



## P6KE10AS ~ P6KE250CAS Series

**Transient Voltage Suppressor**  
**Recongnized File # E210467**

**Voltage** 10~250 V **Power** 600 W

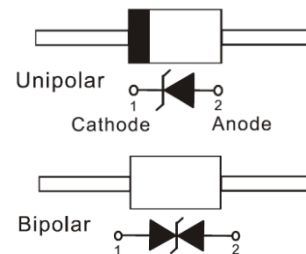
### Features

- Fast response time
- Low incremental surge resistance
- High temperature soldering : 260°C/10 seconds at terminals
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

### Mechanical Data

- Case: DO-15 Package
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.014 ounces, 0.4 grams

DO-15



### Maximum Ratings and Thermal Characteristics (T<sub>A</sub> = 25 °C unless otherwise noted)

| PARAMETER   | SYMBOL                             | LIMIT       | UNITS |
|---|------------------------------------|-------------|-------|
| Peak Pulse Power Dissipation(tp = 10 / 1000 us)                     | P <sub>PP</sub> <sup>(1) (2)</sup> | 600         | W     |
| Peak Pulse Current on tp = 10 / 1000 us waveform <sup>(Fig.2)</sup> | I <sub>PPM</sub> <sup>(1)</sup>    | See table 1 | A     |
| Power Dissipation on Infinite Heat Sink at T <sub>L</sub> = 75 °C   | P <sub>D</sub>                     | 5           | W     |
| ESD IEC61000-4-2(Air)   | V <sub>ESD</sub>                   | ±30         | kV    |
| ESD IEC61000-4-2(Contact)   |                                    | ±30         |       |
| Typical Thermal Resistance Junction to Ambient                      | R <sub>θJA</sub> <sup>(3)</sup>    | 65          | °C/W  |
| Operating Junction Temperature Range                                | T <sub>J</sub>                     | -55~150     | °C    |
| Storage Temperature Range   | T <sub>STG</sub>                   | -55~150     | °C    |



