1.5KE6.8A-1.5KE82CA Axial Lead Series

Power Transient Voltage Suppressors

TOP-EMC

DO-201

RoHS
COMPLIANT

FEATURES

- 1500 W peak pulse power dissipation
- Plastic package
- Glass passivated chip junction in DO-201 package
- Rosh compliant
- Excellent clamping capability
- Very fast response time
- Typical I_R less than 5uA above 8.5V
- High Temperature soldering:260°C/10 seconds at terminals.

MECHANICAL DATA

- Case:JEDEC DO201.
- Terminal:Axial leads,solderable per MIL-STD-750, Method 2026.
- Polarity:Color band denoted positive end (cathode),except Bidirectional.
- Plastic material has UL flammability classification 94V-0

PRIMARY CHARACTERISTICS	
V_{RWM}	5 .8V to70V
P_{PPM}	1500 W
P_D	6.5W
I_{FSM}	200 A
T_J max.	175 °C

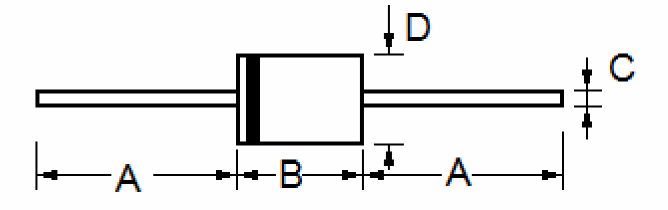
TYPICAL APPLICATIONS

Use in sensitive electronics protection against voltage transients induced by inductive load switching and lighting on ICs, MOSFET, signal lines of sensor units for consumer, computer, industrial, automotive and telecommunication.

CHARACTERISTICS

MAXIMUM RATINGS (T_A = 25 °C unless otherwise noted)			
PARAMETER	**SYMBOL**	**VALUE**	**UNIT**
Peak pulse power dissipation with a 10/1000 µs waveform	P_{PPM}	1500	W
Peak pulse current with a 10/1000 µs waveform	I_{PPM}	See next table	A
Steady state power dissipation at TL=75°C	P_D	6.5	W
Peak forward surge current 8.3 ms single half sine-wave super	I_{FSM}	200	A
Operating and storage temperature range	T_J, T_{STG}	- 55 to + 175	°C

PACKAGE DIMENSIONS



Item	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	25.40	-	1.000	-
B	7.20	9.50	0.285	0.375
D	4.80	5.30	0.190	0.210
C	0.96	1.07	0.038	0.042

ELECTRICAL CHARACTERISTICS

Type Number		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I	Breakdown Voltage Max. @ I	Test Current	Maximum Clamping Voltage	Peak Pulse Current	Reverse Leakage @V_{RMW}
(Uni)	(Bi)	V_{RMW}(V)	$V_{BR\ MIN}$(V)	$V_{BR\ MAX}$(V)	I_T (mA)	V_C(V)	I_{PP}(A)	I_R(uA)
1.5KE6.8A	1.5KE6.8CA	5.80	6.45	7.14	10	10.5	143.0	1000
1.5KE7.5A	1.5KE7.5CA	6.40	7.13	7.88	10	11.3	132.0	500
1.5KE8.2A	1.5KE8.2CA	7.00	7.79	8.61	10	12.1	124.0	200
1.5KE10A	1.5KE10CA	8.50	9.50	10.50	1	14.5	103.0	10
1.5KE11A	1.5KE11CA	9.40	10.50	11.60	1	15.6	96.0	5
1.5KE12A	1.5KE12CA	10.00	11.40	12.60	1	16.7	90.0	5
1.5KE13A	1.5KE13CA	11.00	12.40	13.70	1	18.2	82.0	5
1.5KE15A	1.5KE15CA	12.00	14.30	15.80	1	21.2	71.0	5
1.5KE16A	1.5KE16CA	13.00	15.20	16.80	1	22.5	67.0	5
1.5KE18A	1.5KE18CA	15.00	17.10	18.90	1	25.2	59.5	5
1.5KE20A	1.5KE20CA	17.00	19.00	21.00	1	27.7	54.0	5
1.5KE22A	1.5KE22CA	18.00	20.90	23.10	1	30.6	49.0	5

