

## Transient Voltage Suppressors 1.5KE series

### Description:

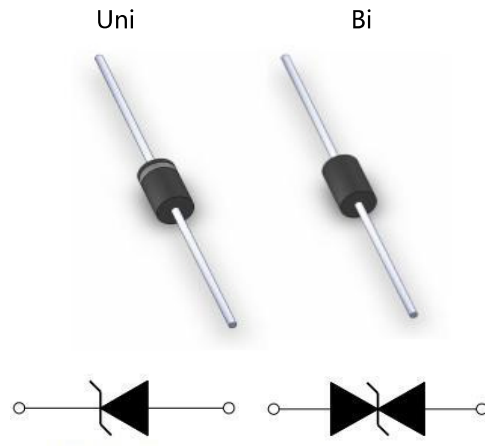
TVS is designed specifically to protect sensitive electronic Equipment from voltage transients induced by lightning and other transient voltage events.

Used in telecommunications, computer, industrial and consumer electronic applications. TVS is the ideal I/O interface, VCC bus and other vulnerable circuit protection device.

### Features:

- Low zener impedance.
- Glass passivated chip junction
- Ideal for automated placement
- Available in uni-directional and bi-directional
- Excellent clamping capability
- 1500W Peak power capability at 10×1000μs waveform Repetition rate ( duty cycle):0.01%
- Fast response time: typically less than 1.0ps
- High Temperature soldering: 260 °C/10 seconds at terminals
- IEC-61000-4-2ESD 15KV(Air), 8KV (Contact)

### Appearance:



### Packaging :

Part Number	Component Package	Quantity	Packaging
1.5KE***A/CA	DO-27 / DO-201	1000 PCS	Box

### Maximum Ratings (TA= 25 °C unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation with a 10/1000μs waveform.(1)(2)	PPPM	1500	W
Peak Pulse Current with a 10/1000μs waveform.(1)	IPP	See next table	A
Peak forward surge current 8.3 ms single half sine-wave uni-directional only.(2)	IFSM	200	A
Operating junction and storage temperature range.	TJ Tstg	-55 to +125	°C

Notes:

(1).Non-repetitive current pulse, per fig.3 and derated above TA= 25°C per fig.2.

(2).Mounted on 5.0mm x 5.0mm (0.03mm thick)Copper Pads to each terminal.

(3).8.3ms single half sine-wave, or equivalent square wave, Duty cycle= 4 pulses per minutes maximum.

## 1.5KE Series

### Electrical Characteristics (TA= 25 °C unless otherwise noted)

Part Number		Reverse Stand-Off Voltage VRWM(V)	Breakdown Voltage @IT VBR (V)		Test Current IT (mA)	Max Clamping Voltage @IPP VC (V)	Max Peak Pulse Current IPP (A)	Max Reverse Leakage @VRWM IR (μA)
			Min	Max				
Uni	Bi							
1.5KE6.8A	1.5KE6.8CA	5.8	6.46	7.14	10	10.5	146.86	150
1.5KE7.5A	1.5KE7.5CA	6.4	7.13	7.88	10	11.3	132.74	100
1.5KE8.2A	1.5KE8.2CA	7.0	7.79	8.61	10	12.1	123.97	50
1.5KE9.1A	1.5KE9.1CA	7.8	8.65	9.56	1	13.4	111.94	20
1.5KE10A	1.5KE10CA	8.6	9.50	10.50	1	14.5	103.45	10
1.5KE11A	1.5KE11CA	9.4	10.45	11.55	1	15.6	96.15	5
1.5KE12A	1.5KE12CA	10.2	11.40	12.60	1	16.7	89.82	2
1.5KE13A	1.5KE13CA	11.1	12.35	13.65	1	18.2	82.42	1
1.5KE15A	1.5KE15CA	12.8	14.25	15.75	1	21.2	70.75	1
1.5KE16A	1.5KE16CA	13.6	15.20	16.80	1	22.5	66.67	1
1.5KE18A	1.5KE18CA	15.3	17.10	18.90	1	25.2	59.52	1
1.5KE20A	1.5KE20CA	17.1	19.00	21.00	1	27.7	54.15	1
1.5KE22A	1.5KE22CA	18.8	20.90	23.10	1	30.6	49.02	1
1.5KE24A	1.5KE24CA	20.5	22.81	25.20	1	33.2	45.18	1
1.5KE27A	1.5KE27CA	23.1	25.65	28.35	1	37.5	40.00	1
1.5KE30A	1.5KE30CA	25.6	28.50	31.50	1	41.4	36.23	1
1.5KE33A	1.5KE33CA	28.2	31.35	34.65	1	45.7	32.82	1
1.5KE36A	1.5KE36CA	30.8	34.20	37.80	1	49.9	30.06	1
1.5KE39A	1.5KE39CA	33.3	37.05	40.95	1	53.9	27.83	1
1.5KE43A	1.5KE43CA	36.8	40.85	45.15	1	59.3	25.30	1
1.5KE47A	1.5KE47CA	40.2	44.65	49.35	1	64.8	23.15	1
1.5KE51A	1.5KE51CA	43.6	48.45	53.55	1	70.1	21.40	1
1.5KE56A	1.5KE56CA	47.8	53.20	58.80	1	77.0	19.48	1
1.5KE62A	1.5KE62CA	53.0	58.90	65.10	1	85.0	17.65	1

