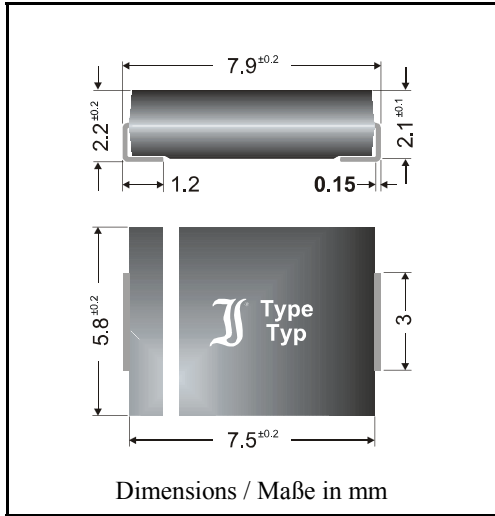


**Surface Mount  
unidirectional and bidirectional  
Transient Voltage Suppressor Diodes**

**Unidirektionale und bidirektionale  
Spannungs-Begrenzer-Dioden  
für die Oberflächenmontage**



|  |                  |
|--|------------------|
| Pulse power dissipation                      | 1500 W           |
| Impuls-Verlustleistung                       |                  |
| Maximum stand-off voltage                    | 6.5...170 V      |
| Maximale Sperrspannung                       |                  |
| 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          | see page 18      |
| Standard Lieferform gegurtet auf Rolle       | siehe Seite 18   |

Suffix “C” or “CA” for bidirectional types

Suffix “C” oder “CA” für bidirektionale Typen

**Maximum ratings and Characteristics**

**Grenz- und Kennwerte**

|  |                          |                |                                |
|--|--------------------------|----------------|--------------------------------|
| Peak pulse power dissipation (10/1000 $\mu$ s waveform)<br>Impuls-Verlustleistung (Strom-Impuls 10/1000 $\mu$ s) | $T_A = 25^\circ\text{C}$ | $P_{PPM}$      | 1500 W <sup>1)</sup>           |
| Steady state power dissipation<br>Verlustleistung im Dauerbetrieb  | $T_T = 75^\circ\text{C}$ | $P_{M(AV)}$    | 5 W                            |
| Peak forward surge current, 60 Hz half sine-wave<br>Stoßstrom für eine 60 Hz Sinus-Halbwellen                    | $T_A = 25^\circ\text{C}$ | $I_{FSM}$      | 100 A <sup>2)</sup>            |
| Max. instantaneous forward voltage<br>Augenblickswert der Durchlaßspannung                                       | $I_F = 25\text{ A}$      | $V_F$          | < 3.0 V <sup>2)</sup>          |
| Operating junction temperature – Sperrschichttemperatur<br>Storage temperature – Lagerungstemperatur             |                          | $T_j$<br>$T_s$ | - 50...+150°C<br>- 50...+150°C |
| Thermal resistance junction to ambient air<br>Wärmewiderstand Sperrschicht – umgebende Luft                      |                          | $R_{thA}$      | < 50 K/W <sup>3)</sup>         |
| Thermal resistance junction to terminal<br>Wärmewiderstand Sperrschicht – Anschluß                               |                          | $R_{thT}$      | < 10 K/W                       |

<sup>1)</sup> Non-repetitive current pulse see curve  $I_{PPM} = f(t_r)$   
Höchstzulässiger Spitzenwert eines einmaligen Strom-Impulses, siehe Kurve  $I_{PPM} = f(t_r)$   
<sup>2)</sup> Unidirectional diodes only – nur für unidirektionale Dioden  
<sup>3)</sup> Mounted on P.C. board with 50 mm<sup>2</sup> copper pads at each terminal  
Montage auf Leiterplatte mit 50 mm<sup>2</sup> Kupferbelag (Löt-pad) an jedem Anschluß

