

# 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 IR 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

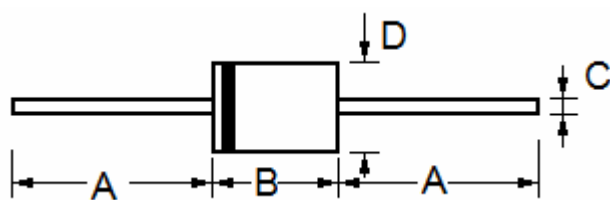
## TYPICAL APPLICATIONS

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 ( $T_A = 25\text{ °C}$ unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Peak pulse power dissipation with a 10/1000 $\mu$ s waveform	$P_{PPM}$	1500	W
Peak pulse current with a 10/1000 $\mu$ s waveform	$I_{PPM}$	See next table	A
Steady state power dissipation at $T_L=75\text{ °C}$	$P_D$	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 <sub>RMW</sub>
(Uni)	(Bi)	V <sub>RMW</sub> (V)	V <sub>BR MIN</sub> (V)	V <sub>BR MAX</sub> (V)	I <sub>T</sub> (mA)	V <sub>C</sub> (V)	I <sub>PP</sub> (A)	I <sub>R</sub> (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 <sub>RMW</sub>
(Uni)	(Bi)	V <sub>RMW</sub> (V)	V <sub>BR MIN</sub> (V)	V <sub>BR MAX</sub> (V)	I <sub>T</sub> (mA)	V <sub>C</sub> (V)	I <sub>PP</sub> (A)	I <sub>R</sub> ( $\mu$ A)
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°C unless otherwise noted)

