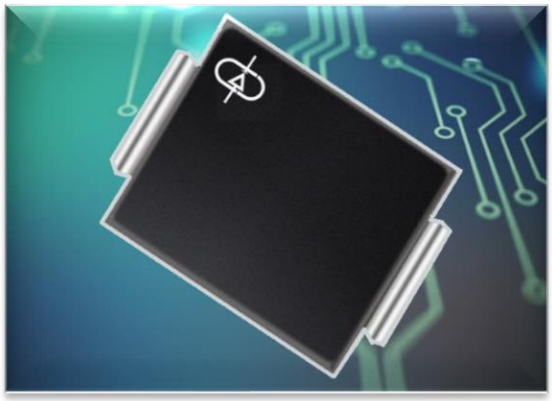
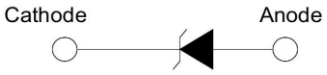
1500 WATT TVS COMPONENT

DESCRIPTION:



Bi-directional



Uni-directional

The 1.5ALPAMDOCBXXA/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 1.5ALPAMDOCBXXA/CA Series has a peak pulse power rating of 1500 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 Qualified.**
- 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
- 1500 Watts Peak Pulse Power per Line (tp = 10/1000µs)
- Halogen-Free
- Low Profile Package
- Built-in Strain Relief
- Glass Passivated Junction
- Excellent Clamping Capability
- Repetition Rate (Duty Cycle): 0.05%
- Fast Response Time: Typically less than 1.0ps from 0 Volts to BV Min
- Typical IR < 1µA above 12V
- High Temperature Soldering: 260°C/40 seconds at Terminals
- Available in Multiple Voltages
- Bidirectional and Unidirectional Configurations
- RoHS Compliant
- REACH Compliant

APPLICATIONS:

- Automotive application

TYPICAL DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	SYMBOL	VALUE	UNITS
Operating Temperature	T_L	-55 to 150	°C
Storage Temperature	T_{STG}	-55 to 150	°C
Peak Pulse Power (tp =10/1000µs) - See Figure 1	P_{PP}	1500	Watts

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

PART NUMBER (Note 1 -2)	REVERSE STAND-OFF VOLTAGE V_{RWM} VOLTS	BREAKDOWN VOLTAGE $V_{(BR)}$ @ I_T VOLTS MIN	BREAKDOWN VOLTAGE $V_{(BR)}$ @ I_T VOLTS MAX	TEST CURRENT @ I_T mA	MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ I_P V_C VOLTS	PEAK PULSE CURRENT @I_{PP} AMPS	REVERSE LEAKAGE CURRENT @V_{RWM} I_R µA
1.5ALPAMDOCB6.8A / CA	5.80	6.45	7.14	10	10.5	144.8	1000
1.5ALPAMDOCB7.5A / CA	6.40	7.13	7.88	10	11.3	134.5	500
1.5ALPAMDOCB8.2A / CA	7.02	7.79	8.61	10	12.1	125.6	200
1.5ALPAMDOCB9.1A / CA	7.78	8.65	9.50	1	13.4	113.4	50
1.5ALPAMDOCB10A / CA	8.55	9.50	10.50	1	14.5	104.8	10
1.5ALPAMDOCB11A / CA	9.40	10.50	11.60	1	15.6	97.4	5
1.5ALPAMDOCB12A / CA	10.20	11.40	12.60	1	16.7	91.0	5
1.5ALPAMDOCB13A / CA	11.10	12.40	13.70	1	18.2	83.5	1
1.5ALPAMDOCB15A / CA	12.80	14.30	15.80	1	21.2	71.7	1
1.5ALPAMDOCB16A / CA	13.60	15.20	16.80	1	22.5	67.6	1
1.5ALPAMDOCB18A / CA	15.30	17.10	18.90	1	25.2	60.3	1
1.5ALPAMDOCB20A / CA	17.10	19.00	21.00	1	27.7	54.9	1
1.5ALPAMDOCB22A / CA	18.80	20.90	23.10	1	30.6	49.7	1
1.5ALPAMDOCB24A / CA	20.50	22.80	25.20	1	33.2	45.8	1
1.5ALPAMDOCB27A / CA	23.10	25.70	28.40	1	37.5	40.5	1
1.5ALPAMDOCB30A / CA	25.60	28.50	31.50	1	41.4	36.7	1
1.5ALPAMDOCB33A / CA	28.20	31.40	34.70	1	45.7	33.3	1
1.5ALPAMDOCB36A / CA	30.80	34.20	37.80	1	49.9	30.5	1
1.5ALPAMDOCB39A / CA	33.30	37.10	41.00	1	53.9	28.2	1
1.5ALPAMDOCB43A / CA	36.80	40.90	45.20	1	59.3	25.6	1
1.5ALPAMDOCB47A / CA	40.20	44.70	49.40	1	64.8	23.5	1
1.5ALPAMDOCB51A / CA	43.60	48.50	53.60	1	70.1	21.7	1
1.5ALPAMDOCB56A / CA	47.80	53.20	58.80	1	77.0	19.7	1
1.5ALPAMDOCB62A / CA	53.00	58.90	65.10	1	85.0	17.9	1
1.5ALPAMDOCB68A / CA	58.10	64.60	71.40	1	92.0	16.5	1
1.5ALPAMDOCB75A / CA	64.10	71.30	78.80	1	103.0	14.8	1
1.5ALPAMDOCB82A / CA	70.10	77.90	86.10	1	113.0	13.5	1

