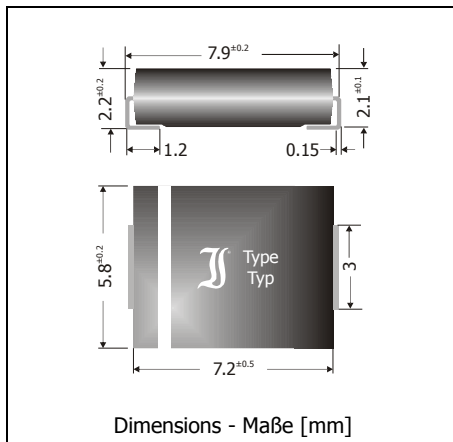


1.5SMCJ5.0 ... 1.5SMCJ170CA

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

Version 2012-04-04



| | |
|---|---------------------|
| Peak pulse power dissipation Impuls-Verlustleistung | 1500 W |
| Nominal Stand-off voltage Nominale Sperrspannung | 5.0...170 V |
| Plastic case Kunststoffgehäuse | ~ SMC ~ DO-214AB |
| Weight approx. – Gewicht ca. | 0.21 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 (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 μ s waveform) Impuls-Verlustleistung (Strom-Impuls 10/1000 μ s) | $T_A = 25^\circ\text{C}$ | P_{PPM} | 1500 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} | < 33 K/W ³⁾ |
