

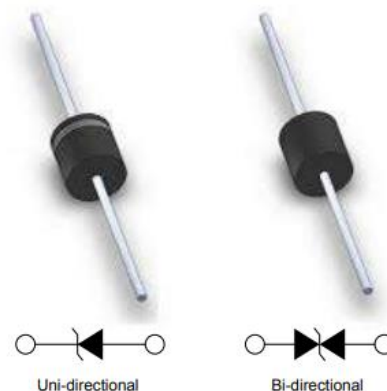
# Transient Voltage Suppression Diodes: 15KPA Series

## Axial Leaded Type 15000 W



### ■ Features

1. Glass passivated chip
2. Excellent clamping capability
3. Low clamping voltage
4. Low leakage current
5. Very fast response time
6. RoHS compliant
7. 15000W peak pulse power capability at 10/1000µs waveform, repetition rate (duty cycle): 0.01%



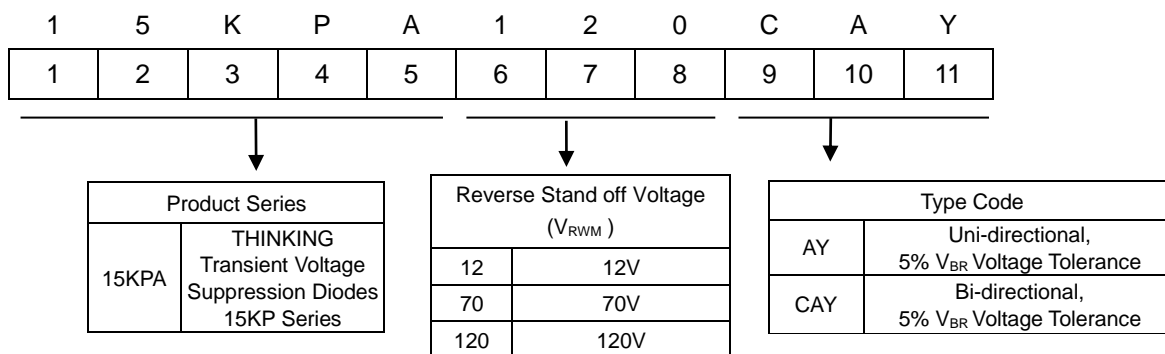
### ■ Recommended Applications

1. Computers
2. Telecom system
3. Industrial equipment
4. Consumer electronic applications
5. Other VCC bus and I/O interfaces

### ■ Mechanical Data

1. Case: Molded plastic, P-600
2. Epoxy: UL 94V-0 rate flame retardant
3. Terminals: Solderable per MIL-STD-750, method 2026
4. Polarity: Color band denotes cathode end
5. Mounting Position: Any

### ■ Part Number Code

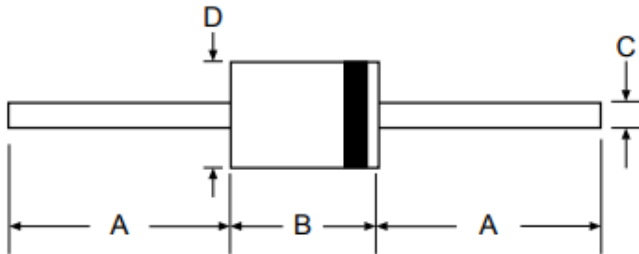


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### Structures and Dimensions



Symbol	Dimensions in millimeters	
	Min	Max
A	25.0	-
B	8.6	9.1
C	1.1	1.3
D	8.6	9.1

### Maximum Rating ( $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak power dissipation with a 10/1000 $\mu\text{s}$ waveform (Note 1)	$P_{PPM}$	15000	W
Peak pulse current with 10/1000 $\mu\text{s}$ waveform (Note 1)	$I_{PPM}$	See next table	A
Peak forward surge current, 8.3 ms single half sine-wave (Note 3)	$I_{FSM}$	400	A
Power dissipation on infinite heatsink at $T_L=75^\circ\text{C}$	$P_D$	8	W
Typical thermal resistance junction to ambient	$R_{\theta JA}$	40	$^\circ\text{C/W}$
Typical thermal resistance junction to lead	$R_{\theta JL}$	8	$^\circ\text{C/W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$

Note:

1. Non-repetitive current pulse, per Fig. 3 and derated above  $T_A=25^\circ\text{C}$  per Fig. 2.
2. Measured on 8.3ms single half sine wave or equivalent square wave for unidirectional device only, duty cycle=4 per minute maximum.

