle = 4 pulses per minute maximum.
3. V_F < 3.5V for devices of V_{BR} < 200V and V_F <5.0V for devices of V_{BR} > 201V.

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified							
PART NUMBER (Notes 1-2)	**REVERSE STAND-OFF VOLTAGE V_{RWM} VOLTS**	**BREAKDOWN VOLTAGE $V_{(BR)}$ @ I_T VOLTS**		**TEST CURRENT @ I_T mA**	**MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ I_P V_C VOLTS**	**MAXIMUM REVERSE SURGE CURRENT @I_{PP} AMPS**	**MAXIMUM REVERSE LEAKAGE CURRENT @V_{RWM} I_R µA**
		MIN	**MAX**				
ALPAM6DOBA6.8A/CA	5.8	6.46	7.14	10	10.5	57.14	1000
ALPAM6DOBA7.5A/CA	6.4	7.13	7.88	10	11.3	53.10	500
ALPAM6DOBA15A/CA	12.8	14.25	15.75	1	21.2	28.30	1
ALPAM6DOBA18A/CA	15.3	17.10	18.90	1	25.2	23.81	1
ALPAM6DOBA22A/CA	18.8	20.9	23.10	1	30.6	19.7	1
ALPAM6DOBA27A/CA	23.1	25.65	28.35	1	37.5	16.00	1
ALPAM6DOBA30A/CA	25.6	28.50	31.50	1	41.4	14.49	1
ALPAM6DOBA33A/CA	28.2	31.35	34.65	1	45.7	13.13	1
ALPAM6DOBA36A/CA	30.8	34.2	37.80	1	49.9	12.02	1
ALPAM6DOBA39A/CA	33.3	37.05	40.95	1	53.9	11.13	1
ALPAM6DOBA43A/CA	36.8	40.85	45.15	1	59.3	10.12	1
ALPAM6DOBA56A/CA	47.8	53.20	58.80	1	77.0	7.79	1
ALPAM6DOBA68A/CA	58.1	64.60	71.40	1	92.0	6.52	1
ALPAM6DOBA100A/CA	85.5	95	105	1	137.0	4.38	1
ALPAM6DOBA120A/CA	102.0	114.0	126.0	1	165.0	3.7	1
ALPAM6DOBA200A/CA	200.0	224.0	247.0	1	324.0	1.9	1

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified							
PART NUMBER (Notes 1-2)	REVERSE STAND-OFF VOLTAGE V_{RWM} VOLTS	BREAKDOWN VOLTAGE $V_{(BR)}$ @ I_T VOLTS		TEST CURRENT @ I_T mA	MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ I_P V_C VOLTS	MAXIMUM REVERSE SURGE CURRENT @I_{PP} AMPS	MAXIMUM REVERSE LEAKAGE CURRENT @V_{RWM} I_R µA
ALPAM6DOBA220A/CA	185.0	209.0	231.0	1	328.0	1.83	1
ALPAM6DOBA250A/CA	214.0	237.50	262.50	1	344.0	1.74	1
ALPAM6DOBA350A/CA	299.3	332.50	367.50	1	482.0	1.24	1
ALPAM6DOBA400A/CA	342.0	380.0	420.0	1	548.0	1.09	1
ALPAM6DOBA440A/CA	376.2	418.0	462.0	1	607.2	0.99	1
ALPAM6DOBA480A/CA	408.0	456.0	504.0	1	658.0	0.90	1
ALPAM6DOBA540A/CA	460.0	513.0	567.0	1	740.0	0.80	1
ALPAM6DOBA550A/CA	470.3	522.5	577.5	1	759.0	0.79	1
ALPAM6DOBA600A/CA	513.0	570.00	630.00	1	828.0	0.72	1

NOTE

1. **Part numbers with "CA" suffix are bidirectional devices, i.e., ALPAM6DOBA600CA.**
2. For bidirectional devices having a V_{RWM} of 10 Volts and under, the I_R limit is double.
3. Consult factory for more voltages.

