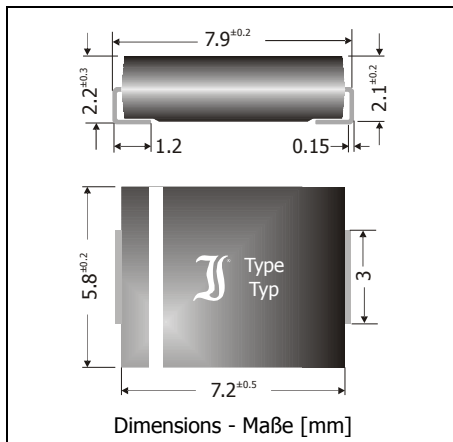


## 1.5SMC220 ... 1.5SMC550CA

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

Version 2013-12-11



Peak pulse power dissipation  
Impuls-Verlustleistung

1500 W

Nominal breakdown voltage  
Nominale Abbruch-Spannung

220...550 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 $\mu$ 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 Durchlass-Spannung                                     | $I_F = 25\text{ A}$      | $V_F$          | < 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                      |                          | $R_{thA}$      | < 33 K/W <sup>3)</sup>       |
| Thermal resistance junction to terminal<br>Wärmewiderstand Sperrschicht – Anschluss                              |                          | $R_{thT}$      | < 10 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

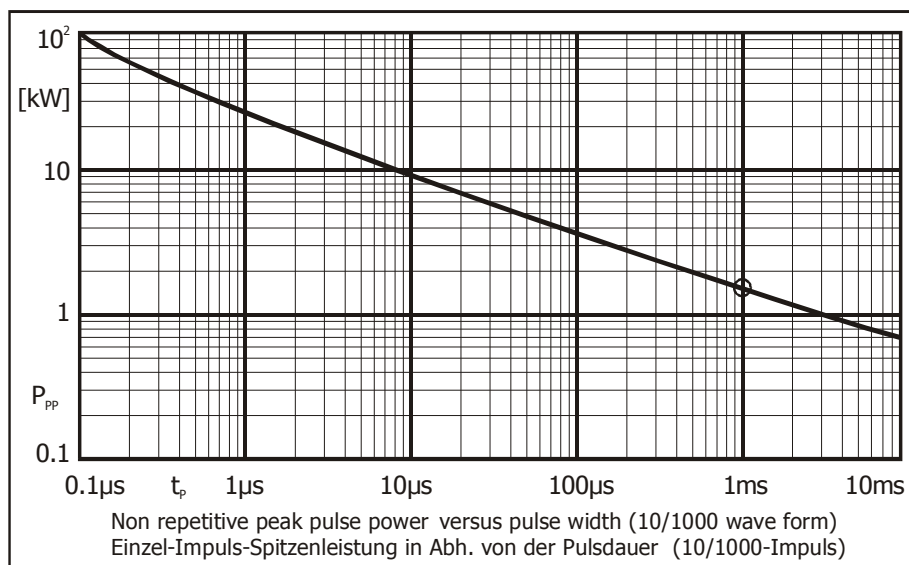
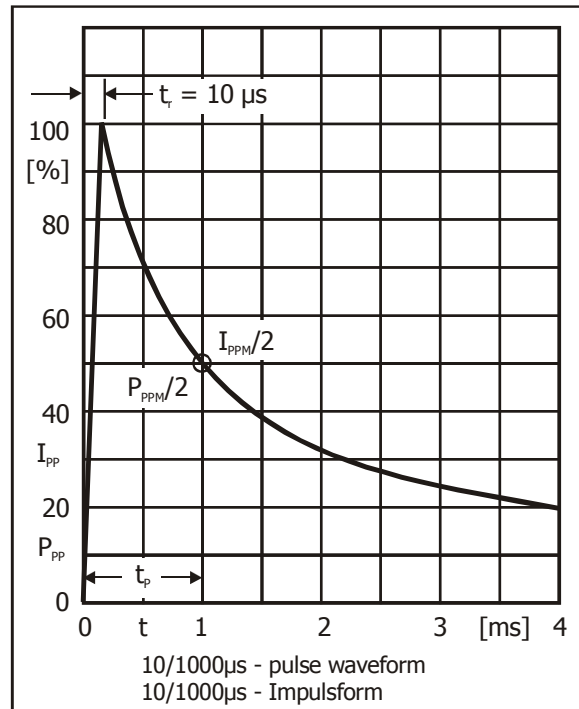
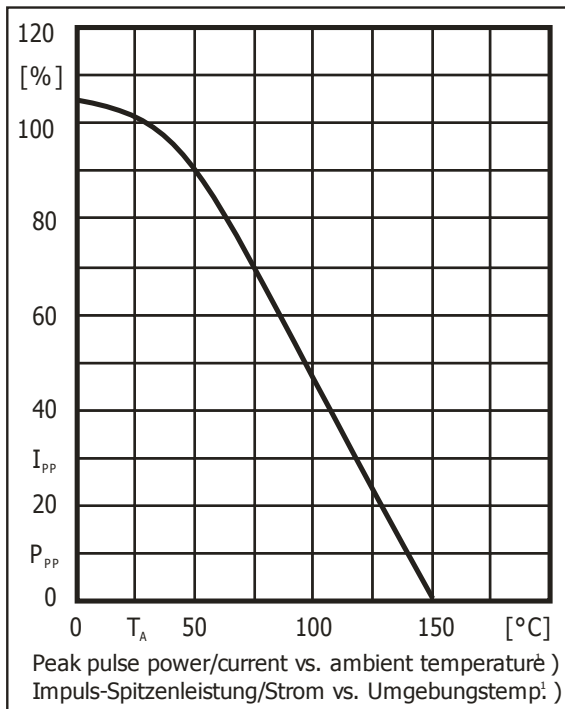
3 Mounted on P.C. board with 50 mm<sup>2</sup> copper pads at each terminal

