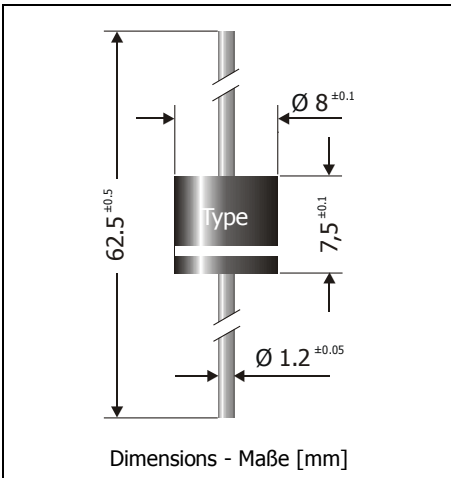


5KP6.5 ... 5KP110CA
Unidirectional and Bidirectional Transient Voltage Suppressor Diodes
Unidirectionale und bidirectional Spannungs-Begrenzer-Dioden

Version 2011-10-28



| | |
|---|----------------|
| Peak pulse power dissipation Maximale Verlustleistung | 5000 W |
| Maximum stand-off voltage Maximale Sperrspannung | 6.5...110 V |
| Plastic case Kunststoffgehäuse | Ø 8 x 7.5 [mm] |
| Weight approx. Gewicht ca. | 1.5 g |
| Plastic material has UL classification 94V-0 Gehäusematerial UL94V-0 klassifiziert | |
| Standard packaging taped in ammo pack Standard Lieferform gegurtet in Ammo-Pack | |

For bidirectional types (add suffix "C" or "CA"), electrical characteristics apply in both directions.
 Für bidirektionale Dioden (ergänze Suffix "C" oder "CA") gelten die elektrischen Werte in beiden Richtungen.

Maximum ratings and Characteristics

Grenz- und Kennwerte

| | | | |
|--|--------------------------|----------------|------------------------------|
| Peak pulse power dissipation (10/1000 µs waveform) Impuls-Verlustleistung (Strom-Impuls 10/1000 µs) | $T_A = 25^\circ\text{C}$ | P_{PPM} | 5000 W ¹⁾ |
| Steady state power dissipation Verlustleistung im Dauerbetrieb | $T_A = 50^\circ\text{C}$ | $P_{M(AV)}$ | 8 W ²⁾ |
| Peak forward surge current, 60 Hz half sine-wave Stoßstrom für eine 60 Hz Sinus-Halbwelle | $T_A = 25^\circ\text{C}$ | I_{FSM} | 400 A ³⁾ |
| Max. instantaneous forward voltage Augenblickswert der Durchlaßspannung | $I_F = 100\text{A}$ | V_F | < 3.5 V ³⁾ |
| Junction temperature – Sperrschichttemperatur Storage temperature – Lagerungstemperatur | | T_j T_S | -50...+175°C -50...+175°C |
| Thermal resistance junction to ambient air Wärmewiderstand Sperrschicht – umgebende Luft | | R_{thA} | < 16 K/W ²⁾ |
| Thermal resistance junction to terminal Wärmewiderstand Sperrschicht – Anschluss | | R_{thT} | < 4 K/W |

1 Non-repetitive pulse see curve $I_{pp} = f(t_r) / P_{pp} = f(t_r)$
 Höchstzulässiger Spitzenwert eines einmaligen Impulses, siehe Kurve $I_{pp} = f(t_r) / P_{pp} = f(t_r)$
 2 Valid, if leads are kept at ambient temperature at a distance of 10 mm from case
 Gültig, wenn die Anschlussdrähte in 10 mm Abstand von Gehäuse auf Umgebungstemperatur gehalten werden
 3 Unidirectional diodes only – Nur für unidirektionale Dioden