## P6KE10AS ~ P6KE250CAS Series

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

| Part Number                       |            | $V_{RWM}$ | $V_{BR}$ |      |       | $I_R$       |    | $V_C @ I_{PP}$ |      | Marking Code |            |
|-----------------------------------|------------|-----------|----------|------|-------|-------------|----|----------------|------|--------------|------------|
|                                   |            |           | Min.     | Max. | $I_T$ | @ $V_{RWM}$ |    |                |      |              |            |
| UNI                               | BI         | V         | V        | V    | mA    | UNI         | BI | V              | A    | UNI          | BI         |
| 600W Transient Voltage Suppressor |            |           |          |      |       |             |    |                |      |              |            |
| P6KE10AS                          | P6KE10CAS  | 8.55      | 9.5      | 10.5 | 1     | 10          | 20 | 14.5           | 41   | P6KE10AS     | P6KE10CAS  |
| P6KE11AS                          | P6KE11CAS  | 9.4       | 10.5     | 11.6 | 1     | 5           | 10 | 15.6           | 38   | P6KE11AS     | P6KE11CAS  |
| P6KE12AS                          | P6KE12CAS  | 10.2      | 11.4     | 12.6 | 1     | 5           | 5  | 16.7           | 36   | P6KE12AS     | P6KE12CAS  |
| P6KE13AS                          | P6KE13CAS  | 11.1      | 12.4     | 13.7 | 1     | 1           | 1  | 18.2           | 33   | P6KE13AS     | P6KE13CAS  |
| P6KE15AS                          | P6KE15CAS  | 12.8      | 14.3     | 15.8 | 1     | 1           | 1  | 21.2           | 28   | P6KE15AS     | P6KE15CAS  |
| P6KE16AS                          | P6KE16CAS  | 13.6      | 15.2     | 16.8 | 1     | 1           | 1  | 22.5           | 27   | P6KE16AS     | P6KE16CAS  |
| P6KE18AS                          | P6KE18CAS  | 15.3      | 17.1     | 18.9 | 1     | 1           | 1  | 25.2           | 24   | P6KE18AS     | P6KE18CAS  |
| P6KE20AS                          | P6KE20CAS  | 17.1      | 19       | 21   | 1     | 1           | 1  | 27.7           | 22   | P6KE20AS     | P6KE20CAS  |
| P6KE22AS                          | P6KE22CAS  | 18.8      | 20.9     | 23.1 | 1     | 1           | 1  | 30.6           | 20   | P6KE22AS     | P6KE22CAS  |
| P6KE24AS                          | P6KE24CAS  | 20.5      | 22.8     | 25.2 | 1     | 1           | 1  | 33.2           | 18   | P6KE24AS     | P6KE24CAS  |
| P6KE27AS                          | P6KE27CAS  | 23.1      | 25.7     | 28.4 | 1     | 1           | 1  | 37.5           | 16   | P6KE27AS     | P6KE27CAS  |
| P6KE30AS                          | P6KE30CAS  | 25.6      | 28.5     | 31.5 | 1     | 1           | 1  | 41.4           | 14.4 | P6KE30AS     | P6KE30CAS  |
| P6KE33AS                          | P6KE33CAS  | 28.2      | 31.4     | 34.7 | 1     | 1           | 1  | 45.7           | 13.2 | P6KE33AS     | P6KE33CAS  |
| P6KE36AS                          | P6KE36CAS  | 30.8      | 34.2     | 37.8 | 1     | 1           | 1  | 49.9           | 12   | P6KE36AS     | P6KE36CAS  |
| P6KE39AS                          | P6KE39CAS  | 33.3      | 37.1     | 41   | 1     | 1           | 1  | 53.9           | 11.2 | P6KE39AS     | P6KE39CAS  |
| P6KE43AS                          | P6KE43CAS  | 36.8      | 40.9     | 45.2 | 1     | 1           | 1  | 59.3           | 10.1 | P6KE43AS     | P6KE43CAS  |
| P6KE47AS                          | P6KE47CAS  | 40.2      | 44.7     | 49.4 | 1     | 1           | 1  | 64.8           | 9.3  | P6KE47AS     | P6KE47CAS  |
| P6KE51AS                          | P6KE51CAS  | 43.6      | 48.5     | 53.6 | 1     | 1           | 1  | 70.1           | 8.6  | P6KE51AS     | P6KE51CAS  |
| P6KE56AS                          | P6KE56CAS  | 47.8      | 53.2     | 58.8 | 1     | 1           | 1  | 77             | 7.8  | P6KE56AS     | P6KE56CAS  |
| P6KE62AS                          | P6KE62CAS  | 53        | 58.9     | 65.1 | 1     | 1           | 1  | 85             | 7.1  | P6KE62AS     | P6KE62CAS  |
| P6KE68AS                          | P6KE68CAS  | 58.1      | 64.6     | 71.4 | 1     | 1           | 1  | 92             | 6.5  | P6KE68AS     | P6KE68CAS  |
| P6KE75AS                          | P6KE75CAS  | 64.1      | 71.3     | 78.8 | 1     | 1           | 1  | 103            | 5.8  | P6KE75AS     | P6KE75CAS  |
| P6KE82AS                          | P6KE82CAS  | 70.1      | 77.9     | 86.1 | 1     | 1           | 1  | 113            | 5.3  | P6KE82AS     | P6KE82CAS  |
| P6KE91AS                          | P6KE91CAS  | 77.8      | 86.5     | 95.5 | 1     | 1           | 1  | 125            | 4.8  | P6KE91AS     | P6KE91CAS  |
| P6KE100AS                         | P6KE100CAS | 85.5      | 95       | 105  | 1     | 1           | 1  | 137            | 4.4  | P6KE100AS    | P6KE100CAS |
| P6KE110AS                         | P6KE110CAS | 94        | 105      | 116  | 1     | 1           | 1  | 152            | 4    | P6KE110AS    | P6KE110CAS |
| P6KE120AS                         | P6KE120CAS | 102       | 114      | 126  | 1     | 1           | 1  | 165            | 3.6  | P6KE120AS    | P6KE120CAS |
| P6KE130AS                         | P6KE130CAS | 111       | 124      | 137  | 1     | 1           | 1  | 179            | 3.3  | P6KE130AS    | P6KE130CAS |
| P6KE150AS                         | P6KE150CAS | 128       | 143      | 158  | 1     | 1           | 1  | 207            | 2.9  | P6KE150AS    | P6KE150CAS |
| P6KE160AS                         | P6KE160CAS | 136       | 152      | 168  | 1     | 1           | 1  | 219            | 2.7  | P6KE160AS    | P6KE160CAS |