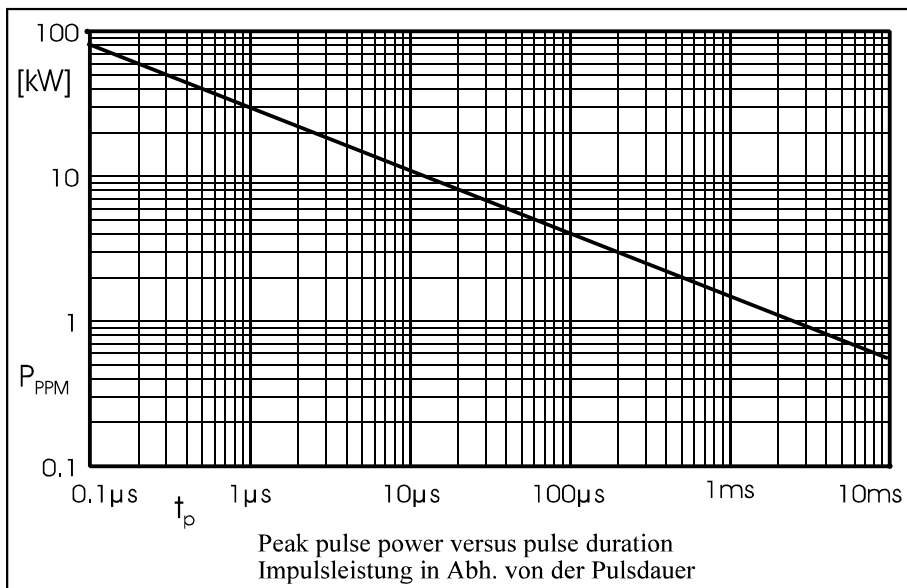
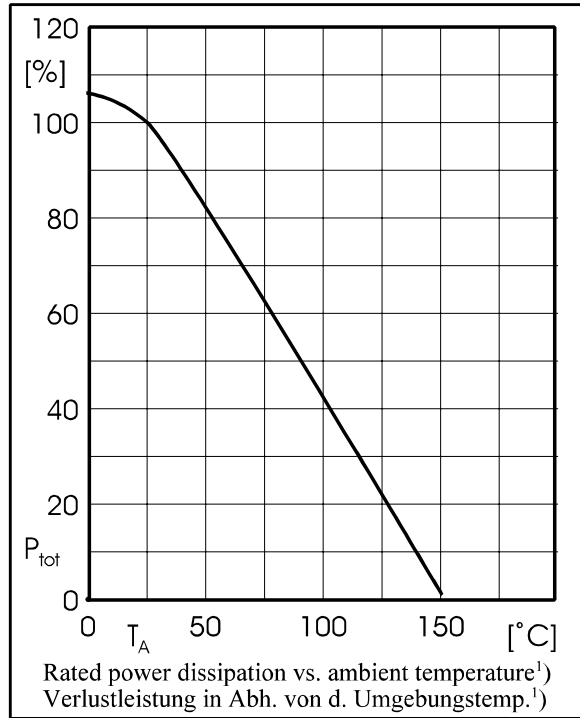
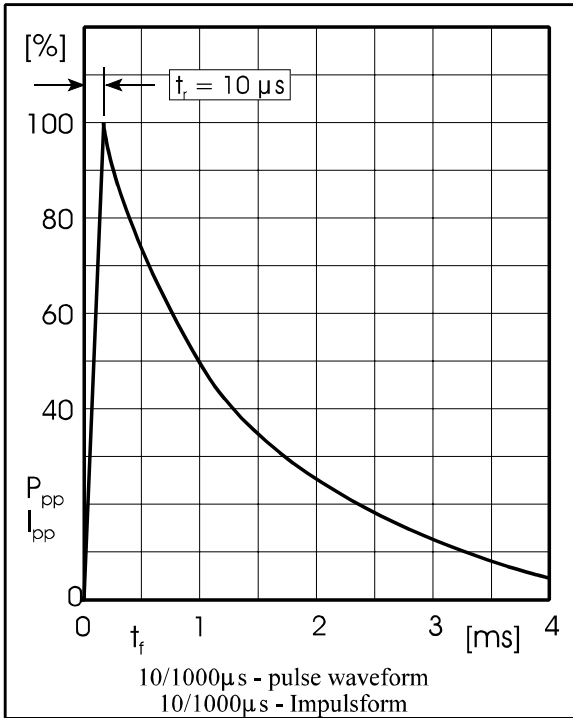
**Maximum ratings**
**Grenzwerte**