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### ■ Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise noted)

Part No. (Uni)	Part No. (Bi)	Reverse Stand off Voltage	Breakage Voltage V <sub>BR</sub> @ I <sub>T</sub>		Test Current I <sub>T</sub> ( mA )	Maximum Clamping Voltage V <sub>C</sub> @ I <sub>pp</sub>	Maximum Peak Pulse Current I <sub>pp</sub> (A)	Maximum Reverse Leakage I <sub>R</sub> @ V <sub>RWM</sub>
			V <sub>RWM</sub> ( V )	Min( V )		Max( V )	V <sub>C</sub> ( V )	I <sub>pp</sub> (A)
15KPA17AY	15KPA17CAY	17	18.99	20.79	50	29.3	515.4	5000
15KPA18AY	15KPA18CAY	18	20.11	22.01	50	30.9	488.7	5000
15KPA20AY	15KPA20CAY	20	22.34	24.46	20	34.3	440.2	1500
15KPA22AY	15KPA22CAY	22	24.57	26.91	10	37.1	407	500
15KPA24AY	15KPA24CAY	24	26.81	29.35	5	40.7	371	150
15KPA26AY	15KPA26CAY	26	29.04	31.8	5	44	343.2	50
15KPA28AY	15KPA28CAY	28	31.28	34.24	5	47.5	317.9	25
15KPA30AY	15KPA30CAY	30	33.51	36.7	5	50.7	297.8	15
15KPA33AY	15KPA33CAY	33	36.9	40.4	5	54.7	276.1	5
15KPA36AY	15KPA36CAY	36	40.2	44	5	59.8	252.5	5
15KPA40AY	15KPA40CAY	40	44.7	48.9	5	65.8	229.5	5
15KPA43AY	15KPA43CAY	43	48	52.6	5	69.8	216.3	5
15KPA45AY	15KPA45CAY	45	50.3	55	5	72.8	207.4	5
15KPA48AY	15KPA48CAY	48	53.6	58.7	5	77.7	194.3	5
15KPA51AY	15KPA51CAY	51	57	62.4	5	82.9	182.1	5
15KPA54AY	15KPA54CAY	54	60.3	66	5	87.7	172.2	5
15KPA58AY	15KPA58CAY	58	64.8	70.9	5	93.8	161.0	5
15KPA60AY	15KPA60CAY	60	67	73.4	5	97.4	155.0	5
15KPA64AY	15KPA64CAY	64	71.5	78.3	5	104.2	144.9	5
15KPA70AY	15KPA70CAY	70	78.2	85.6	5	113.6	132.9	5
15KPA75AY	15KPA75CAY	75	83.8	91.7	5	122.0	123.8	5
15KPA78AY	15KPA78CAY	78	87.1	95.4	5	126.1	119.7	5
15KPA85AY	15KPA85CAY	85	94.9	104	5	137.6	109.7	5
15KPA90AY	15KPA90CAY	90	100.5	110.1	5	145.6	103.7	5
15KPA100AY	15KPA100CAY	100	111.7	122.3	5	161.3	93.6	5
15KPA110AY	15KPA110CAY	110	122.9	134.5	5	178.6	84.5	5
15KPA120AY	15KPA120CAY	120	134	146.8	5	192.3	78.5	5
15KPA130AY	15KPA130CAY	130	145.2	159	5	208.3	72.5	5

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### ■ Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise noted)

