

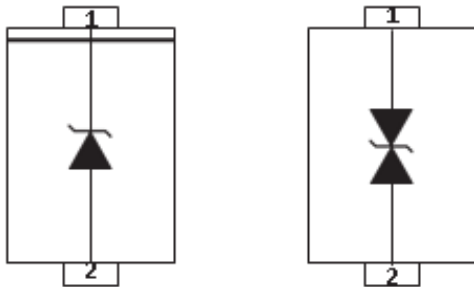
5000 WATT TVS COMPONENT

DESCRIPTION:



The 5.0ALPAMDODBXXA/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 5.0ALPAMDODBXXA/CA Series has a peak pulse power rating of 5000 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.
- UL File Recognition #E208219
- IEC Compatibility 61000-4-2 (ESD)
- IEC Compatibility 61000-4-4 (EFT)
- IEC Compatibility 61000-4-5 (Surge)
- Glass Passivated Chip
- 5000 Watts Peak Pulse Power per Line (tp = 10/1000µs)
- 28,000 Watts Peak Pulse Power per Line (tp = 8/20µs)
- Low Leakage Current
- Unidirectional & Bidirectional Configurations
- Available in Multiple Voltages
- Excellent Clamping Capability
- Very Fast Response Time
- RoHS Compliant
- REACH Compliant

APPLICATIONS:

- Automotive application



beyond boundaries...

5.0ALPAMDODBXA/CA Series

DO-214AB(SMD)

TYPICAL DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	SYMBOL	VALUE	UNITS
Operating Temperature	T_A	-55 to 150	°C
Storage Temperature	T_{STG}	-55 to 150	°C
Peak Pulse Power ($t_p = 10/1000\mu s$) - See Figure 1 and Note 2	P_{PP}	5000	Watts
Peak Pulse Power ($t_p = 8/20\mu s$) - See Figure 1 and Note 2	P_{PP}	28000	Watts
Power Dissipation on Infinite Heatsink at $T_L = 75^\circ C$	P_D	6.5	Watts
Peak Forward Surge Current, 8.3ms single half sine wave - Unidirectional Only (Note 2)	I_{FSM}	500	Amps
Peak Pulse Current ($t_p = 8/20\mu s$)	I_{PP}	2500	Amps
Maximum Instantaneous Forward Voltage at 100A - Unidirectional Only	V_F	3.5	V

NOTE
 1. Non-repetitive current pulse per Figure 2 and derated above $T_A = 25^\circ C$ per Figure 2.
 2. Measured on 8.3ms single half sine wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

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				
5.0ALPAMDODB6.0CA	6.0	6.67	7.37	50	10.3	485	2000
5.0ALPAMDODB11A / CA	11.0	12.20	13.50	1	18.2	278	800
5.0ALPAMDODB12A / CA	12.0	13.30	14.70	1	19.9	254	800
5.0ALPAMDODB13A / CA	13.0	14.40	15.90	1	21.5	235	500
5.0ALPAMDODB14A / CA	14.0	15.60	17.20	1	23.2	218	200
5.0ALPAMDODB15A / CA	15.0	16.70	18.50	1	24.4	207	100
5.0ALPAMDODB16A / CA	16.0	17.80	19.70	1	26.0	194	50
5.0ALPAMDODB17A / CA	17.0	18.90	20.90	1	27.6	183	20
5.0ALPAMDODB18A / CA	18.0	20.00	22.10	1	29.2	173	10
5.0ALPAMDODB19A / CA	19.0	21.10	23.30	1	30.8	164	10
5.0ALPAMDODB20A / CA	20.0	22.20	24.50	1	32.4	156	5
5.0ALPAMDODB22A / CA	22.0	24.40	26.90	1	35.5	142	5
5.0ALPAMDODB24A / CA	24.0	26.70	29.50	1	38.9	130	5
5.0ALPAMDODB26A / CA	26.0	28.90	31.90	1	42.1	120	5
5.0ALPAMDODB28A / CA	28.0	31.10	34.40	1	45.4	111	5
5.0ALPAMDODB30A / CA	30.0	33.30	36.80	1	48.4	104	5



beyond boundaries...