Part Number		Reverse Stand-Off Voltage VRWM(V)	Breakdown Voltage @IT VBR (V)		Test Current IT (mA)	Max Clamping Voltage @IPP VC (V)	Max Peak Pulse Current IPP (A)	Max Reverse Leakage @VRWM IR (μA)
Uni	Bi		Min	Max				
1.5KE68A	1.5KE68CA	58.1	64.60	71.40	1	92.00	16.30	1
1.5KE75A	1.5KE75CA	64.1	71.25	78.75	1	103.0	14.56	1
1.5KE82A	1.5KE82CA	70.1	77.90	86.10	1	113.0	13.27	1
1.5KE91A	1.5KE91CA	77.8	86.45	95.55	1	125.0	12.00	1
1.5KE100A	1.5KE100CA	85.5	95.00	105.00	1	137.0	10.95	1
1.5KE110A	1.5KE110CA	94.0	104.50	115.50	1	152.0	9.87	1
1.5KE120A	1.5KE120CA	102.0	114.00	126.00	1	165.0	9.09	1
1.5KE130A	1.5KE130CA	111.0	123.50	136.50	1	179.0	8.38	1
1.5KE150A	1.5KE150CA	128.0	142.50	157.50	1	207.0	7.25	1
1.5KE160A	1.5KE160CA	136.0	152.00	168.00	1	219.0	6.85	1
1.5KE170A	1.5KE170CA	145.0	161.50	178.50	1	234.0	6.41	1
1.5KE180A	1.5KE180CA	154.0	171.00	189.00	1	246.0	6.10	1
1.5KE200A	1.5KE200CA	171.0	190.00	210.00	1	274.0	5.47	1
1.5KE220A	1.5KE220CA	185.0	209.00	231.00	1	328.0	4.57	1
1.5KE250A	1.5KE250CA	214.0	237.50	262.50	1	344.0	4.36	1
1.5KE300A	1.5KE300CA	256.0	285.00	315.00	1	414.0	3.62	1
1.5KE350A	1.5KE350CA	299.3	332.50	367.50	1	482.0	3.11	1
1.5KE400A	1.5KE400CA	342.0	380.00	420.00	1	552.0	2.72	1
1.5KE440A	1.5KE440CA	376.2	418.00	462.00	1	607.2	2.47	1
1.5KE480A	1.5KE480CA	408.0	456.0	504.0	1	658.0	2.30	1
1.5KE500A	1.5KE500CA	427.5	475.00	525.00	1	690.0	2.17	1
1.5KE510A	1.5KE510CA	434.0	485.00	535.00	1	717.6	2.09	1
1.5KE550A	1.5KE550CA	460.0	513.00	567.00	1	740.0	1.98	1
1.5KE600A	1.5KE600CA	512.0	570.00	630.00	1	828.0	1.81	1