| Thermal resistance junction to terminal Wärmewiderstand Sperrschicht – Anschluss | | R_{thT} | < 10 K/W |

TVS diodes having breakdown voltage $V_{BR} = 220 \dots 550\text{ V}$: please refer to datasheet 1.5SMC220
TVS-Dioden mit Abbruchspannung $V_{BR} = 220 \dots 550\text{ V}$: siehe Datenblatt 1.5SMC220

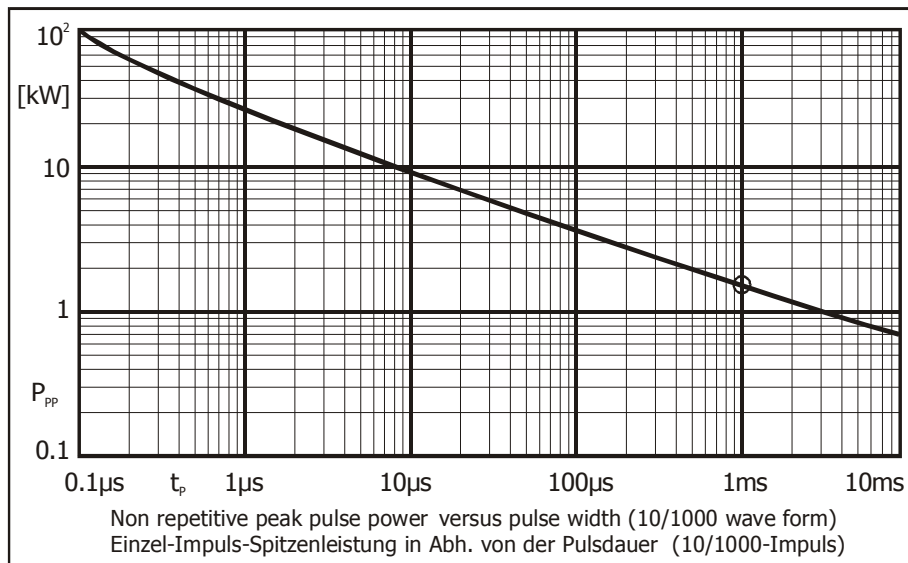
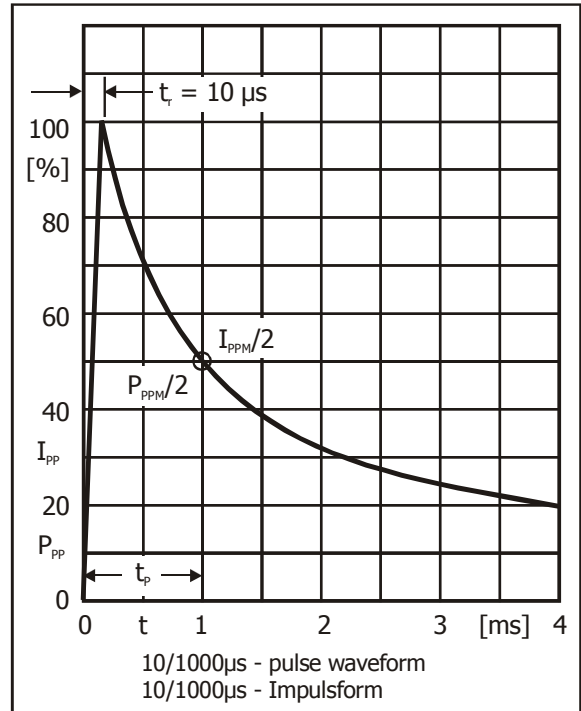
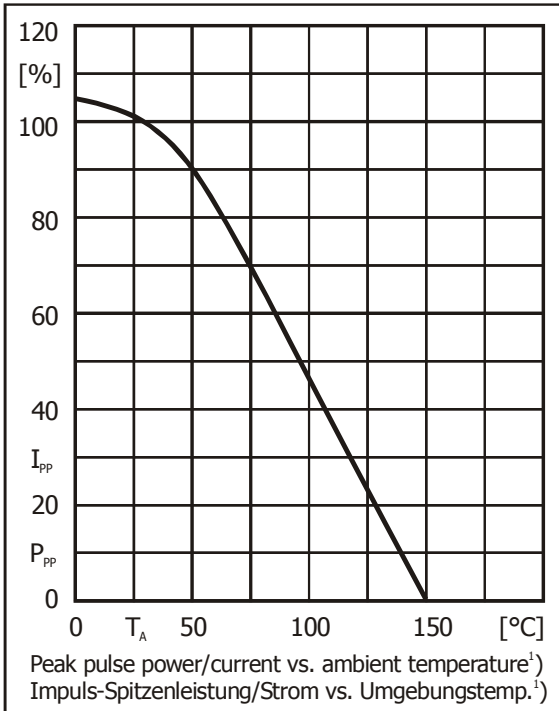
- 1 Non-repetitive pulse see curve $I_{pp} = f(t)$ / $P_{pp} = f(t)$
Höchstzulässiger Spitzenwert eines einmaligen Impulses, siehe Kurve $I_{pp} = f(t)$ / $P_{pp} = f(t)$
- 2 Unidirectional diodes only – Nur für unidirektionale Dioden
- 3 Mounted on P.C. board with 50 mm² copper pads at each terminal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

