



P4KE10AS ~ P4KE250CAS Series

Surface Mount Transient Voltage Suppressor

Voltage 10~250 V **Power** 400 W

Features

- For surface mounted applications in order to optimize board space.
- Low inductance
- 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-41 Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.0119 ounces, 0.336 grams

DO-41



Maximum Ratings and Thermal Characteristics (T_A = 25 °C unless otherwise noted)

| PARAMETER | SYMBOL | LIMIT | UNITS |
|---|------------------------------------|-------------|-------|
| Peak Pulse Power Dissipation(tp = 10 / 1000 us) | P _{PP} ^{(1) (2)} | 400 | W |
| Peak Pulse Current on tp = 10 / 1000 us waveform ^(Fig.2) | I _{PPM} ⁽¹⁾ | See table 1 | A |
| Power Dissipation on Infinite Heat Sink at T _L = 75 °C | P _D | 1.5 | W |
| ESD IEC61000-4-2(Air) | V _{ESD} | ±30 | kV |
| ESD IEC61000-4-2(Contact) | | ±30 | |
| Typical Thermal Resistance Junction to Ambient | R _{θJA} ⁽³⁾ | 80 | °C/W |
| Operating Junction Temperature Range | T _J | -55~150 | °C |
| Storage Temperature Range | T _{STG} | -55~150 | °C |



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Electrical Characteristics (T_A = 25 °C unless otherwise noted)

| Part Number | | V _{RWM} | V _{BR} | | | I _R | | V _{C@IPP} | | Marking Code | |
|-----------------------------------|------------|------------------|-----------------|------|----------------|--------------------|----|--------------------|------|--------------|------------|
| | | | Min. | Max. | I _T | @ V _{RWM} | uA | | | | |
| UNI | BI | V | V | V | mA | UNI | BI | V | A | UNI | BI |
| 400W Transient Voltage Suppressor | | | | | | | | | | | |
| P4KE10AS | P4KE10CAS | 8.55 | 9.5 | 10.5 | 1 | 10 | 20 | 14.5 | 29 | P4KE10AS | P4KE10CAS |
| P4KE11AS | P4KE11CAS | 9.4 | 10.5 | 11.6 | 1 | 5 | 10 | 15.6 | 27 | P4KE11AS | P4KE11CAS |
| P4KE12AS | P4KE12CAS | 10.2 | 11.4 | 12.6 | 1 | 1 | 1 | 16.7 | 25 | P4KE12AS | P4KE12CAS |
| P4KE13AS | P4KE13CAS | 11.1 | 12.4 | 13.7 | 1 | 1 | 1 | 18.2 | 23 | P4KE13AS | P4KE13CAS |
| P4KE15AS | P4KE15CAS | 12.8 | 14.3 | 15.8 | 1 | 1 | 1 | 21.2 | 20 | P4KE15AS | P4KE15CAS |
| P4KE16AS | P4KE16CAS | 13.6 | 15.2 | 16.8 | 1 | 1 | 1 | 22.5 | 19 | P4KE16AS | P4KE16CAS |
| P4KE18AS | P4KE18CAS | 15.3 | 17.1 | 18.9 | 1 | 1 | 1 | 25.2 | 17 | P4KE18AS | P4KE18CAS |
| P4KE20AS | P4KE20CAS | 17.1 | 19 | 21 | 1 | 1 | 1 | 27.7 | 15 | P4KE20AS | P4KE20CAS |
| P4KE22AS | P4KE22CAS | 18.8 | 20.9 | 23.1 | 1 | 1 | 1 | 30.6 | 14 | P4KE22AS | P4KE22CAS |
| P4KE24AS | P4KE24CAS | 20.5 | 22.8 | 25.2 | 1 | 1 | 1 | 33.2 | 13 | P4KE24AS | P4KE24CAS |
| P4KE27AS | P4KE27CAS | 23.1 | 25.7 | 28.4 | 1 | 1 | 1 | 37.5 | 11.2 | P4KE27AS | P4KE27CAS |
| P4KE30AS | P4KE30CAS | 25.6 | 28.5 | 31.5 | 1 | 1 | 1 | 41.4 | 10 | P4KE30AS | P4KE30CAS |
| P4KE33AS | P4KE33CAS | 28.2 | 31.4 | 34.7 | 1 | 1 | 1 | 45.7 | 9 | P4KE33AS | P4KE33CAS |
| P4KE36AS | P4KE36CAS | 30.8 | 34.2 | 37.8 | 1 | 1 | 1 | 49.9 | 8.4 | P4KE36AS | P4KE36CAS |
| P4KE39AS | P4KE39CAS | 33.3 | 37.1 | 41 | 1 | 1 | 1 | 53.9 | 7.8 | P4KE39AS | P4KE39CAS |
| P4KE43AS | P4KE43CAS | 36.8 | 40.9 | 45.2 | 1 | 1 | 1 | 59.3 | 7.1 | P4KE43AS | P4KE43CAS |
| P4KE47AS | P4KE47CAS | 40.2 | 44.7 | 49.4 | 1 | 1 | 1 | 64.8 | 5 | P4KE47AS | P4KE47CAS |
| P4KE51AS | P4KE51CAS | 43.6 | 48.5 | 53.6 | 1 | 1 | 1 | 70.1 | 6 | P4KE51AS | P4KE51CAS |
| P4KE56AS | P4KE56CAS | 47.8 | 53.2 | 58.8 | 1 | 1 | 1 | 77 | 5.5 | P4KE56AS | P4KE56CAS |
| P4KE62AS | P4KE62CAS | 53 | 58.9 | 65.1 | 1 | 1 | 1 | 85 | 5 | P4KE62AS | P4KE62CAS |
| P4KE68AS | P4KE68CAS | 58.1 | 64.6 | 71.4 | 1 | 1 | 1 | 92 | 4.6 | P4KE68AS | P4KE68CAS |
| P4KE75AS | P4KE75CAS | 64.1 | 71.3 | 78.8 | 1 | 1 | 1 | 103 | 4.1 | P4KE75AS | P4KE75CAS |
| P4KE82AS | P4KE82CAS | 70.1 | 77.9 | 86.1 | 1 | 1 | 1 | 113 | 3.7 | P4KE82AS | P4KE82CAS |
| P4KE91AS | P4KE91CAS | 77.8 | 86.5 | 95.5 | 1 | 1 | 1 | 125 | 3.4 | P4KE91AS | P4KE91CAS |
| P4KE100AS | P4KE100CAS | 85.5 | 95 | 105 | 1 | 1 | 1 | 137 | 3.1 | P4KE100AS | P4KE100CAS |
| P4KE110AS | P4KE110CAS | 94 | 105 | 116 | 1 | 1 | 1 | 152 | 2.8 | P4KE110AS | P4KE110CAS |
| P4KE120AS | P4KE120CAS | 102 | 114 | 126 | 1 | 1 | 1 | 165 | 2.5 | P4KE120AS | P4KE120CAS |
| P4KE130AS | P4KE130CAS | 111 | 124 | 137 | 1 | 1 | 1 | 179 | 2.3 | P4KE130AS | P4KE130CAS |
| P4KE150AS | P4KE150CAS | 128 | 143 | 158 | 1 | 1 | 1 | 207 | 2 | P4KE150AS | P4KE150CAS |
| P4KE160AS | P4KE160CAS | 136 | 152 | 168 | 1 | 1 | 1 | 219 | 1.9 | P4KE160AS | P4KE160CAS |