Figure 1 - Peak Pulse Power Rating Curve

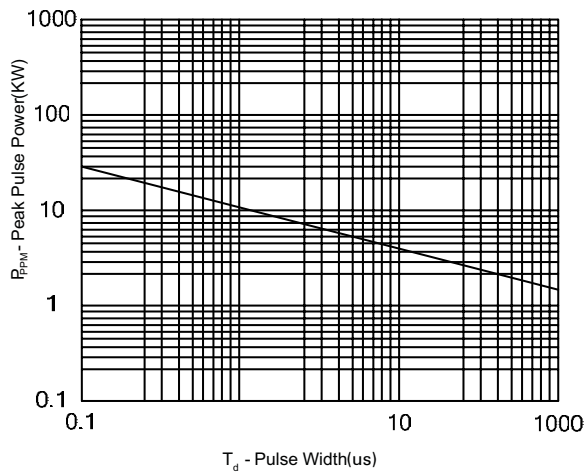


Figure 2 - Pulse Derating Curve

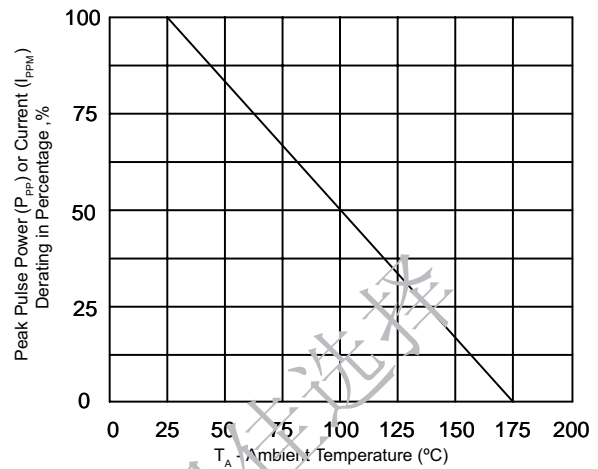


Figure 3 - Pulse Waveform

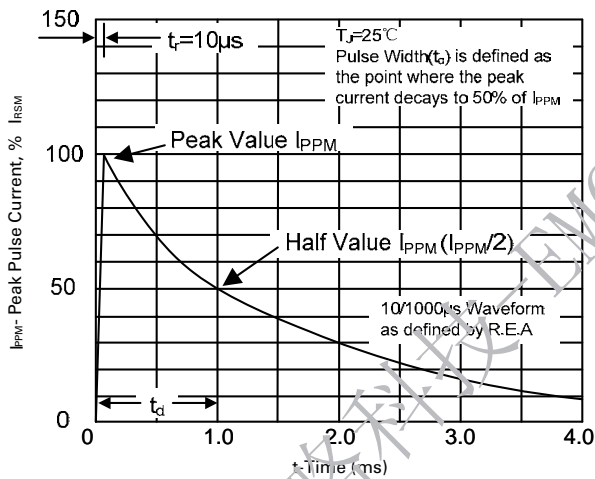


Figure 4 - Typical Junction Capacitance

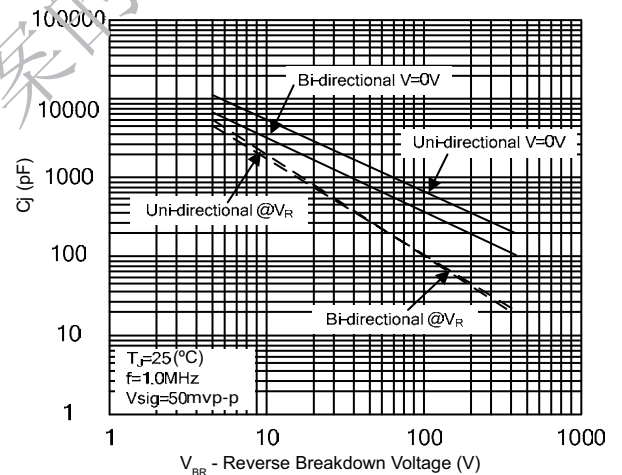


Figure 5 - Steady State Power Dissipation Derating Curve

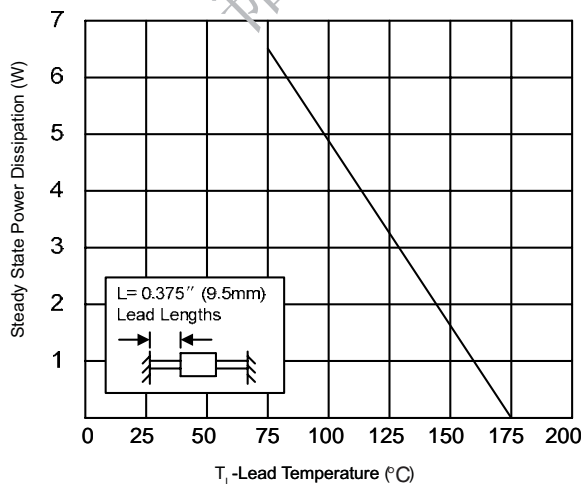
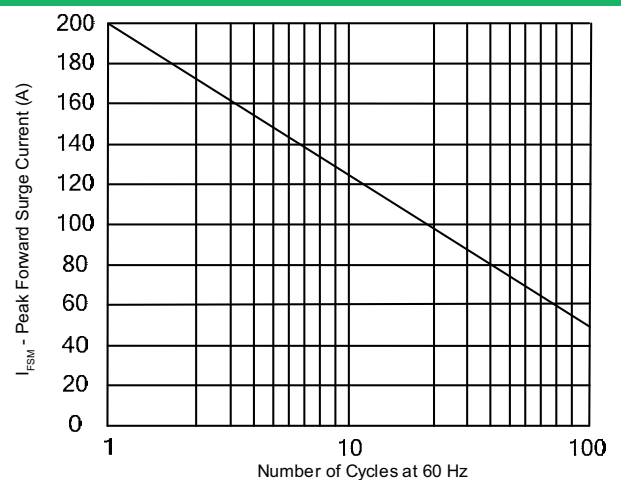


Figure 6 - Maximum Non-Repetitive Forward Surge Current Uni-Directional Only



**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.

韬略科技-EMC方案的最佳选择

**Contact Information**

**SHENZHEN TOP-FLIGHT TECHNOLOGY CO.,LTD**

4th Floor, C Building, Quansen Industrial Park , Bulong Road, Longhua New District, Shenzhen

Tel: 86-755-82908191 Fax: 86-755-82908701 Email: kang@topleve.com

Website: <http://www.topleve.com>