| Type<br>Typ   | Stand-off<br>voltage<br>Sperrspannung | Max. rev. current<br>Max. Sperrstrom<br>at / bei $V_{WM}$ | Breakdown voltage at $I_T = 1$ mA<br>Abbruch-Spannung bei $I_T = 1$ mA<br>) at / bei $I_T = 10$ mA |                   | Max. clamping voltage<br>Max. Begrenzer-Spannung<br>at / bei $I_{PPM}$ (10/1000 $\mu$ s) |               |
|---------------|---------------------------------------|---|--|-------------------|--|---------------|
|               | $V_{WM}$ [V]                          | $I_D$ [ $\mu$ A]  | $V_{BR}$ min. [V]  | $V_{BR}$ max. [V] | $V_C$ [V]  | $I_{PPM}$ [A] |
| 1.5 SMCJ 6.5  | 6,5                                   | 500   | 7.2 *)   | 8.8 *)            | 12,3   | 122           |
| 1.5 SMCJ 6.5A | 6,5                                   | 500   | 7.2 *)   | 8.0 *)            | 11,2   | 134           |
| 1.5 SMCJ 7.0  | 7,0                                   | 200   | 7.8 *)   | 9.5 *)            | 13,3   | 113           |
| 1.5 SMCJ 7.0A | 7,0                                   | 200   | 7.8 *)   | 8.7 *)            | 12,0   | 125           |
| 1.5 SMCJ 7.5  | 7,5                                   | 100   | 8,3  | 10,1              | 14,3   | 105           |
| 1.5 SMCJ 7.5A | 7,5                                   | 100   | 8,3  | 9,2               | 12,9   | 116           |
| 1.5 SMCJ 8.0  | 8,0                                   | 50  | 8,9  | 10,9              | 15,0   | 100           |
| 1.5 SMCJ 8.0A | 8,0                                   | 50  | 8,9  | 9,9               | 13,6   | 110           |
| 1.5 SMCJ 8.5  | 8,5                                   | 10  | 9,4  | 11,5              | 15,9   | 94,3          |
| 1.5 SMCJ 8.5A | 8,5                                   | 10  | 9,4  | 10,4              | 14,4   | 104           |
| 1.5 SMCJ 9.0  | 9,0                                   | 5   | 10,0   | 12,2              | 16,9   | 88,8          |
| 1.5 SMCJ 9.0A | 9,0                                   | 5   | 10,0   | 11,1              | 15,4   | 97,4          |
| 1.5 SMCJ 10   | 10                                    | 5   | 11,1   | 13,5              | 18,8   | 79,8          |
| 1.5 SMCJ 10A  | 10                                    | 5   | 11,1   | 12,3              | 17,0   | 88,2          |
| 1.5 SMCJ 11   | 11                                    | 5   | 12,2   | 14,9              | 20,1   | 74,6          |
| 1.5 SMCJ 11A  | 11                                    | 5   | 12,2   | 13,5              | 18,2   | 82,4          |
| 1.5 SMCJ 12   | 12                                    | 5   | 13,3   | 16,2              | 22,0   | 68,2          |
| 1.5 SMCJ 12A  | 12                                    | 5   | 13,3   | 14,8              | 19,9   | 75,4          |
| 1.5 SMCJ 13   | 13                                    | 5   | 14,4   | 17,6              | 23,8   | 63,0          |
| 1.5 SMCJ 13A  | 13                                    | 5   | 14,4   | 16,0              | 21,5   | 69,8          |
| 1.5 SMCJ 14   | 14                                    | 5   | 15,6   | 19,0              | 25,8   | 58,1          |
| 1.5 SMCJ 14A  | 14                                    | 5   | 15,6   | 17,3              | 23,2   | 64,7          |
| 1.5 SMCJ 15   | 15                                    | 5   | 16,7   | 20,4              | 26,9   | 55,8          |
| 1.5 SMCJ 15A  | 15                                    | 5   | 16,7   | 18,6              | 24,4   | 61,5          |
| 1.5 SMCJ 16   | 16                                    | 5   | 17,8   | 21,7              | 28,8   | 52,1          |
| 1.5 SMCJ 16A  | 16                                    | 5   | 17,8   | 19,8              | 26,0   | 57,7          |
| 1.5 SMCJ 17   | 17                                    | 5   | 18,9   | 23,1              | 30,5   | 49,2          |
| 1.5 SMCJ 17A  | 17                                    | 5   | 18,9   | 21,0              | 27,6   | 54,3          |
| 1.5 SMCJ 18   | 18                                    | 5   | 20,0   | 24,4              | 32,2   | 46,6          |
| 1.5 SMCJ 18A  | 18                                    | 5   | 20,0   | 22,2              | 29,2   | 51,4          |
| 1.5 SMCJ 20   | 20                                    | 5   | 22,2   | 27,1              | 35,8   | 41,9          |
| 1.5 SMCJ 20A  | 20                                    | 5   | 22,2   | 24,6              | 32,4   | 46,3          |
| 1.5 SMCJ 22   | 22                                    | 5   | 24,4   | 29,8              | 39,4   | 38,1          |
| 1.5 SMCJ 22A  | 22                                    | 5   | 24,4   | 27,1              | 35,5   | 42,3          |
| 1.5 SMCJ 24   | 24                                    | 5   | 26,7   | 32,6              | 43,0   | 34,9          |
| 1.5 SMCJ 24A  | 24                                    | 5   | 26,7   | 29,6              | 38,9   | 38,6          |
| 1.5 SMCJ 26   | 26                                    | 5   | 28,9   | 35,3              | 46,6   | 32,2          |
| 1.5 SMCJ 26A  | 26                                    | 5   | 28,9   | 32,1              | 42,1   | 35,6          |
| 1.5 SMCJ 28   | 28                                    | 5   | 31,1   | 37,9              | 50,0   | 30,0          |
| 1.5 SMCJ 28A  | 28                                    | 5   | 31,1   | 34,5              | 45,4   | 33,0          |
| 1.5 SMCJ 30   | 30                                    | 5   | 33,3   | 40,1              | 53,5   | 28,0          |
| 1.5 SMCJ 30A  | 30                                    | 5   | 33,3   | 36,9              | 48,4   | 31,0          |
| 1.5 SMCJ 33   | 33                                    | 5   | 36,7   | 44,8              | 59,0   | 25,4          |
| 1.5 SMCJ 33A  | 33                                    | 5   | 36,7   | 40,7              | 53,3   | 28,1          |