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified							
PART NUMBER (Note 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	PEAK PULSE CURRENT @I_{PP} AMPS	REVERSE LEAKAGE CURRENT @V_{RWM} I_R µA
		MIN	MAX				
1.5ALPAMDOCB91A / CA	77.80	86.50	95.50	1	125.0	12.2	1
1.5ALPAMDOCB100A / CA	85.50	95.00	105.00	1	137.0	11.1	1
1.5ALPAMDOCB110A / CA	94.00	105.00	116.00	1	152.0	10.0	1
1.5ALPAMDOCB120A / CA	102.00	114.00	126.00	1	165.0	9.2	1
1.5ALPAMDOCB130A / CA	111.00	124.00	137.00	1	179.0	8.5	1
1.5ALPAMDOCB150A / CA	128.00	143.00	158.00	1	207.0	7.3	1
1.5ALPAMDOCB160A / CA	136.00	152.00	168.00	1	219.0	6.9	1
1.5ALPAMDOCB170A / CA	145.00	162.00	179.00	1	234.0	6.5	1
1.5ALPAMDOCB180A / CA	154.00	171.00	189.00	1	246.0	6.2	1
1.5ALPAMDOCB200A / CA	171.00	190.00	210.00	1	274.0	5.5	1
1.5ALPAMDOCB220A / CA	185.00	209.00	231.00	1	328.0	4.6	1
1.5ALPAMDOCB250A / CA	214.00	237.00	263.00	1	344.0	4.4	1
1.5ALPAMDOCB300A / CA	256.00	285.00	315.00	1	414.0	3.7	1
1.5ALPAMDOCB350A / CA	300.00	332.00	368.00	1	482.0	3.2	1
1.5ALPAMDOCB400A / CA	342.00	380.00	420.00	1	548.0	2.8	1
1.5ALPAMDOCB440A / CA	376.00	418.00	462.00	1	602.0	2.5	1
1.5ALPAMDOCB480A / CA	408.00	456.00	504.00	1	658.0	2.3	1
1.5ALPAMDOCB510A / CA	434.00	485.00	435.00	1	698.0	2.1	1
1.5ALPAMDOCB530A / CA	477.00	503.50	556.50	1	725.0	2.1	1
1.5ALPAMDOCB540A / CA	486.00	513.00	567.00	1	740.0	2.0	1
1.5ALPAMDOCB550A / CA	495.00	522.50	577.50	1	760.0	2.0	1

NOTE
1. **Part numbers with "CA" suffix are bidirectional devices, i.e., 1.5ALPAMDOCB550CA**
2. For bidirectional type having V_{RWM} of 10 Volts and less, the I_R limit is double.