Maximum ratings
Grenzwerte

| Type Typ | 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 *) $I_T = 10$ mA | | Max. clamping voltage Max. Begrenzer-Spannung at / bei I_{PPM} (10/1000 μ s) | |
|-------------|------------------------------------|---|--|------------------|--|---------------|
| | V_{WM} [V] | I_D [μ A] | V_{BR} min [V] | V_{BR} max [V] | V_C [V] | I_{PPM} [A] |
| 1.5SMCJ5.0 | 5.0 | 800 | 6.4 *) | 7.8 *) | 10.3 | 146 |
| 1.5SMCJ5.0A | 5.0 | 800 | 6.4 *) | 7.2 *) | 9.2 | 163 |
| 1.5SMCJ6.5 | 6.5 | 500 | 7.2 *) | 8.8 *) | 12.3 | 122 |
| 1.5SMCJ6.5A | 6.5 | 500 | 7.2 *) | 8.0 *) | 11.2 | 134 |
| 1.5SMCJ7.0 | 7.0 | 200 | 7.8 *) | 9.5 *) | 13.3 | 113 |
| 1.5SMCJ7.0A | 7.0 | 200 | 7.8 *) | 8.7 *) | 12.0 | 125 |
| 1.5SMCJ7.5 | 7.5 | 100 | 8.3 | 10.1 | 14.3 | 105 |
| 1.5SMCJ7.5A | 7.5 | 100 | 8.3 | 9.2 | 12.9 | 116 |
| 1.5SMCJ8.0 | 8.0 | 50 | 8.9 | 10.9 | 15.0 | 100 |
| 1.5SMCJ8.0A | 8.0 | 50 | 8.9 | 9.9 | 13.6 | 110 |
| 1.5SMCJ8.5 | 8.5 | 10 | 9.4 | 11.5 | 15.9 | 94.3 |
| 1.5SMCJ8.5A | 8.5 | 10 | 9.4 | 10.4 | 14.4 | 104.2 |
| 1.5SMCJ9.0 | 9.0 | 5 | 10.0 | 12.2 | 16.9 | 88.8 |
| 1.5SMCJ9.0A | 9.0 | 5 | 10.0 | 11.1 | 15.4 | 97.4 |
| 1.5SMCJ10 | 10 | 5 | 11.1 | 13.5 | 18.8 | 79.8 |
| 1.5SMCJ10A | 10 | 5 | 11.1 | 12.3 | 17.0 | 88.2 |
| 1.5SMCJ11 | 11 | 5 | 12.2 | 14.9 | 20.1 | 74.6 |
| 1.5SMCJ11A | 11 | 5 | 12.2 | 13.5 | 18.2 | 82.4 |
| 1.5SMCJ12 | 12 | 5 | 13.3 | 16.2 | 22.0 | 68.2 |
| 1.5SMCJ12A | 12 | 5 | 13.3 | 14.8 | 19.9 | 75.4 |
| 1.5SMCJ13 | 13 | 5 | 14.4 | 17.6 | 23.8 | 63.0 |
| 1.5SMCJ13A | 13 | 5 | 14.4 | 16.0 | 21.5 | 69.8 |
| 1.5SMCJ14 | 14 | 5 | 15.6 | 19.0 | 25.8 | 58.1 |
| 1.5SMCJ14A | 14 | 5 | 15.6 | 17.3 | 23.2 | 64.7 |
| 1.5SMCJ15 | 15 | 5 | 16.7 | 20.4 | 26.9 | 55.8 |
| 1.5SMCJ15A | 15 | 5 | 16.7 | 18.6 | 24.4 | 61.5 |
| 1.5SMCJ16 | 16 | 5 | 17.8 | 21.7 | 28.8 | 52.1 |
| 1.5SMCJ16A | 16 | 5 | 17.8 | 19.8 | 26.0 | 57.7 |
| 1.5SMCJ17 | 17 | 5 | 18.9 | 23.1 | 30.5 | 49.2 |
| 1.5SMCJ17A | 17 | 5 | 18.9 | 21.0 | 27.6 | 54.3 |
| 1.5SMCJ18 | 18 | 5 | 20.0 | 24.4 | 32.2 | 46.6 |
| 1.5SMCJ18A | 18 | 5 | 20.0 | 22.2 | 29.2 | 51.4 |
| 1.5SMCJ20 | 20 | 5 | 22.2 | 27.1 | 35.8 | 41.9 |
| 1.5SMCJ20A | 20 | 5 | 22.2 | 24.6 | 32.4 | 46.3 |
| 1.5SMCJ22 | 22 | 5 | 24.4 | 29.8 | 39.4 | 38.1 |
| 1.5SMCJ22A | 22 | 5 | 24.4 | 27.1 | 35.5 | 42.3 |
| 1.5SMCJ24 | 24 | 5 | 26.7 | 32.6 | 43.0 | 34.9 |
| 1.5SMCJ24A | 24 | 5 | 26.7 | 29.6 | 38.9 | 38.6 |
| 1.5SMCJ26 | 26 | 5 | 28.9 | 35.3 | 46.6 | 32.2 |
| 1.5SMCJ26A | 26 | 5 | 28.9 | 32.1 | 42.1 | 35.6 |
| 1.5SMCJ28 | 28 | 5 | 31.1 | 37.9 | 50.0 | 30.0 |
| 1.5SMCJ28A | 28 | 5 | 31.1 | 34.5 | 45.4 | 33.0 |
| 1.5SMCJ30 | 30 | 5 | 33.3 | 40.1 | 53.5 | 28.0 |
| 1.5SMCJ30A | 30 | 5 | 33.3 | 36.9 | 48.4 | 31.0 |
| 1.5SMCJ33 | 33 | 5 | 36.7 | 44.8 | 59.0 | 25.4 |