## P6KE10AS ~ P6KE250CAS Series

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

| Part Number                       |            | $V_{RWM}$ | $V_{BR}$ |      |       | $I_R$       |    | $V_C @ I_{PP}$ |     | Marking Code |            |
|-----------------------------------|------------|-----------|----------|------|-------|-------------|----|----------------|-----|--------------|------------|
|                                   |            |           | Min.     | Max. | $I_T$ | @ $V_{RWM}$ |    |                |     |              |            |
| UNI                               | BI         | V         | V        | V    | mA    | UNI         | BI | V              | A   | UNI          | BI         |
| 600W Transient Voltage Suppressor |            |           |          |      |       |             |    |                |     |              |            |
| P6KE170AS                         | P6KE170CAS | 145       | 162      | 179  | 1     | 1           | 1  | 234            | 2.6 | P6KE170AS    | P6KE170CAS |
| P6KE180AS                         | P6KE180CAS | 154       | 171      | 189  | 1     | 1           | 1  | 246            | 2.4 | P6KE180AS    | P6KE180CAS |
| P6KE200AS                         | P6KE200CAS | 171       | 190      | 210  | 1     | 1           | 1  | 274            | 2.2 | P6KE200AS    | P6KE200CAS |
| P6KE220AS                         | P6KE220CAS | 185       | 209      | 231  | 1     | 1           | 1  | 328            | 1.9 | P6KE220AS    | P6KE220CAS |
| P6KE250AS                         | P6KE250CAS | 214       | 237      | 263  | 1     | 1           | 1  | 344            | 1.8 | P6KE250AS    | P6KE250CAS |

**Notes :**

1. Non-repetitive current pulse, per Fig.3 and derated above  $T_A=25^\circ\text{C}$  per Fig.2
2. Mounted on 100cm<sup>2</sup> copper pads to each terminal
3. Mounted on a FR4 PCB, single-sided copper, standard footprint



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## TYPICAL CHARACTERISTIC CURVES

