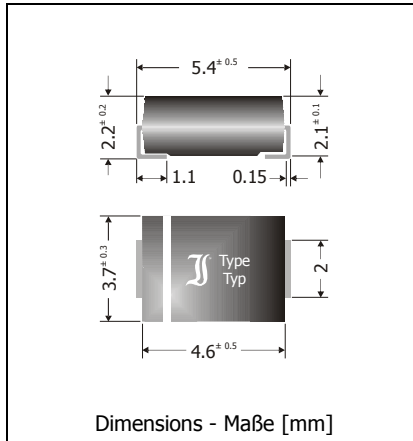


P6SMB220 ... P6SMB550CA

Surface mount unidirectional and bidirectional Transient Voltage Suppressor Diodes Unidirektionale und bidirektionale Spannungs-Begrenzer-Dioden für die Oberflächenmontage

Version 2013-05-22



| | |
|---|---------------------|
| Peak pulse power dissipation Impuls-Verlustleistung | 600 W |
| Nominal breakdown voltage Nominale Abbruch-Spannung | 220...550 V |
| Plastic case Kunststoffgehäuse | ~ SMB ~ DO-214AA |
| Weight approx. – Gewicht ca. | 0.1 g |
| Plastic material has UL classification 94V-0 Gehäusematerial UL94V-0 klassifiziert | |
| Standard packaging taped and reeled Standard Lieferform gegurtet auf Rollen | |



For bidirectional types, suppressor characteristics apply in both directions; add suffix "C" or "CA".
Für bidirektionale Dioden gelten die Begrenzer-Eigenschaften in beiden Richtungen;
es ist das Suffix "C" oder "CA" zu ergänzen.

**TVS diodes having stand-off voltage $V_{WM} = 5.0 \dots 170 \text{ V}$:
please refer to datasheet P6SMBJ5.0 ... 170CA**
**TVS-Dioden mit Sperrspannung $V_{WM} = 5.0 \dots 170 \text{ V}$:
siehe Datenblatt P6SMBJ5.0 ... 170CA**

Maximum ratings and Characteristics

Grenz- und Kennwerte

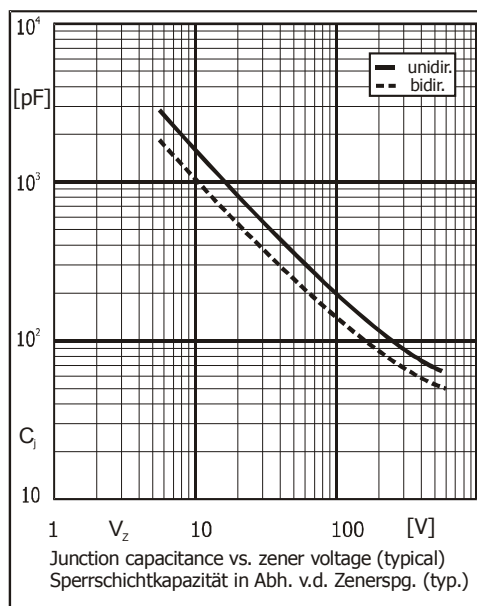
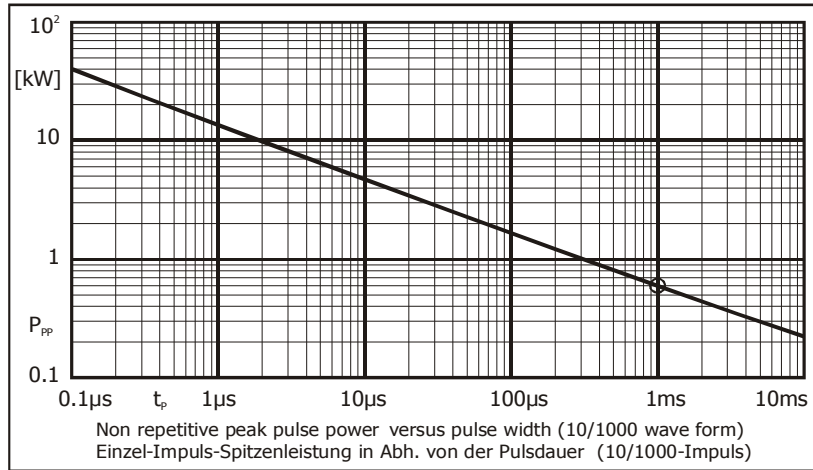
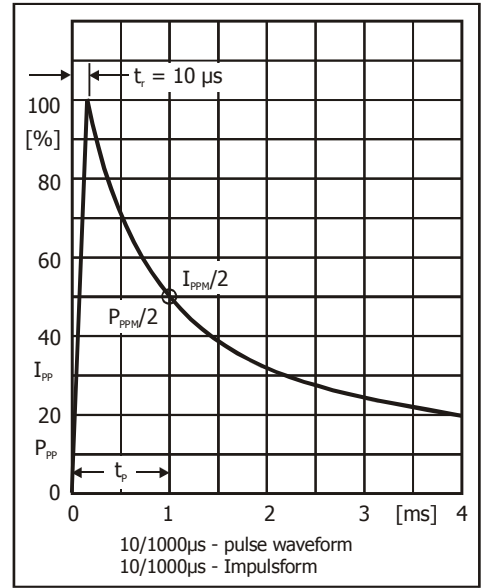
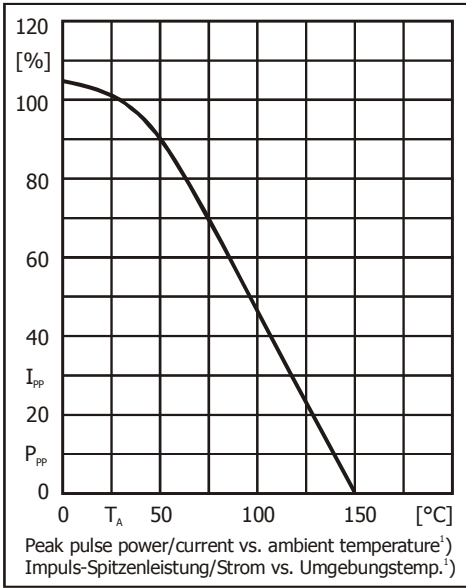
| | | | |
|---|--------------------------|----------------|------------------------------|
| Peak pulse power dissipation (10/1000 μs waveform) Impuls-Verlustleistung (Strom-Impuls 10/1000 μs) | $T_A = 25^\circ\text{C}$ | P_{PPM} | 600 W ¹⁾ |
| Steady state power dissipation Verlustleistung im Dauerbetrieb | $T_T = 75^\circ\text{C}$ | $P_{M(AV)}$ | 5 W |
| Peak forward surge current, 60 Hz half sine-wave Stoßstrom für eine 60 Hz Sinus-Halbwelle | $T_A = 25^\circ\text{C}$ | I_{FSM} | 100 A ²⁾ |
| Max. instantaneous forward voltage Augenblickswert der Durchlass-Spannung | $I_F = 25 \text{ A}$ | V_F | < 3.0 V ²⁾ |
| Operating junction temperature – Sperrschichttemperatur Storage temperature – Lagerungstemperatur | | T_j T_S | -50...+150°C -50...+150°C |
| Thermal resistance junction to ambient air Wärmewiderstand Sperrschicht – umgebende Luft | | R_{thA} | < 45 K/W ³⁾ |
| Thermal resistance junction to terminal Wärmewiderstand Sperrschicht – Anschluss | | R_{thT} | < 15 K/W |