Maximum ratings
Grenzwerte

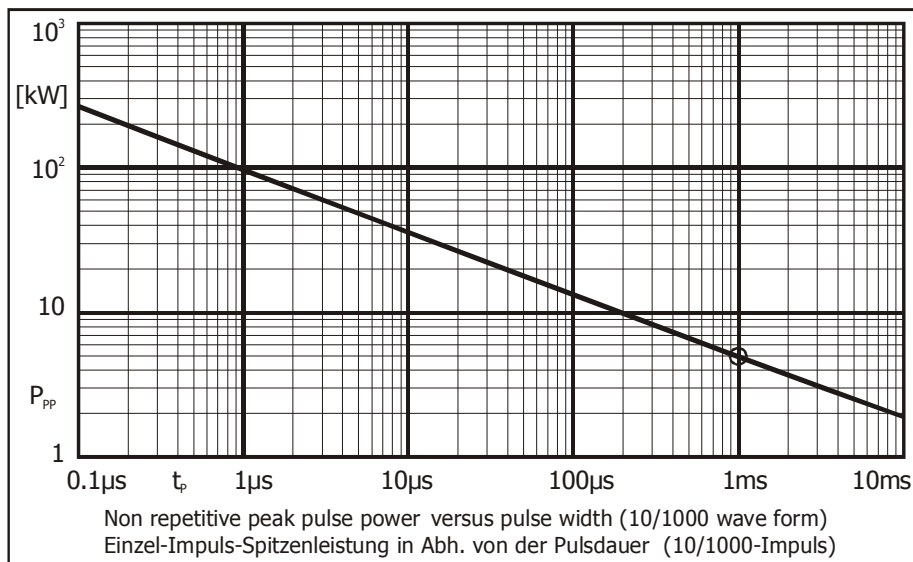
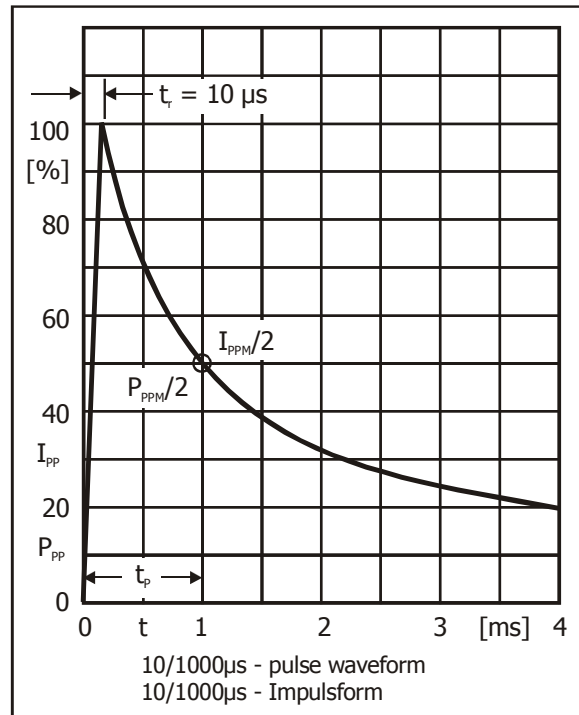
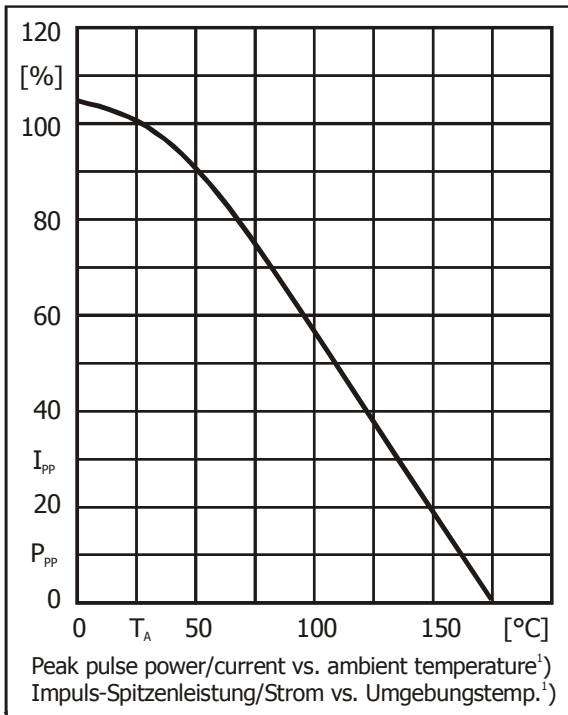
| Type Typ | Stand-off voltage Sperrspannung | Max. rev. current Max. Sperrstrom at / bei V_{WM} | Breakdown voltage at $I_T = 5$ mA Abbruch-Spannung bei $I_T = 5$ mA) at / bei $I_T = 50$ mA | | Max. clamping voltage Max. Begrenzer-Spannung at / bei I_{PPM} (10/1000 μ s) | |
|-------------|------------------------------------|---|--|-----------------|--|---------------|
| | | | V_{BRmin} [V] | V_{BRmax} [V] | V_C [V] | I_{PPM} [A] |
| | V_{WM} [V] | I_D [μ A] | | | | |
| 5KP6.5 | 6.5 | 4000 | 7.22 *) | 9.14 *) | 12.3 | 407 |
| 5KP6.5A | 6.5 | 4000 | 7.22 *) | 8.30 *) | 11.2 | 446 |
| 5KP7.0 | 7.0 | 2000 | 7.78 *) | 9.86 *) | 13.3 | 376 |
| 5KP7.0A | 7.0 | 2000 | 7.78 *) | 8.95 *) | 12.0 | 417 |
| 5KP7.5 | 7.5 | 500 | 8.33 | 10.67 | 14.3 | 350 |
| 5KP7.5A | 7.5 | 500 | 8.33 | 9.58 | 12.9 | 388 |
| 5KP8.0 | 8.0 | 300 | 8.89 | 11.30 | 15.0 | 333 |
| 5KP8.0A | 8.0 | 300 | 8.89 | 10.23 | 13.6 | 368 |
| 5KP8.5 | 8.5 | 100 | 9.44 | 11.92 | 15.6 | 321 |
| 5KP8.5A | 8.5 | 100 | 9.44 | 10.82 | 14.4 | 347 |
| 5KP9.0 | 9.0 | 40 | 10.0 | 12.7 | 16.9 | 296 |
| 5KP9.0A | 9.0 | 40 | 10.0 | 11.5 | 15.4 | 325 |
| 5KP10 | 10 | 10 | 11.1 | 14.1 | 18.8 | 266 |