Note: 1.Surge waveform: 10/1000μs

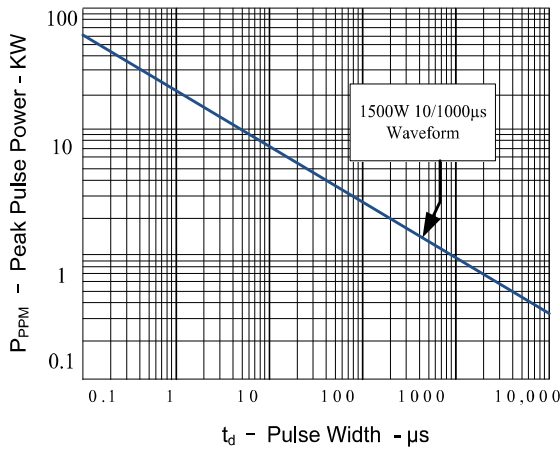
2.Suffix 'A' denotes 5% tolerance device.

3.Add suffix 'CA' after part number to specify Bi-directional devices.

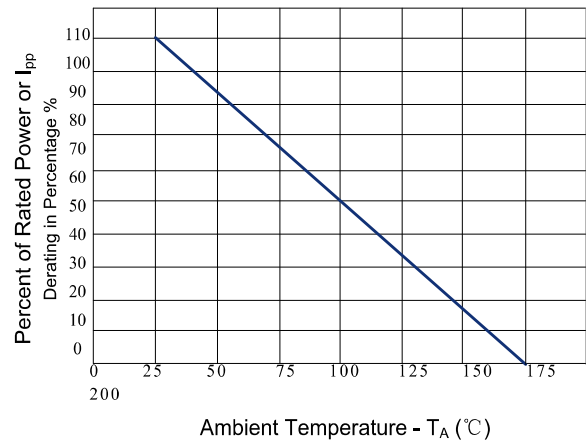
4.For Bi-Directional devices having VR of 10 volts and under, the IR limit is double.

## Typical Characteristics

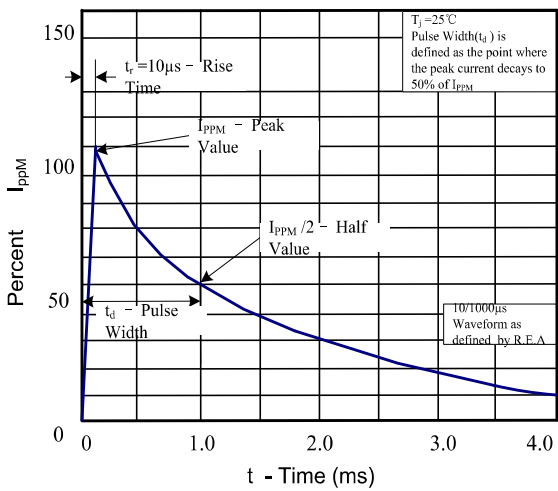
**Figure 1: Peak Pulse Power Rating Curve**