## Maximum ratings

## Grenzwerte

| Type<br>Typ   | Stand-off<br>voltage<br>Sperrspannung | Max. rev. current<br>Max. Sperrstrom<br>at / bei $V_{WM}$ | Breakdown voltage at $I_T = 1$ mA<br>Abbruch-Spannung bei $I_T = 1$ mA<br>*) at / bei $I_T = 10$ mA |                   | Max. clamping voltage<br>Max. Begrenzer-Spannung<br>at / bei $I_{PPM}$ (10/1000 $\mu$ s) |               |
|---------------|---------------------------------------|---|---|-------------------|--|---------------|
|               | $V_{WM}$ [V]                          | $I_D$ [ $\mu$ A]  | $V_{BR}$ min. [V]   | $V_{BR}$ max. [V] | $V_C$ [V]  | $I_{PPM}$ [A] |
| 1.5 SMCJ 36   | 36                                    | 5   | 40.0  | 48.8              | 64.3   | 23.3          |
| 1.5 SMCJ 36A  | 36                                    | 5   | 40.0  | 44.4              | 58.1   | 25,8          |
| 1.5 SMCJ 40   | 40                                    | 5   | 44.4  | 54.2              | 71.4   | 21,0          |
| 1.5 SMCJ 40A  | 40                                    | 5   | 44.4  | 49.3              | 64.5   | 23,3          |
| 1.5 SMCJ 43   | 43                                    | 5   | 47.8  | 58.3              | 76.7   | 19,6          |
| 1.5 SMCJ 43A  | 43                                    | 5   | 47.8  | 53.1              | 69.4   | 21,6          |
| 1.5 SMCJ 45   | 45                                    | 5   | 50.0  | 61.0              | 80.3   | 18,7          |
| 1.5 SMCJ 45A  | 45                                    | 5   | 50.0  | 55.5              | 72.7   | 20,6          |
| 1.5 SMCJ 48   | 48                                    | 5   | 53.3  | 65.0              | 85.5   | 17,5          |
| 1.5 SMCJ 48A  | 48                                    | 5   | 53.3  | 59.2              | 77.4   | 19,4          |
| 1.5 SMCJ 51   | 51                                    | 5   | 56.7  | 69.2              | 91.1   | 16,5          |
| 1.5 SMCJ 51A  | 51                                    | 5   | 56.7  | 62.9              | 82.4   | 18,2          |
| 1.5 SMCJ 54   | 54                                    | 5   | 60.0  | 73.2              | 96.3   | 15,6          |
| 1.5 SMCJ 54A  | 54                                    | 5   | 60.0  | 66.6              | 87.1   | 17,2          |
| 1.5 SMCJ 58   | 58                                    | 5   | 64.4  | 78.6              | 103  | 14,6          |
| 1.5 SMCJ 58A  | 58                                    | 5   | 64.4  | 71.5              | 93.6   | 16,0          |
| 1.5 SMCJ 60   | 60                                    | 5   | 66.7  | 81.4              | 107  | 14,0          |
| 1.5 SMCJ 60A  | 60                                    | 5   | 66.7  | 74.0              | 96.8   | 15,5          |
| 1.5 SMCJ 64   | 64                                    | 5   | 71.1  | 86.7              | 114  | 13,2          |
| 1.5 SMCJ 64A  | 64                                    | 5   | 71.1  | 78.9              | 103  | 14,6          |
| 1.5 SMCJ 70   | 70                                    | 5   | 77.8  | 94.9              | 125  | 12,0          |