- 1 Non-repetitive pulse see curve $I_{pp} = f(t)$ / $P_{pp} = f(t)$
Höchstzulässiger Spitzenwert eines einmaligen Impulses, siehe Kurve $I_{pp} = f(t)$ / $P_{pp} = f(t)$
- 2 Unidirectional diodes only – Nur für unidirektionale Dioden
- 3 Mounted on P.C. board with 50 mm² copper pads at each terminal
Montage auf Leiterplatte mit 50 mm² Kupferbelag (Lötpad) an jedem Anschluss

Maximum ratings
Grenzwerte

| Type Typ | Breakdown voltage at $I_T = 1$ mA Abbruch-Spannung bei $I_T = 1$ mA | | Stand-off voltage Sperrspannung | Max. rev. current Max. Sperrstrom at / bei V_{WM} | Max. clamping voltage Max. Begrenzer-Spannung at / bei I_{PPM} (10/1000 μ s) | |
|---|--|-----------|------------------------------------|---|--|---------------|
| bidir. = C / CA | V_{BR} [V] | | V_{WM} [V] | I_D [μ A] | V_C [V] | I_{PPM} [A] |
| P6SMBJ5.0 ... P6SMBJ170CA $\rightarrow V_{BR} = 7.2 \dots 200V$ | | | | | | |
| P6SMB220 | $220 \pm 10\%$ | 198...242 | 175 | 5 | 344 | 1.7 |
| P6SMB220A | $220 \pm 5\%$ | 209...231 | 185 | 5 | 328 | 1.8 |
| P6SMB250 | $250 \pm 10\%$ | 225...275 | 202 | 5 | 360 | 1.7 |
| P6SMB250A | $250 \pm 5\%$ | 237...263 | 214 | 5 | 344 | 1.7 |
| P6SMB300 | $300 \pm 10\%$ | 270...330 | 243 | 5 | 430 | 1.4 |
| P6SMB300A | $300 \pm 5\%$ | 285...315 | 256 | 5 | 414 | 1.4 |
| P6SMB350 | $350 \pm 10\%$ | 315...385 | 284 | 5 | 504 | 1.2 |
| P6SMB350A | $350 \pm 5\%$ | 332...368 | 300 | 5 | 482 | 1.2 |
| P6SMB400 | $400 \pm 10\%$ | 360...440 | 324 | 5 | 574 | 1.0 |
| P6SMB400A | $400 \pm 5\%$ | 380...420 | 342 | 5 | 548 | 1.1 |
| P6SMB440 | $440 \pm 10\%$ | 396...484 | 356 | 5 | 631 | 1.0 |
| P6SMB440A | $440 \pm 5\%$ | 418...462 | 376 | 5 | 602 | 1.0 |
| P6SMB480 | $480 \pm 10\%$ | 432...528 | 388 | 5 | 686 | 0.87 |
| P6SMB480A | $480 \pm 5\%$ | 456...504 | 408 | 5 | 658 | 0.91 |
| P6SMB530 | $530 \pm 10\%$ | 477...583 | 429 | 5 | 764 | 0.79 |
| P6SMB530A | $530 \pm 5\%$ | 503...556 | 477 | 5 | 729 | 0.82 |
| P6SMB550 | $550 \pm 10\%$ | 495...605 | 445 | 5 | 793 | 0.76 |
| P6SMB550A | $550 \pm 5\%$ | 522...577 | 495 | 5 | 760 | 0.79 |

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please refer to datasheet P6SMBJ5.0 ... 170CA
TVS-Dioden mit Sperrspannung $V_{WM} = 5.0 \dots 170$ V:
siehe Datenblatt P6SMBJ5.0 ... 170CA**



1 Mounted on P.C. board with 50 mm² copper pads at each terminal
 Montage auf Leiterplatte mit 50 mm² Kupferbelag (Lötpad) an jedem Anschluss