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 *) $I_T = 10$ mA | | Max. clamping voltage Max. Begrenzer-Spannung at / bei I_{PPM} (10/1000 μ s) | |
|-------------|------------------------------------|---|--|------------------|--|---------------|
| | V_{WM} [V] | I_D [μ A] | V_{BR} min [V] | V_{BR} max [V] | V_C [V] | I_{PPM} [A] |
| 1.5SMCJ33A | 33 | 5 | 36.7 | 40.7 | 53.3 | 28.1 |
| 1.5SMCJ36 | 36 | 5 | 40.0 | 48.4 | 64.3 | 23.3 |
| 1.5SMCJ36A | 36 | 5 | 40.0 | 44.4 | 58.1 | 25.8 |
| 1.5SMCJ40 | 40 | 5 | 44.4 | 54.2 | 71.4 | 21.0 |
| 1.5SMCJ40A | 40 | 5 | 44.4 | 49.3 | 64.5 | 23.3 |
| 1.5SMCJ43 | 43 | 5 | 47.8 | 58.3 | 76.7 | 19.6 |
| 1.5SMCJ43A | 43 | 5 | 47.8 | 53.1 | 69.4 | 21.6 |
| 1.5SMCJ45 | 45 | 5 | 50.0 | 61.0 | 80.3 | 18.7 |
| 1.5SMCJ45A | 45 | 5 | 50.0 | 55.5 | 72.7 | 20.6 |
| 1.5SMCJ48 | 48 | 5 | 53.3 | 65.0 | 85.5 | 17.5 |
| 1.5SMCJ48A | 48 | 5 | 53.3 | 59.2 | 77.4 | 19.4 |
| 1.5SMCJ51 | 51 | 5 | 56.7 | 69.2 | 91.1 | 16.5 |
| 1.5SMCJ51A | 51 | 5 | 56.7 | 62.9 | 82.4 | 18.2 |
| 1.5SMCJ54 | 54 | 5 | 60.0 | 73.2 | 96.3 | 15.6 |
| 1.5SMCJ54A | 54 | 5 | 60.0 | 66.6 | 87.1 | 17.2 |
| 1.5SMCJ58 | 58 | 5 | 64.4 | 78.6 | 103 | 14.6 |
| 1.5SMCJ58A | 58 | 5 | 64.4 | 71.5 | 93.6 | 16.0 |
| 1.5SMCJ60 | 60 | 5 | 66.7 | 81.4 | 107 | 14.0 |
| 1.5SMCJ60A | 60 | 5 | 66.7 | 74.0 | 96.8 | 15.5 |
| 1.5SMCJ64 | 64 | 5 | 71.1 | 86.7 | 114 | 13.2 |
| 1.5SMCJ64A | 64 | 5 | 71.1 | 78.9 | 103 | 14.6 |
| 1.5SMCJ70 | 70 | 5 | 77.8 | 94.9 | 125 | 12.0 |
| 1.5SMCJ70A | 70 | 5 | 77.8 | 86.4 | 113 | 13.3 |
| 1.5SMCJ75 | 75 | 5 | 83.3 | 102 | 134 | 11.2 |
| 1.5SMCJ75A | 75 | 5 | 83.3 | 92.5 | 121 | 12.4 |
| 1.5SMCJ78 | 78 | 5 | 86.7 | 106 | 139 | 10.8 |
| 1.5SMCJ78A | 78 | 5 | 86.7 | 96.2 | 126 | 11.9 |
| 1.5SMCJ85 | 85 | 5 | 94.4 | 115 | 151 | 9.9 |
| 1.5SMCJ85A | 85 | 5 | 94.4 | 105 | 137 | 10.9 |
| 1.5SMCJ90 | 90 | 5 | 100 | 122 | 160 | 9.4 |
| 1.5SMCJ90A | 90 | 5 | 100 | 111 | 146 | 10.3 |
| 1.5SMCJ100 | 100 | 5 | 111 | 135 | 179 | 8.4 |
| 1.5SMCJ100A | 100 | 5 | 111 | 123 | 162 | 9.3 |
| 1.5SMCJ110 | 110 | 5 | 122 | 149 | 196 | 7.7 |
| 1.5SMCJ110A | 110 | 5 | 122 | 135 | 177 | 8.5 |
| 1.5SMCJ120 | 120 | 5 | 133 | 162 | 214 | 7.0 |
| 1.5SMCJ120A | 120 | 5 | 133 | 148 | 193 | 7.8 |
| 1.5SMCJ130 | 130 | 5 | 144 | 176 | 231 | 6.5 |
| 1.5SMCJ130A | 130 | 5 | 144 | 160 | 209 | 7.2 |
| 1.5SMCJ150 | 150 | 5 | 167 | 204 | 268 | 5.6 |
| 1.5SMCJ150A | 150 | 5 | 167 | 185 | 243 | 6.2 |
| 1.5SMCJ160 | 160 | 5 | 178 | 217 | 287 | 5.2 |
| 1.5SMCJ160A | 160 | 5 | 178 | 198 | 259 | 5.8 |
| 1.5SMCJ170 | 170 | 5 | 189 | 231 | 304 | 4.9 |
| 1.5SMCJ170A | 170 | 5 | 189 | 210 | 275 | 5.5 |



TVS diodes having breakdown voltage $V_{BR} = 220 \dots 550$ V: please refer to datasheet 1.5SMC220
TVS-Dioden mit Abbruchspannung $V_{BR} = 220 \dots 550$ V: siehe Datenblatt 1.5SMC220

1 Mounted on P.C. board with 25 mm² copper pads at each terminal
Montage auf Leiterplatte mit 25 mm² Kupferbelag (Lötpad) an jedem Anschluss