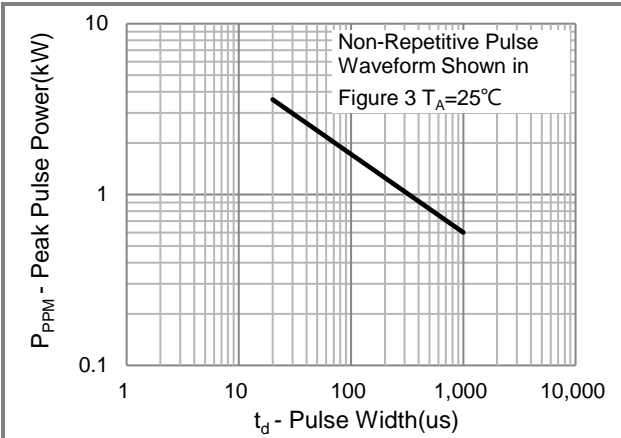


Fig.1 Pulse Power Rating Curve



Fig.2 Derating Curve

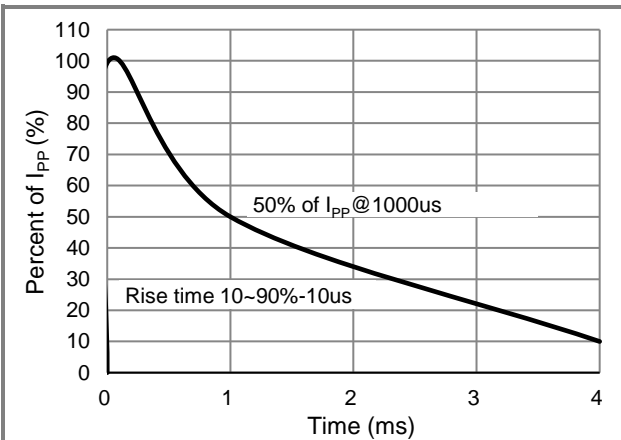


Fig.3 10/1000us Pulse Waveform

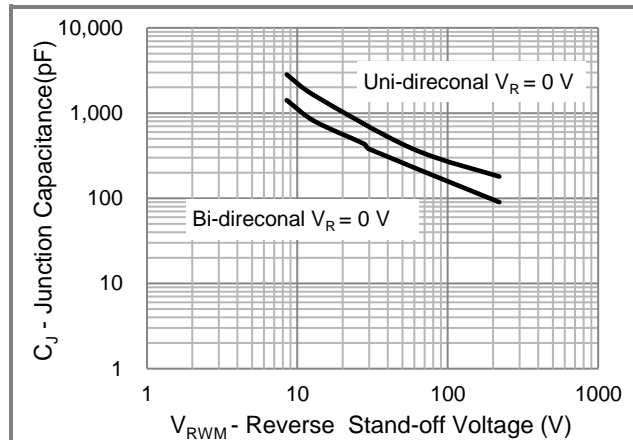


Fig.4 Typical Capacitance

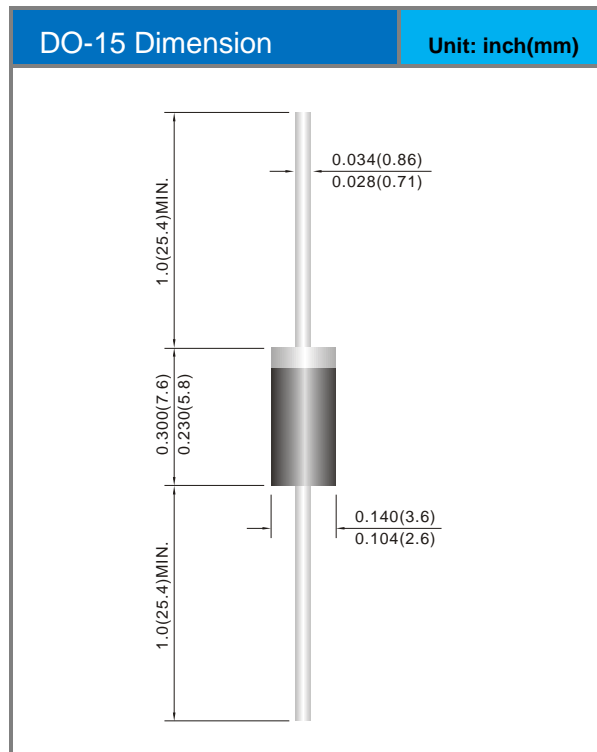


## P6KE10AS ~ P6KE250CAS Series

Part No. Packing Code Version

| Part No. Packing Code | Package Type | Packing Type  | Marking   | Version                        |
|-----------------------|--------------|---------------|-----------|--------------------------------|
| P6KExxxxAS_AY_00001   | DO-15        | 3K pcs / Ammo | See Table | Halogen free<br>RoHS compliant |

### Packaging Information





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