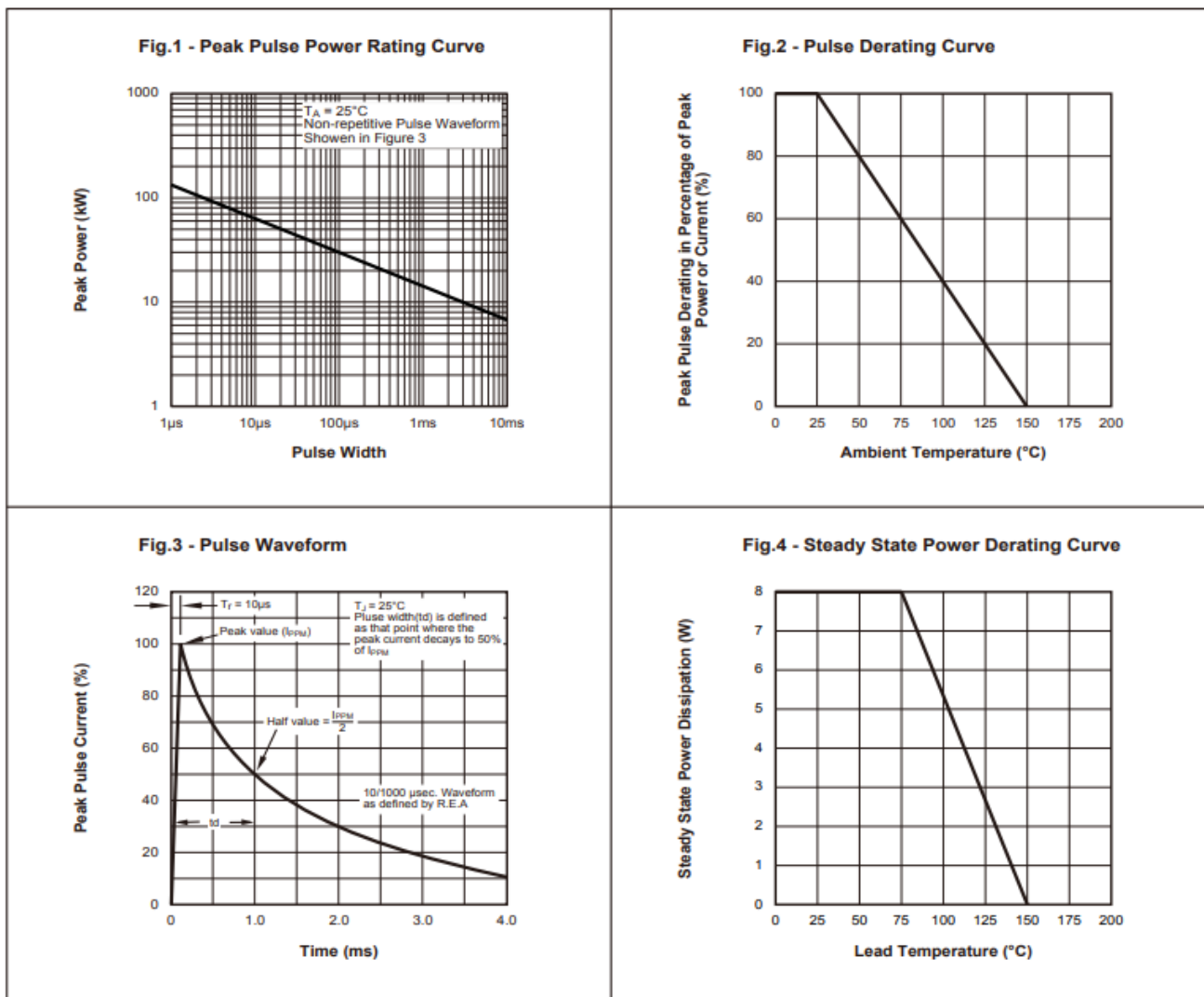
Part No. (Uni)	Part No. (Bi)	Reverse Stand off Voltage V <sub>RWM</sub> ( V )	Breakage Voltage V <sub>BR</sub> @ I <sub>T</sub>		Test Current I <sub>T</sub> ( mA )	Maximum Clamping Voltage V <sub>C</sub> @ I <sub>pp</sub> V <sub>C</sub> ( V )	Maximum Peak Pulse Current I <sub>pp</sub> (A)	Maximum Reverse Leakage I <sub>R</sub> @V <sub>RWM</sub> I <sub>R</sub> ( uA )
			Min( V )	Max( V )				
15KPA150AY	15KPA150CAY	150	167.6	183.5	5	241.9	62.4	5
15KPA160AY	15KPA160CAY	160	178.7	195.7	5	258.6	58.4	5
15KPA170AY	15KPA170CAY	170	189.9	207.9	5	272.7	55.4	5
15KPA180AY	15KPA180CAY	180	201.1	220.1	5	288.5	52.3	5
15KPA200AY	15KPA200CAY	200	223.4	244.6	5	319.1	47.3	5
15KPA220AY	15KPA220CAY	220	245.7	269.1	5	349.4	43.2	5
15KPA240AY	15KPA240CAY	240	268.1	293.5	5	384.6	39.3	5
15KPA260AY	15KPA260CAY	260	290.4	318	5	416.7	36.2	5
15KPA280AY	15KPA280CAY	280	312.8	342.4	5	454.5	33.2	5