5.0ALPAMDODBXXA/CA Series

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PART NUMBER (Notes 1-2)	REVERSE STAND-OFF VOLTAGE V_{RWM} VOLTS	BREAKDOWN VOLTAGE		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
		$V_{(BR)}$ @ I_T VOLTS					
		MIN	MAX				
5.0ALPAMDODB33A / CA	33.0	36.70	40.60	1	53.3	94.8	5
5.0ALPAMDODB36A / CA	36.0	40.00	44.20	1	58.1	86.9	5
5.0ALPAMDODB40A / CA	40.0	44.40	49.10	1	64.5	78.3	5
5.0ALPAMDODB43A / CA	43.0	47.80	52.80	1	69.4	72.8	5
5.0ALPAMDODB45A / CA	45.0	50.00	55.30	1	72.7	69.5	5
5.0ALPAMDODB48A / CA	48.0	53.30	58.90	1	77.4	65.3	5
5.0ALPAMDODB51A / CA	51.0	56.70	62.70	1	82.4	61.3	5
5.0ALPAMDODB54A / CA	54.0	60.00	66.30	1	87.1	58.0	5
5.0ALPAMDODB58A / CA	58.0	64.40	71.20	1	93.6	54.0	5
5.0ALPAMDODB60A / CA	60.0	66.70	73.70	1	96.8	52.2	5
5.0ALPAMDODB64A / CA	64.0	71.10	78.60	1	103.0	49.0	5
5.0ALPAMDODB70A / CA	70.0	77.80	86.00	1	113.0	44.7	5
5.0ALPAMDODB75A / CA	75.0	83.30	92.10	1	121.0	41.7	5
5.0ALPAMDODB78A / CA	78.0	86.70	95.80	1	126.0	40.1	5
5.0ALPAMDODB80A / CA	80.0	88.80	97.60	1	129.6	39.0	5
5.0ALPAMDODB85A / CA	85.0	94.40	104.00	1	137.0	36.9	5
5.0ALPAMDODB90A / CA	90.0	100.00	111.00	1	146.0	34.6	5
5.0ALPAMDODB100A / CA	100.0	111.0	123.00	1	162.0	31.2	5
5.0ALPAMDODB110A / CA	110.0	122.00	135.00	1	177.0	28.5	5
5.0ALPAMDODB120A / CA	120.0	133.00	147.00	1	193.0	26.2	5
5.0ALPAMDODB130A / CA	130.0	144.00	159.00	1	209.0	24.2	5
5.0ALPAMDODB140A / CA	140.0	155.00	171.00	1	226.8	22.3	5
5.0ALPAMDODB150A / CA	150.0	167.0	185.00	1	243.0	20.8	5
5.0ALPAMDODB160A / CA	160.0	178.00	197.00	1	259.0	19.5	5
5.0ALPAMDODB170A / CA	170.0	189.00	209.00	1	275.0	18.4	5
5.0ALPAMDODB180A / CA	180.0	200.00	220.0	1	291.6	17.3	5