P4KE10AS ~ P4KE250CAS Series

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

| Part Number | | VRWM | VBR | | | IR @VRWM | | VC@IPP | | Marking Code | |
|-----------------------------------|------------|------|------|------|----|-------------|----|--------|-----|--------------|------------|
| | | | Min. | Max. | IT | uA | | | | | |
| UNI | BI | V | V | V | mA | UNI | BI | V | A | UNI | BI |
| 400W Transient Voltage Suppressor | | | | | | | | | | | |
| P4KE170AS | P4KE170CAS | 145 | 162 | 179 | 1 | 1 | 1 | 234 | 1.8 | P4KE170AS | P4KE170CAS |
| P4KE180AS | P4KE180CAS | 154 | 171 | 189 | 1 | 1 | 1 | 246 | 1.7 | P4KE180AS | P4KE180CAS |
| P4KE200AS | P4KE200CAS | 171 | 190 | 210 | 1 | 1 | 1 | 274 | 1.5 | P4KE200AS | P4KE200CAS |
| P4KE220AS | P4KE220CAS | 185 | 209 | 231 | 1 | 1 | 1 | 328 | 1.2 | P4KE220AS | P4KE220CAS |
| P4KE250AS | P4KE250CAS | 214 | 237 | 263 | 1 | 1 | 1 | 344 | 1.2 | P4KE250AS | P4KE250CAS |

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^2 copper pads to each terminal
3. Mounted on a FR4 PCB, single-sided copper, standard footprint



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TYPICAL CHARACTERISTIC CURVES

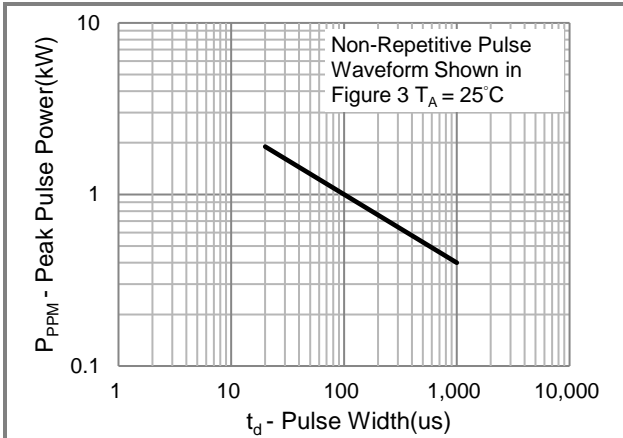


Fig.1 Pulse Power Rating Curve



Fig.2 Derating Curve



Fig.3 10/1000us Pulse Waveform

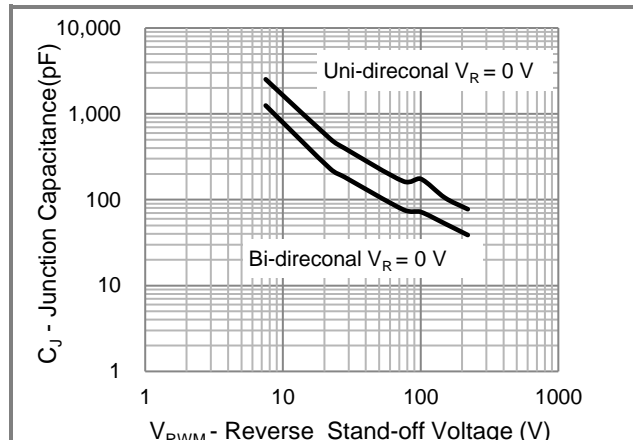


Fig.4 Typical Capacitance



P4KE10AS ~ P4KE250CAS Series

Part No. Packing Code Version

| Part No. Packing Code | Package Type | Packing Type | Marking | Version |
|-----------------------|--------------|---------------|-----------|--------------------------------|
| P4KExxxxAS_AY_00001 | DO-41 | 5K pcs / Ammo | See Table | Halogen free RoHS compliant |

Packaging Information