TYPICAL DEVICE CHARACTERISTICS CURVES

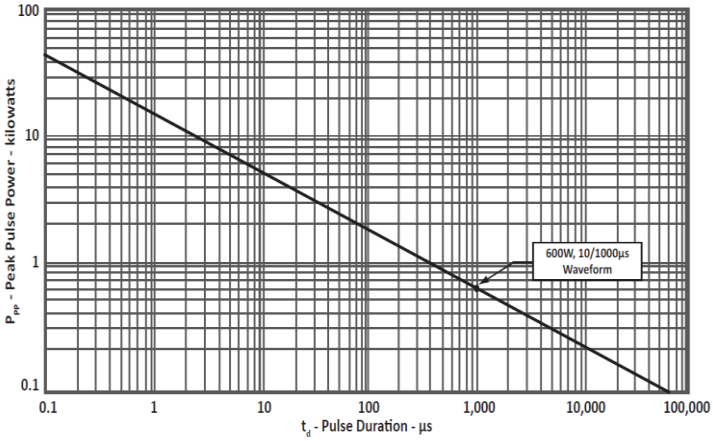


Fig1. PEAK PULSE POWER VS PULSE TIME

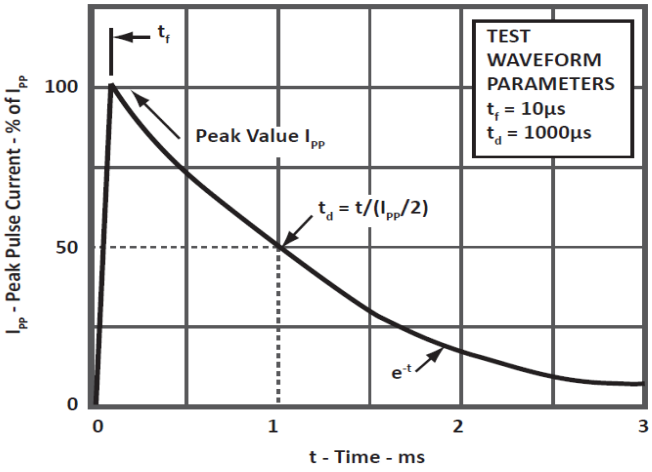


Fig2. PULSE WAVEFORM

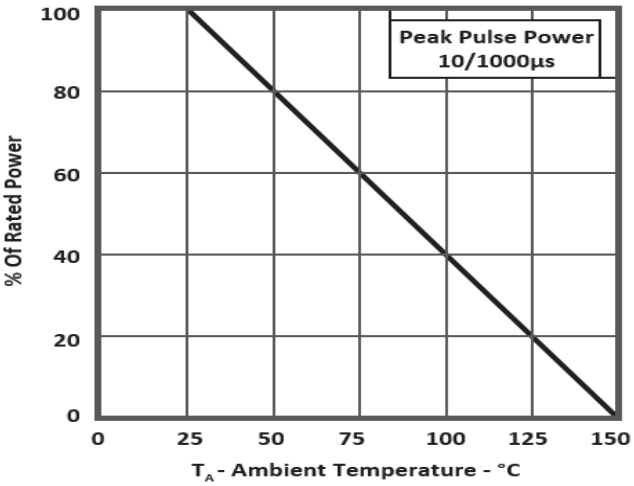


Fig3. POWER DERATING CURVE

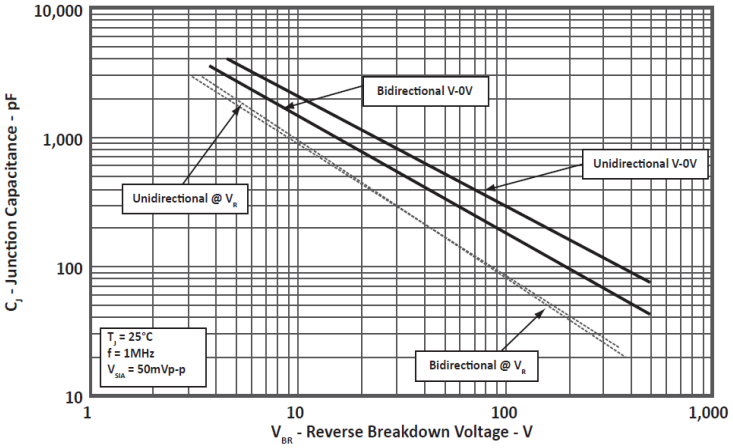


Fig4. TYPICAL JUNCTION CAPACITANCE

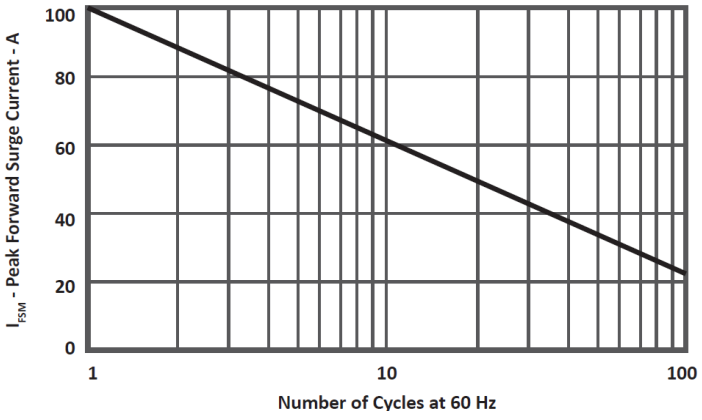


Fig.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

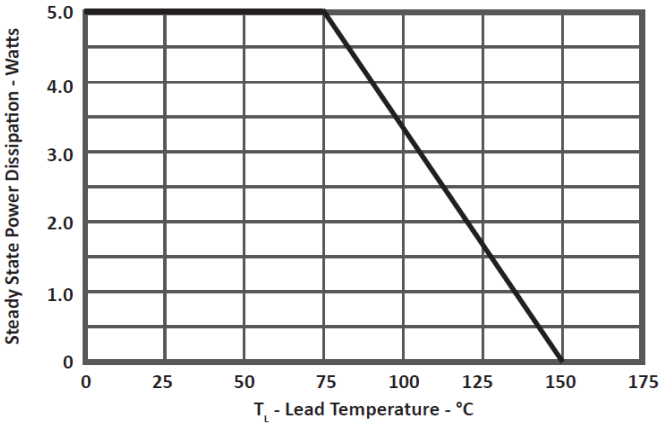
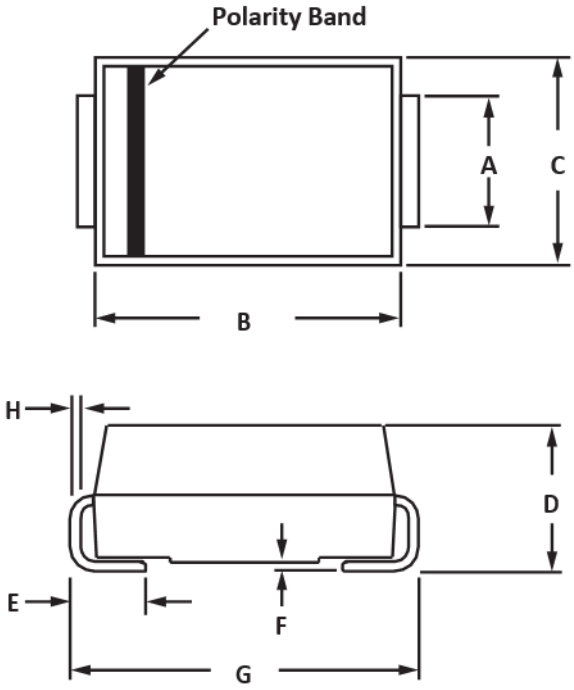


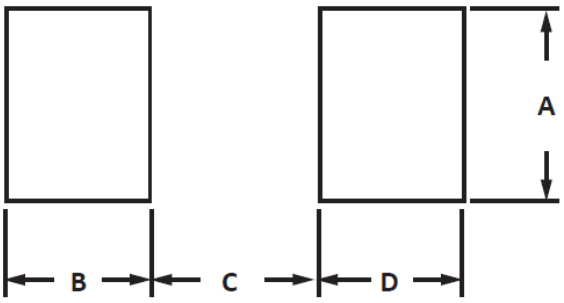
Fig.6 STEADY STATE POWER DERATING CURVE

PACKAGE INFORMATION



OUTLINE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.96	2.20	0.077	0.087
B	4.35	4.85	0.171	0.191
C	3.30	3.94	0.130	0.155
D	2.13	2.44	0.084	0.096
E	0.75	1.52	0.030	0.060
F	0.02	0.20	0.001	0.008
G	5.10	5.50	0.201	0.216
H	0.15	0.30	0.006	0.012

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



PAD LAYOUT DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.03	-	0.080	-
B	1.91	-	0.075	-
C	-	2.54	-	1.00
D	1.91	-	0.075	-

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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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