# Transient Voltage Suppression Diodes: 15KPA Series

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### ■ Typical Characteristics ( $T_A=25^\circ\text{C}$ unless otherwise noted)

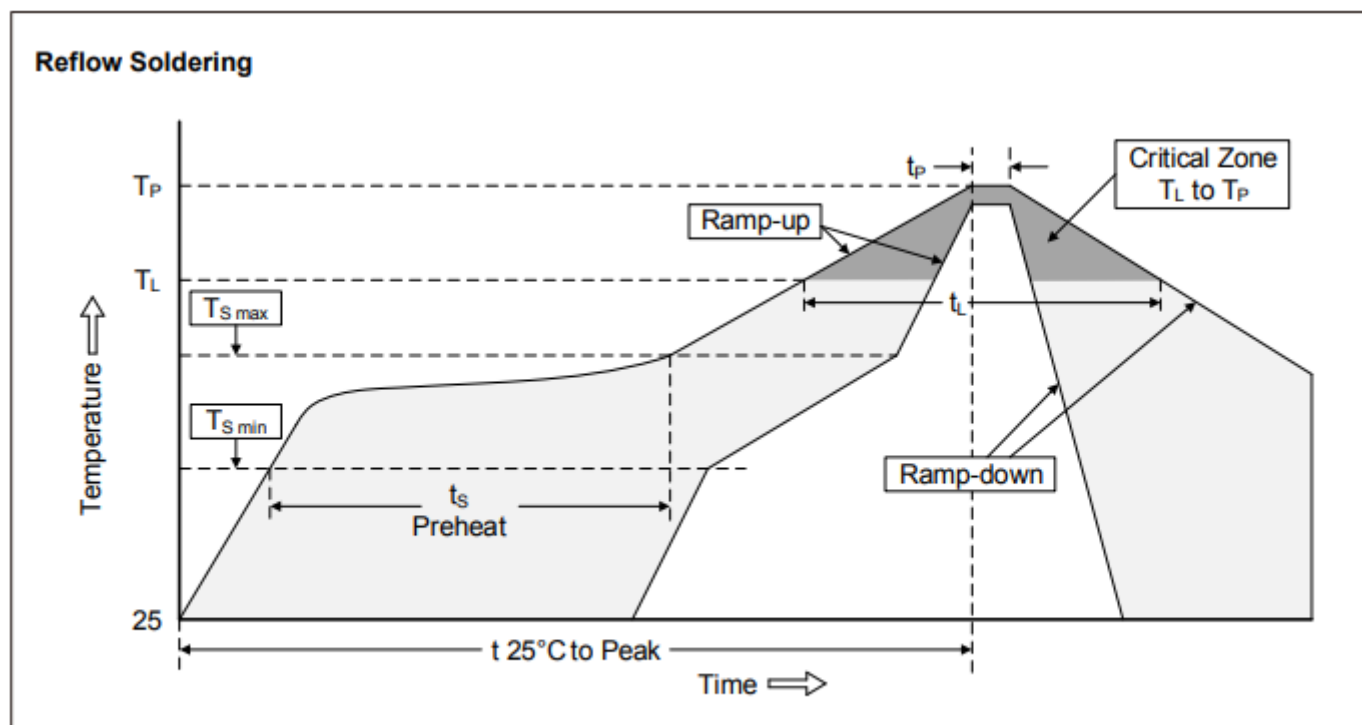


# Transient Voltage Suppression Diodes: 15KPA Series

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### ■ Soldering Recommendation



### Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate ( $T_L$ to $T_P$ )	3°C/second max.
Preheat	
-Temperature Min ( $T_{S\ min}$ )	150°C
-Temperature Max ( $T_{S\ max}$ )	200°C
-Time (min to max) ( $t_s$ )	60-180 seconds
$T_{S\ max}$ to $T_L$	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature ( $T_L$ )	217°C
-Time ( $t_L$ )	60-150 seconds
Peak Temperature ( $T_P$ )	260°C
Time within 5°C of actual Peak Temperature ( $t_P$ )	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

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### ■ Quantity

Series Type	Packaging option	Base quantity	Packaging specification
15KPA	Tape and box	400pcs / box	EIA STD RS-481

### ■ Warehouse Storage Conditions of product

- Storage Condition:
  1. Storage Temperature:  $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$
  2. Relative Humidity:  $\cong 75\% \text{RH}$
  3. Keep away from corrosive atmosphere and sunlight.
- Period of Storage: 1 year.