| 5KP10A | 10 | 10 | 11.1 | 12.8 | 17.0 | 294 |
| 5KP11 | 11 | 10 | 12.2 | 15.4 | 20.1 | 249 |
| 5KP11A | 11 | 10 | 12.2 | 14.0 | 18.2 | 275 |
| 5KP12 | 12 | 10 | 13.3 | 16.9 | 22.0 | 227 |
| 5KP12A | 12 | 10 | 13.3 | 15.3 | 19.9 | 251 |
| 5KP13 | 13 | 10 | 14.4 | 18.2 | 23.8 | 210 |
| 5KP13A | 13 | 10 | 14.4 | 16.5 | 21.5 | 233 |
| 5KP14 | 14 | 10 | 15.6 | 19.8 | 25.8 | 194 |
| 5KP14A | 14 | 10 | 15.6 | 17.9 | 23.2 | 216 |
| 5KP15 | 15 | 10 | 16.7 | 21.1 | 26.9 | 186 |
| 5KP15A | 15 | 10 | 16.7 | 19.2 | 24.4 | 205 |
| 5KP16 | 16 | 10 | 17.8 | 22.6 | 28.8 | 174 |
| 5KP16A | 16 | 10 | 17.8 | 20.5 | 26.0 | 192 |
| 5KP17 | 17 | 10 | 18.9 | 23.9 | 30.5 | 164 |
| 5KP17A | 17 | 10 | 18.9 | 21.7 | 27.6 | 181 |
| 5KP18 | 18 | 10 | 20.0 | 25.3 | 32.2 | 155 |
| 5KP18A | 18 | 10 | 20.0 | 23.3 | 29.2 | 171 |
| 5KP20 | 20 | 10 | 22.2 | 28.1 | 35.8 | 140 |
| 5KP20A | 20 | 10 | 22.2 | 25.5 | 32.4 | 154 |
| 5KP22 | 22 | 10 | 24.4 | 30.9 | 39.4 | 127 |
| 5KP22A | 22 | 10 | 24.4 | 28.0 | 35.5 | 141 |
| 5KP24 | 24 | 10 | 26.7 | 33.8 | 43.0 | 116 |
| 5KP24A | 24 | 10 | 26.7 | 30.7 | 38.9 | 129 |
| 5KP26 | 26 | 10 | 28.9 | 36.6 | 46.6 | 107 |
| 5KP26A | 26 | 10 | 28.9 | 33.2 | 42.1 | 119 |
| 5KP28 | 28 | 10 | 31.1 | 39.4 | 50.0 | 100 |
| 5KP28A | 28 | 10 | 31.1 | 35.8 | 45.4 | 110 |