| 1.5 SMCJ 70A  | 70                                    | 5   | 77.8  | 86.4              | 113  | 13,3          |
| 1.5 SMCJ 75   | 75                                    | 5   | 83.3  | 102               | 134  | 11,2          |
| 1.5 SMCJ 75A  | 75                                    | 5   | 83.3  | 92.5              | 121  | 12,4          |
| 1.5 SMCJ 78   | 78                                    | 5   | 86.7  | 106               | 139  | 10,8          |
| 1.5 SMCJ 78A  | 78                                    | 5   | 86.7  | 96.2              | 126  | 11,9          |
| 1.5 SMCJ 85   | 85                                    | 5   | 94.4  | 115               | 151  | 9,9           |
| 1.5 SMCJ 85A  | 85                                    | 5   | 94.4  | 105               | 137  | 10,9          |
| 1.5 SMCJ 90   | 90                                    | 5   | 100   | 122               | 160  | 9,4           |
| 1.5 SMCJ 90A  | 90                                    | 5   | 100   | 111               | 146  | 10,3          |
| 1.5 SMCJ 100  | 100                                   | 5   | 111   | 135               | 179  | 8,4           |
| 1.5 SMCJ 100A | 100                                   | 5   | 111   | 123               | 162  | 9,3           |
| 1.5 SMCJ 110  | 110                                   | 5   | 122   | 149               | 196  | 7,7           |
| 1.5 SMCJ 110A | 110                                   | 5   | 122   | 135               | 177  | 8,5           |
| 1.5 SMCJ 120  | 120                                   | 5   | 133   | 162               | 214  | 7,0           |
| 1.5 SMCJ 120A | 120                                   | 5   | 133   | 148               | 193  | 7,8           |
| 1.5 SMCJ 130  | 130                                   | 5   | 144   | 176               | 231  | 6,5           |
| 1.5 SMCJ 130A | 130                                   | 5   | 144   | 160               | 209  | 7,2           |
| 1.5 SMCJ 150  | 150                                   | 5   | 167   | 204               | 268  | 5,6           |
| 1.5 SMCJ 150A | 150                                   | 5   | 167   | 185               | 243  | 6,2           |
| 1.5 SMCJ 160  | 160                                   | 5   | 178   | 217               | 287  | 5,2           |
| 1.5 SMCJ 160A | 160                                   | 5   | 178   | 198               | 259  | 5,8           |
| 1.5 SMCJ 170  | 170                                   | 5   | 189   | 231               | 304  | 4,9           |
| 1.5 SMCJ 170A | 170                                   | 5   | 189   | 210               | 275  | 5,5           |



For bidirectional types (suffix “C” or “CA”) electrical characteristics apply in both directions  
Für bidirektionale Dioden (Suffix “C” oder “CA”) gelten die el. Werte in beiden Richtungen

<sup>1)</sup> Mounted on P.C. board with 50 mm<sup>2</sup> copper pads at each terminal  
Montage auf Leiterplatte mit 50 mm<sup>2</sup> Kupferbelag (Lötpad) an jedem Anschluß