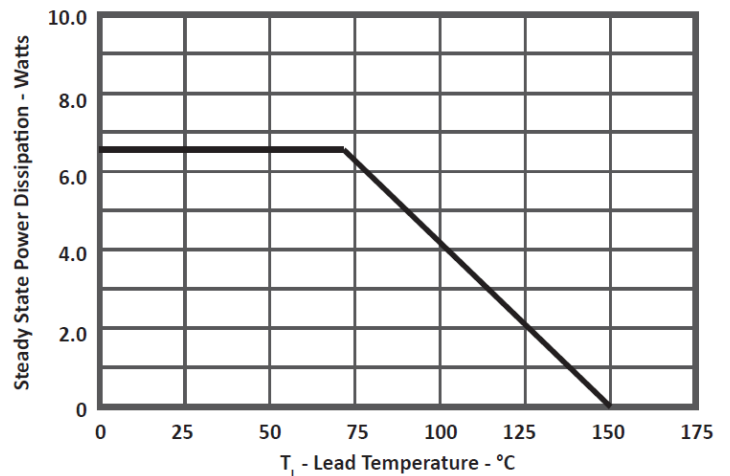
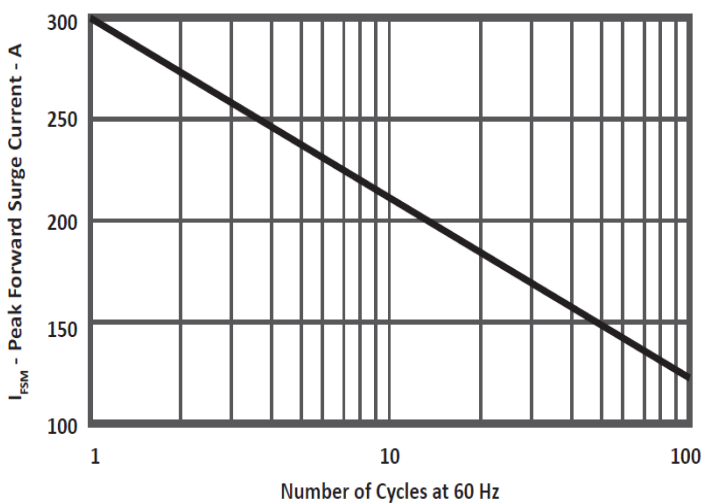
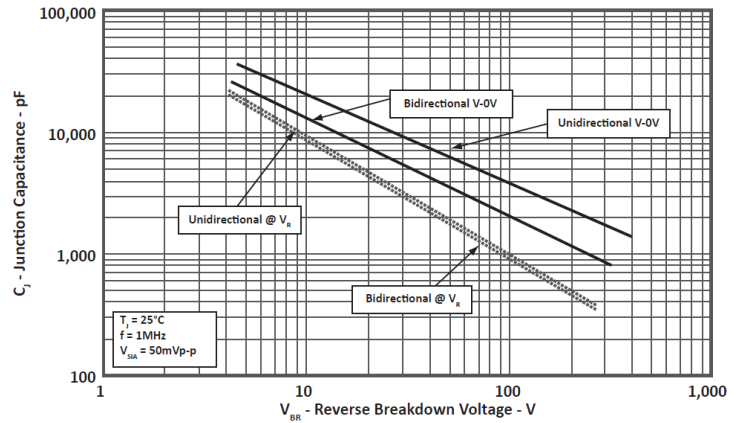
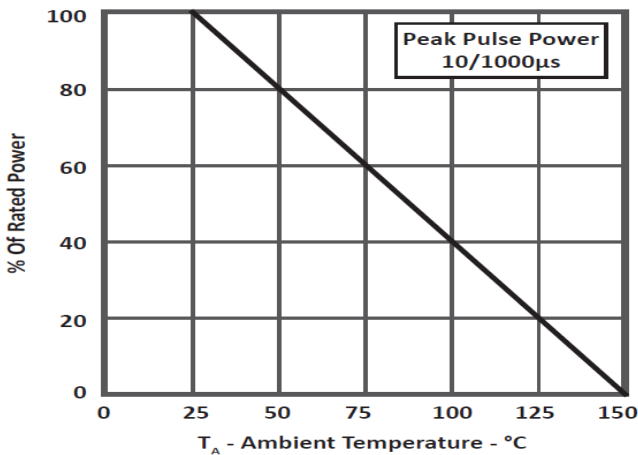
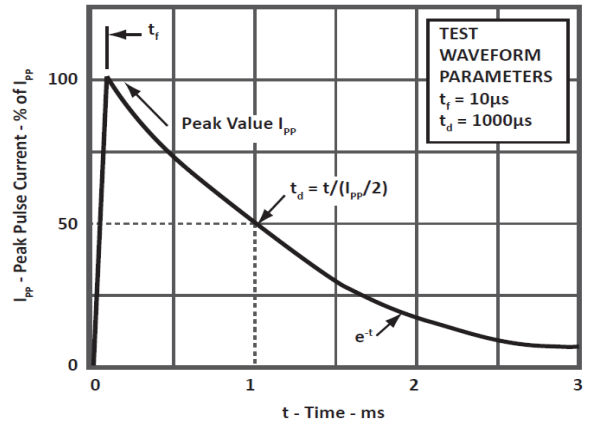
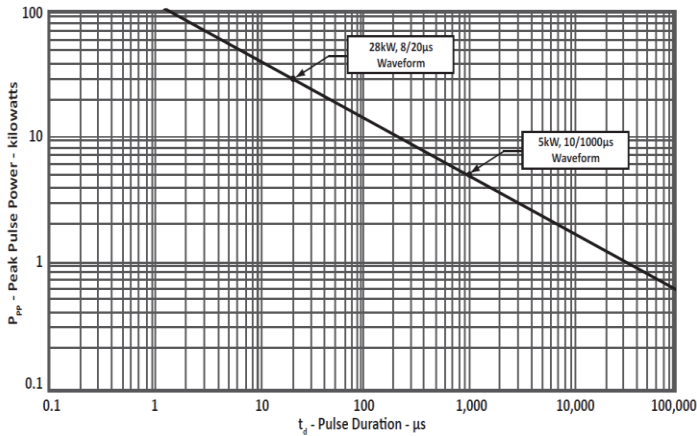
ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