Maximum ratings

Grenzwerte

| Type Typ | Stand-off voltage Sperrspannung | Max. rev. current Max. Sperrstrom at / bei V_{WM} | Breakdown voltage at $I_T = 1$ mA Abbruch-Spannung bei $I_T = 1$ mA *) at / bei $I_T = 10$ mA | | Max. clamping voltage Max. Begrenzer-Spannung at / bei I_{PPM} (10/1000 μ s) | |
|-------------|------------------------------------|---|---|------------------|--|-----------------|
| | | | V_{WM} [V] | I_D [μ A] | V_{BRmin} [V] | V_{BRmax} [V] |
| 5KP30 | 30 | 10 | 33.3 | 42.2 | 53.5 | 93 |
| 5KP30A | 30 | 10 | 33.3 | 38.3 | 48.4 | 103 |
| 5KP33 | 33 | 10 | 36.7 | 46.5 | 59.0 | 85 |
| 5KP33A | 33 | 10 | 36.7 | 42.2 | 53.3 | 94 |
| 5KP36 | 36 | 10 | 40.0 | 50.7 | 64.3 | 78 |
| 5KP36A | 36 | 10 | 40.0 | 46.0 | 58.1 | 86 |
| 5KP40 | 40 | 10 | 44.4 | 56.3 | 71.4 | 70 |
| 5KP40A | 40 | 10 | 44.4 | 51.1 | 64.5 | 78 |
| 5KP43 | 43 | 10 | 47.8 | 60.5 | 76.7 | 65 |
| 5KP43A | 43 | 10 | 47.8 | 54.9 | 69.4 | 72 |
| 5KP45 | 45 | 10 | 50.0 | 63.3 | 80.3 | 62 |
| 5KP45A | 45 | 10 | 50.0 | 57.5 | 72.7 | 69 |
| 5KP48 | 48 | 10 | 53.3 | 67.5 | 85.5 | 58 |
| 5KP48A | 48 | 10 | 53.3 | 61.3 | 77.4 | 65 |
| 5KP51 | 51 | 10 | 56.7 | 71.8 | 91.1 | 55 |
| 5KP51A | 51 | 10 | 56.7 | 65.2 | 82.4 | 61 |
| 5KP54 | 54 | 10 | 60.0 | 76.0 | 96.3 | 52 |
| 5KP54A | 54 | 10 | 60.0 | 69.0 | 87.1 | 57 |
| 5KP58 | 58 | 10 | 64.4 | 81.6 | 103 | 49 |
| 5KP58A | 58 | 10 | 64.4 | 74.1 | 93.6 | 53 |
| 5KP60 | 60 | 10 | 66.7 | 84.5 | 107 | 47 |
| 5KP60A | 60 | 10 | 66.7 | 76.7 | 96.8 | 52 |
| 5KP64 | 64 | 10 | 71.1 | 90.1 | 114 | 44 |
| 5KP64A | 64 | 10 | 71.1 | 81.8 | 103 | 49 |
| 5KP70 | 70 | 10 | 77.8 | 98.6 | 125 | 40 |
| 5KP70A | 70 | 10 | 77.8 | 89.5 | 113 | 44 |
| 5KP75 | 75 | 10 | 83.3 | 105.7 | 134 | 37 |
| 5KP75A | 75 | 10 | 83.3 | 95.8 | 121 | 41 |
| 5KP78 | 78 | 10 | 86.7 | 109.8 | 139 | 36 |
| 5KP78A | 78 | 10 | 86.7 | 99.7 | 126 | 40 |
| 5KP85 | 85 | 10 | 94.4 | 119.2 | 151 | 33 |
| 5KP85A | 85 | 10 | 94.4 | 108.2 | 137 | 36 |
| 5KP90 | 90 | 10 | 100 | 126.5 | 160 | 31 |
| 5KP90A | 90 | 10 | 100 | 115.5 | 146 | 34 |
| 5KP100 | 100 | 10 | 111 | 141.0 | 179 | 28 |
| 5KP100A | 100 | 10 | 111 | 128.0 | 162 | 31 |
| 5KP110 | 110 | 10 | 122 | 154.5 | 196 | 26 |
| 5KP110A | 110 | 10 | 122 | 140.5 | 177 | 28 |

For bidirectional types (suffix "C" or "CA"), electrical characteristics apply in both directions.
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¹ Valid, if leads are kept at ambient temperature at a distance of 10 mm from case
Gültig, wenn die Anschlussdrähte in 10 mm Abstand von Gehäuse auf Umgebungstemperatur gehalten werden