Type Number		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I	Breakdown Voltage Max. @ I	Test Current	Maximum Clamping Voltage	Peak Pulse Current	Reverse Leakage @V_{RMW}
(Uni)	(Bi)	V_{RWM}(V)	$V_{BR\ MIN}$(V)	$V_{BR\ MAX}$(V)	I_T (mA)	V_C(V)	I_{PP}(A)	I_R(uA)
1.5KE24A	1.5KE24CA	20.00	22.80	25.20	1	33.2	45.0	5
1.5KE27A	1.5KE27CA	23.00	25.70	28.40	1	37.5	40.0	5
1.5KE30A	1.5KE30CA	25.00	28.50	31.50	1	41.4	36.0	5
1.5KE33A	1.5KE33CA	28.00	31.40	34.70	1	45.7	33.0	5
1.5KE36A	1.5KE36CA	30.00	34.20	37.80	1	49.9	30.0	5
1.5KE40A	1.5KE40CA	33.00	37.10	41.00	1	53.9	28.0	5
1.5KE43A	1.5KE43CA	36.00	40.90	45.20	1	59.3	25.3	5
1.5KE47A	1.5KE47CA	40.00	44.70	49.40	1	64.8	23.2	5
1.5KE51A	1.5KE51CA	43.00	48.50	53.60	1	70.1	21.4	5
1.5KE56A	1.5KE56CA	47.00	53.20	58.80	1	77.0	19.5	5
1.5KE62A	1.5KE62CA	53.00	58.90	65.10	1	85.0	17.7	5
1.5KE68A	1.5KE68CA	58.00	64.60	71.40	1	92.0	16.3	5
1.5KE75A	1.5KE75CA	64.00	71.30	78.80	1	103.0	14.6	5
1.5KE82A	1.5KE82CA	70.00	77.90	86.10	1	113.0	13.3	5

RATINGS AND CHARACTERISTIC CURVES (TA=25℃ unless otherwise noted)