TYPICAL DEVICE CHARACTERISTICS CURVES

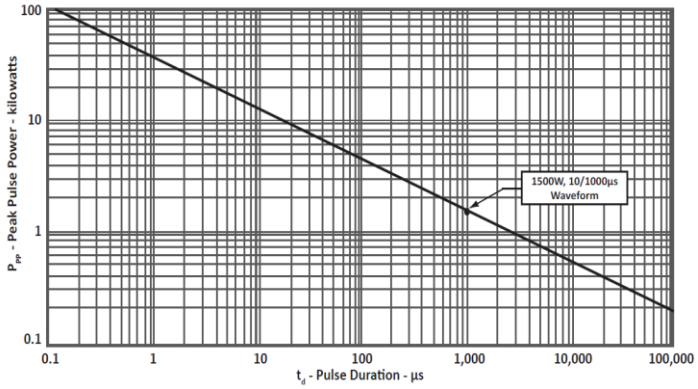


Fig1. PEAK PULSE POWER VS PULSE TIME

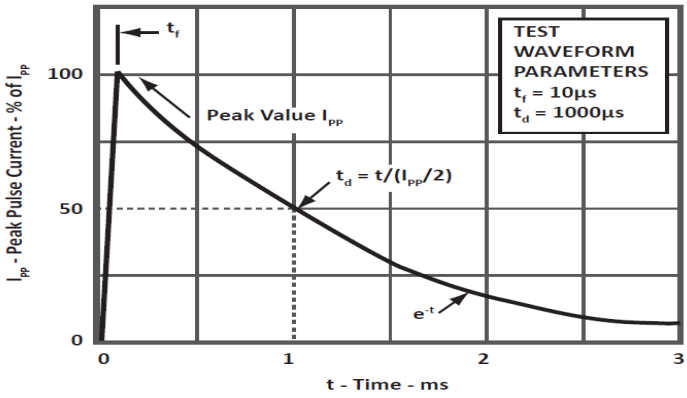


Fig2. PULSE WAVEFORM

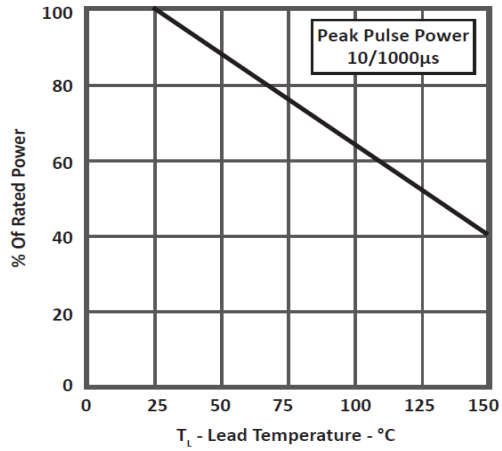


Fig3. POWER DERATING CURVE

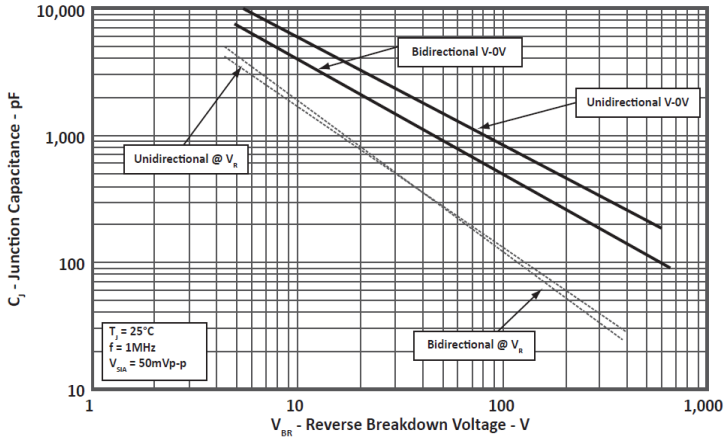


Fig4. TYPICAL JUNCTION CAPACITANCE

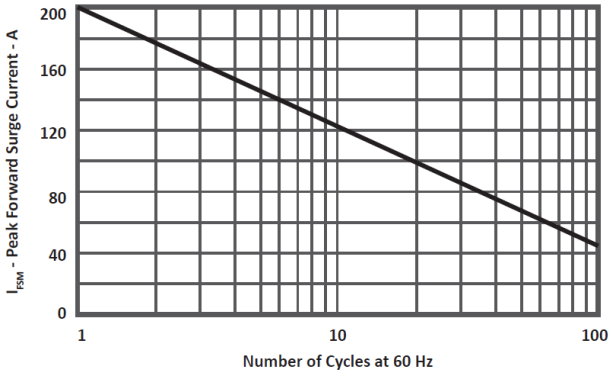


Fig.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT (UNIDIRECTIONAL ONLY)

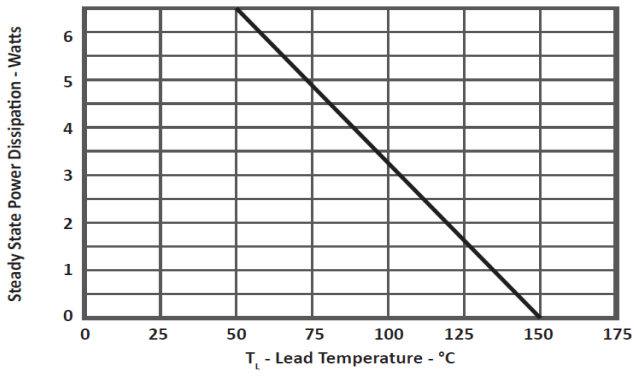
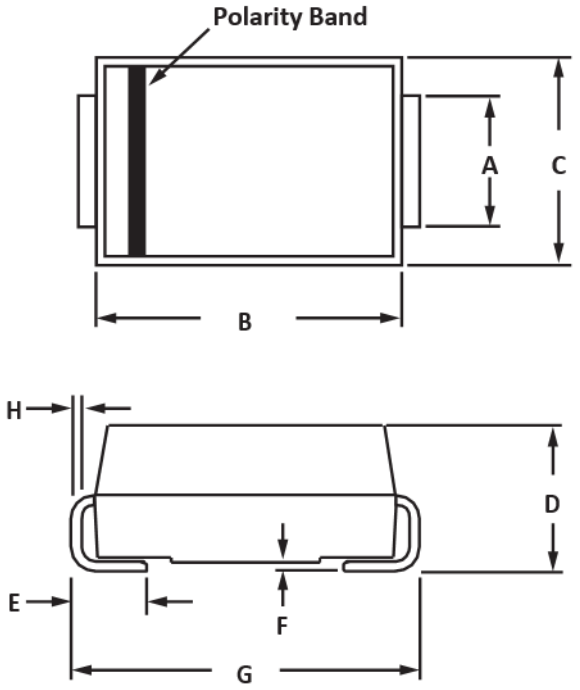


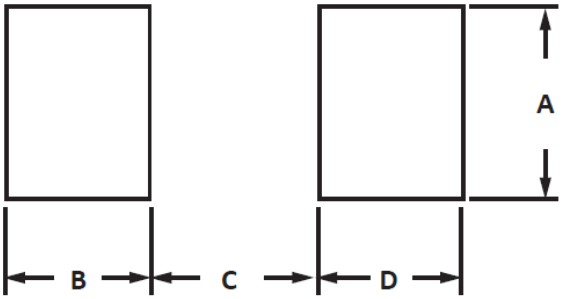
Fig.6 STEADY STATE POWER DERATING CURVE

PACKAGE INFORMATION



OUTLINE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.90	3.20	0.114	0.126
B	6.60	7.11	0.260	0.280
C	5.59	6.22	0.220	0.245
D	2.06	2.62	0.079	0.103
E	0.76	1.52	0.030	0.060
F	-	0.203	-	0.008
G	7.75	8.13	0.305	0.320
H	0.152	0.305	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	3.30	-	0.129	-
B	2.40	-	0.094	-
C	-	4.20	-	0.165
D	2.40	-	0.094	-

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