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		MIN	MAX				
5.0ALPAMDODB190A / CA	190.0	211.00	232.00	1	307.8	16.4	5
5.0ALPAMDODB200A / CA	200.0	224.00	247.00	1	324.0	15.4	5
5.0ALPAMDODB220A / CA	220.0	246.00	272.00	1	356.0	14.0	5
5.0ALPAMDODB250A / CA	250.0	279.00	309.00	1	405.0	12.4	5
5.0ALPAMDODB300A / CA	300.0	335.00	371.00	1	486.0	10.3	5
5.0ALPAMDODB350A / CA	350.0	391.00	432.00	1	567.0	8.8	5
5.0ALPAMDODB400A / CA	400.0	447.00	494.00	1	648.0	7.7	5
5.0ALPAMDODB440A / CA	440.0	492.00	543.00	1	713.0	7.0	5

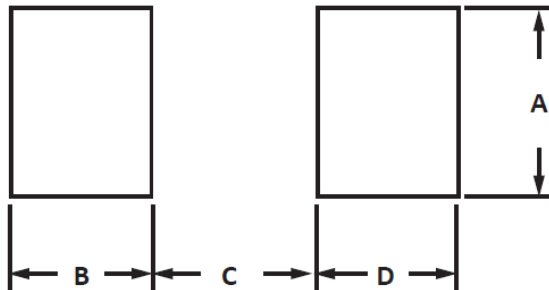
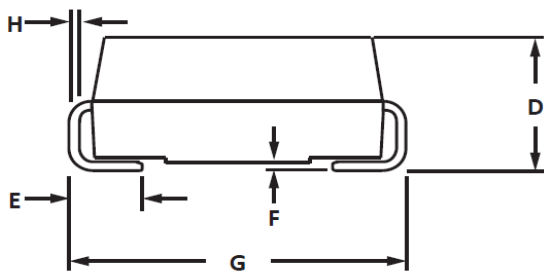
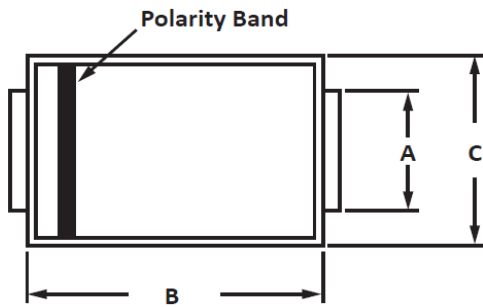
NOTE

1. Part numbers with "CA" suffix are bidirectional devices, i.e., 5.0ALPAMDODB440CA
2. For bidirectional devices having a V_{RWM} of 10 Volts and under, the I_R limit is double.

TYPICAL DEVICE CHARACTERISTICS CURVES



PACKAGE INFORMATION



OUTLINE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.86	3.16	0.114	0.126
B	6.52	7.02	0.260	0.280
C	5.52	6.15	0.220	0.245
D	1.98	2.59	0.079	0.103
E	0.75	1.51	0.030	0.060
F	0.00	0.20	0.000	0.008
G	7.64	8.02	0.305	0.320
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	3.43	-	0.135	-
B	2.03	-	0.080	-
C	-	4.32	-	0.170
D	2.03	-	0.080	-



beyond boundaries...

5.0ALPAMDODBXXA/CA Series

DO-214AB(SMD)

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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