Figure 1 - Peak Pulse Power Rating Curve

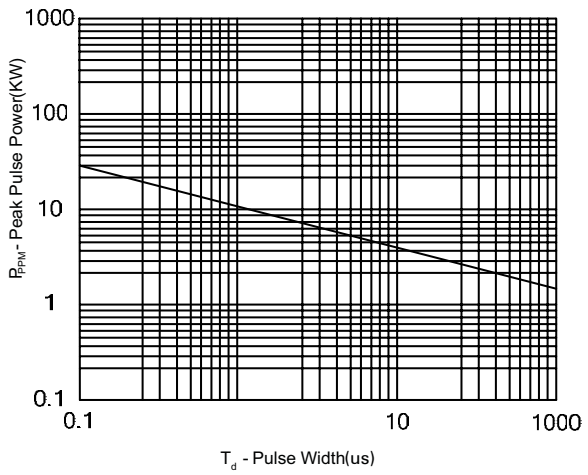


Figure 2 - Pulse Derating Curve

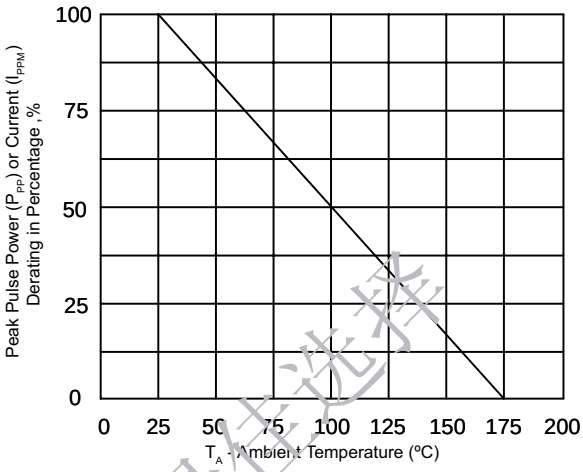


Figure 3 - Pulse Waveform

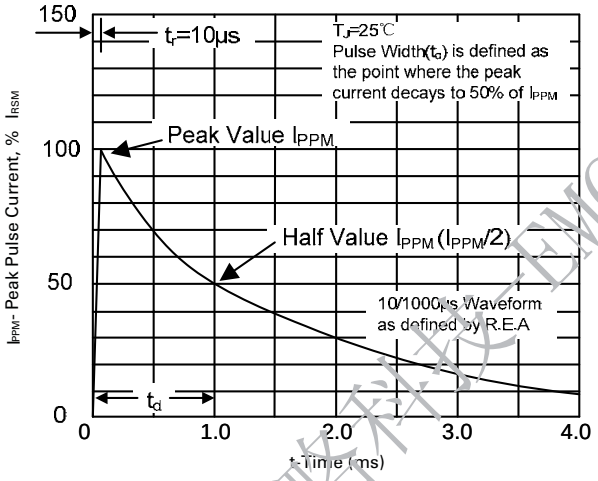


Figure 4 - Typical Junction Capacitance

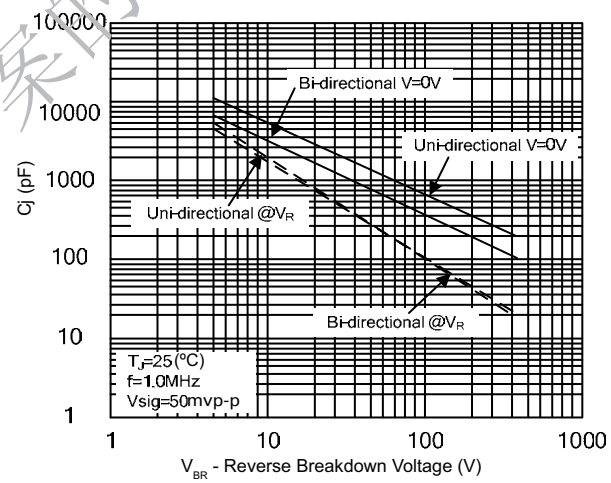


Figure 5 - Steady State Power Dissipation Derating Curve

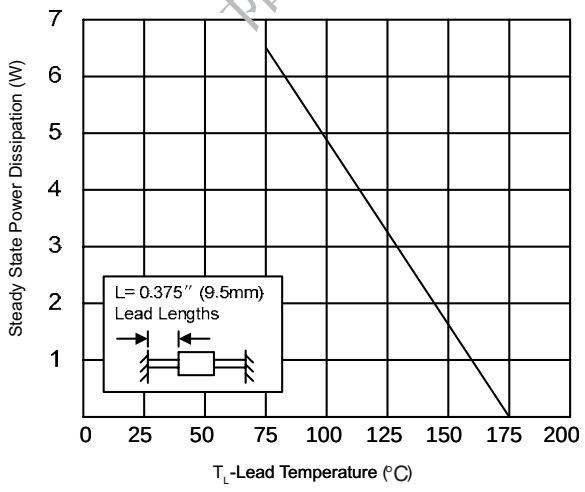
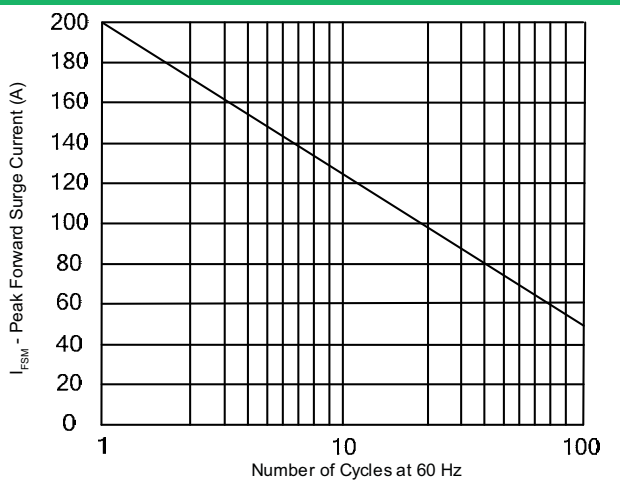


Figure 6 - Maximum Non-Repetitive Forward Surge Current Uni-Directional Only



APPLICATION NOTE

The 1.5KE series of high power transient voltage suppressors were designed to be used on the output of switching power supplies. These devices may be used to replace crowbar circuits. Both the 5 % and 10 % voltage tolerances are referenced to the power supply output voltage level.

They are able to withstand high levels of peak current while allowing a circuit breaker to trip or a fuse blow before shorting. This will enable the user to reset the breaker or replace the fuse and continue operation. For this type operation, it is recommended that a sufficient mounting surface be used for dissipating the heat generated by the Transient Voltage Suppressor during the transient or over-voltage condition.

Contact Information

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