Montage auf Leiterplatte mit 50 mm<sup>2</sup> Kupferbelag (Löt-pad) an jedem Anschluss

**Maximum ratings**
**Grenzwerte**

| Type<br>Typ | Breakdown voltage at $I_T = 1\text{ mA}$<br>Abbruch-Spannung bei $I_T = 1\text{ mA}$ |           | Stand-off voltage<br>Sperrspannung | Max. rev. current<br>Max. Sperrstrom<br>at / bei $V_{WM}$ | Max. clamping voltage<br>Max. Begrenzer-Spannung<br>at / bei $I_{PPM}$ (10/1000 $\mu\text{s}$ ) |               |
|-------------|--------------------------------------------------------------------------------------|-----------|------------------------------------|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------|---------------|
|             | $V_{BR}$ [V]                                                                         |           | $V_{WM}$ [V]                       | $I_D$ [ $\mu\text{A}$ ]                                   | $V_C$ [V]                                                                                       | $I_{PPM}$ [A] |
| 1.5SMC220   | 220 $\pm$ 10%                                                                        | 198...242 | 175                                | 5                                                         | 344                                                                                             | 4.4           |
| 1.5SMC220A  | 220 $\pm$ 5%                                                                         | 209...231 | 185                                | 5                                                         | 328                                                                                             | 4.6           |
| 1.5SMC250   | 250 $\pm$ 10%                                                                        | 225...275 | 202                                | 5                                                         | 360                                                                                             | 4.2           |
| 1.5SMC250A  | 250 $\pm$ 5%                                                                         | 237...263 | 214                                | 5                                                         | 344                                                                                             | 4.4           |
| 1.5SMC300   | 300 $\pm$ 10%                                                                        | 270...330 | 243                                | 5                                                         | 430                                                                                             | 3.5           |
| 1.5SMC300A  | 300 $\pm$ 5%                                                                         | 285...315 | 256                                | 5                                                         | 414                                                                                             | 3.6           |
| 1.5SMC350   | 350 $\pm$ 10%                                                                        | 315...385 | 284                                | 5                                                         | 504                                                                                             | 3.0           |
| 1.5SMC350A  | 350 $\pm$ 5%                                                                         | 332...368 | 300                                | 5                                                         | 482                                                                                             | 3.1           |
| 1.5SMC400   | 400 $\pm$ 10%                                                                        | 360...440 | 324                                | 5                                                         | 574                                                                                             | 2.6           |
| 1.5SMC400A  | 400 $\pm$ 5%                                                                         | 380...420 | 342                                | 5                                                         | 548                                                                                             | 2.7           |
| 1.5SMC440   | 440 $\pm$ 10%                                                                        | 396...484 | 356                                | 5                                                         | 631                                                                                             | 2.4           |
| 1.5SMC440A  | 440 $\pm$ 5%                                                                         | 418...462 | 376                                | 5                                                         | 602                                                                                             | 2.5           |
| 1.5SMC480   | 480 $\pm$ 10%                                                                        | 432...528 | 388                                | 5                                                         | 686                                                                                             | 2.2           |
| 1.5SMC480A  | 480 $\pm$ 5%                                                                         | 456...504 | 408                                | 5                                                         | 658                                                                                             | 2.3           |
| 1.5SMC530   | 530 $\pm$ 10%                                                                        | 477...583 | 429                                | 5                                                         | 764                                                                                             | 2.0           |
| 1.5SMC530A  | 530 $\pm$ 5%                                                                         | 503...556 | 477                                | 5                                                         | 729                                                                                             | 2.1           |
| 1.5SMC550   | 550 $\pm$ 10%                                                                        | 495...605 | 445                                | 5                                                         | 793                                                                                             | 1.9           |
| 1.5SMC550A  | 550 $\pm$ 5%                                                                         | 522...577 | 495                                | 5                                                         | 760                                                                                             | 2.0           |

**TVS diodes having stand-off voltage  $V_{WM} = 5.0 \dots 170\text{ V}$ : please refer to datasheet P6SMBJ65**  
**TVS-Dioden mit Sperrspannung  $V_{WM} = 5.0 \dots 170\text{ V}$ : siehe Datenblatt P6SMBJ65**



**TVS diodes having stand-off voltage  $V_{WM} = 5.0 \dots 170 \text{ V}$ : please refer to datasheet P6SMBJ65**  
**TVS-Dioden mit Sperrspannung  $V_{WM} = 5.0 \dots 170 \text{ V}$ : siehe Datenblatt P6SMBJ65**

1 Mounted on P.C. board with  $25 \text{ mm}^2$  copper pads at each terminal  
 Montage auf Leiterplatte mit  $25 \text{ mm}^2$  Kupferbelag (Lötpad) an jedem Anschluss