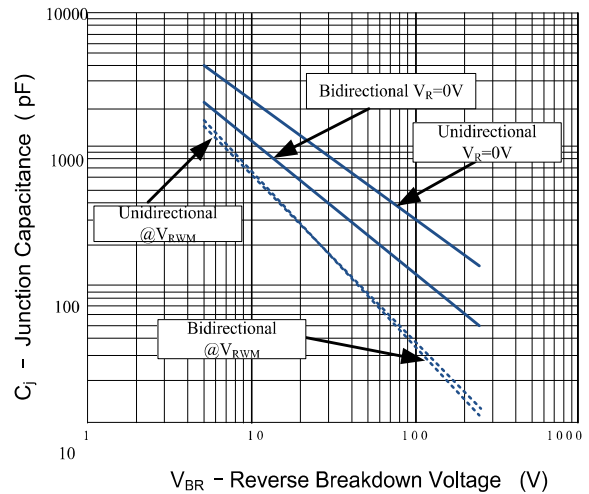
**Figure 2: Pulse Derating Curve**



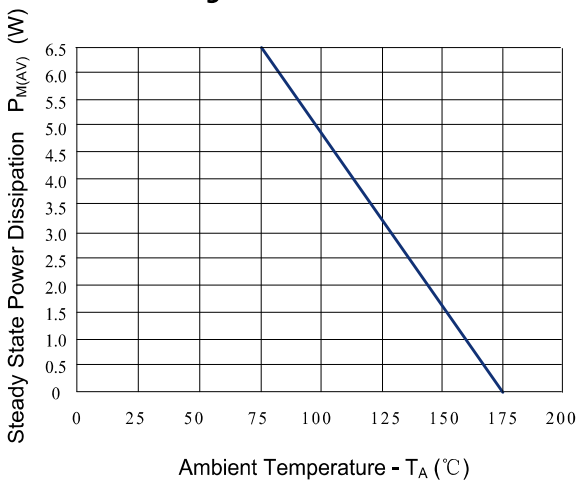
**Figure 3: Pulse Waveform**



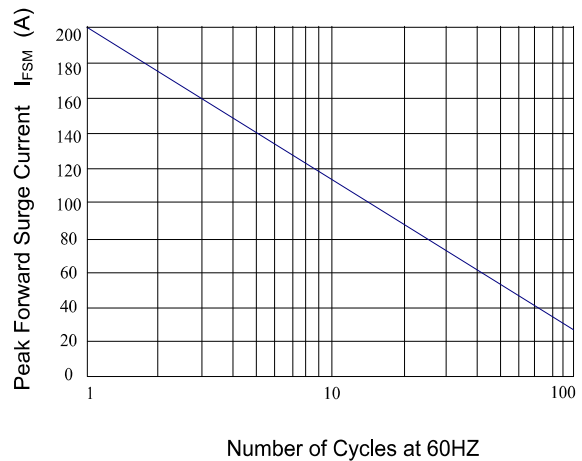
**Figure 4: Typical Junction Capacitance**



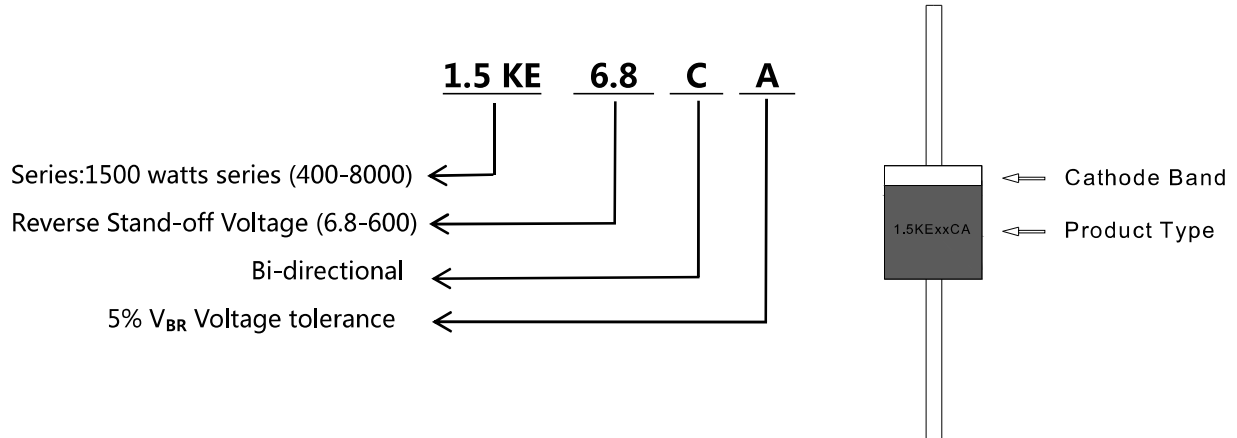
**Figure 5: Steady State Power Dissipation Derating Curve**



**Figure 6: Maximum Non-Repetitive Forward Surge Current Only Unidirectional**



## Part Numbering System



## Package Outline Dimension

Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	1.000	-	25.40	-
B	0.339	0.362	8.60	9.20
C	0.045	0.057	1.15	1.45
D	0.193	0.221	4.90	5.60