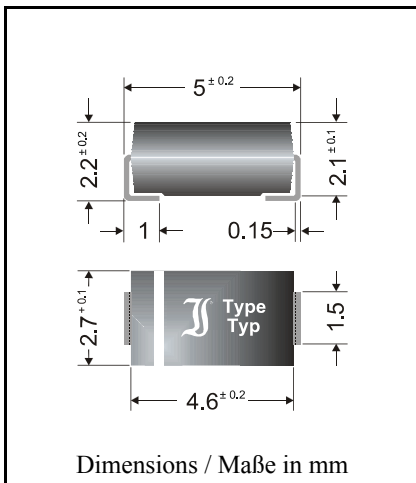


# **Ultrafast Switching** **Surface Mount Si-Rectifiers**

# **Ultraschnelle Si-Gleichrichter** **für die Oberflächenmontage**



|                                              |                |
|----------------------------------------------|----------------|
| Nominal current – Nennstrom                  | 1 A            |
| Repetitive peak reverse voltage              | 50...1000 V    |
| Periodische Spitzensperrspannung             |                |
| Plastic case                                 | ~ SMA          |
| Kunststoffgehäuse                            | ~ DO-214AC     |
| Weight approx. – Gewicht ca.                 | 0.07 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 |

## Maximum ratings

## Grenzwerte

| Type<br>Typ | Repetitive peak reverse voltage<br>Periodische Spitzensperrspannung<br>$V_{RRM}$ [V] | Surge peak reverse voltage<br>Stoßspitzensperrspannung<br>$V_{RSM}$ [V] |
|-------------|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| US 1A       | 50                                                                                   | 50                                                                      |
| US 1B       | 100                                                                                  | 100                                                                     |
| US 1D       | 200                                                                                  | 200                                                                     |
| US 1G       | 400                                                                                  | 400                                                                     |
| US 1J       | 600                                                                                  | 600                                                                     |
| US 1K       | 800                                                                                  | 800                                                                     |
| US 1M       | 1000                                                                                 | 1000                                                                    |

|                                                                                                 |                           |           |                      |
|-------------------------------------------------------------------------------------------------|---------------------------|-----------|----------------------|
| Max. average forward rectified current, R-load<br>Dauergrenzstrom in Einwegschaltung mit R-Last | $T_T = 100^\circ\text{C}$ | $I_{FAV}$ | 1 A                  |
| Repetitive peak forward current<br>Periodischer Spitzenstrom                                    | $f > 15\text{ Hz}$        | $I_{FRM}$ | 6 A <sup>1)</sup>    |
| Peak forward surge current, 50 Hz half sine-wave<br>Stoßstrom für eine 50 Hz Sinus-Halbwellen   | $T_A = 25^\circ\text{C}$  | $I_{FSM}$ | 30 A                 |
| Rating for fusing, $t < 10\text{ ms}$<br>Grenzlastintegral, $t < 10\text{ ms}$                  | $T_A = 25^\circ\text{C}$  | $i^2t$    | 4,5 A <sup>2</sup> s |
| Operating junction temperature – Sperrschichttemperatur                                         |                           | $T_j$     | – 50...+150°C        |
| Storage temperature – Lagerungstemperatur                                                       |                           | $T_s$     | – 50...+150°C        |

<sup>1)</sup> Max. temperature of the terminals  $T_T = 100^\circ\text{C}$  – Max. Temperatur der Anschlüsse  $T_T = 100^\circ\text{C}$

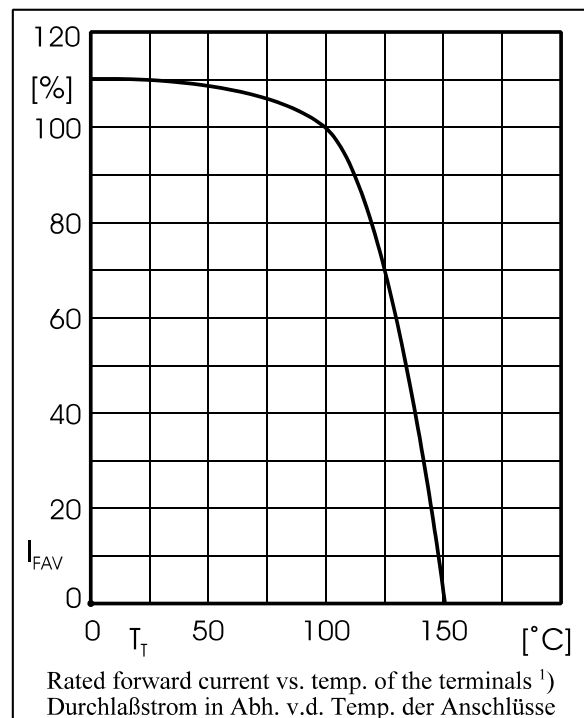
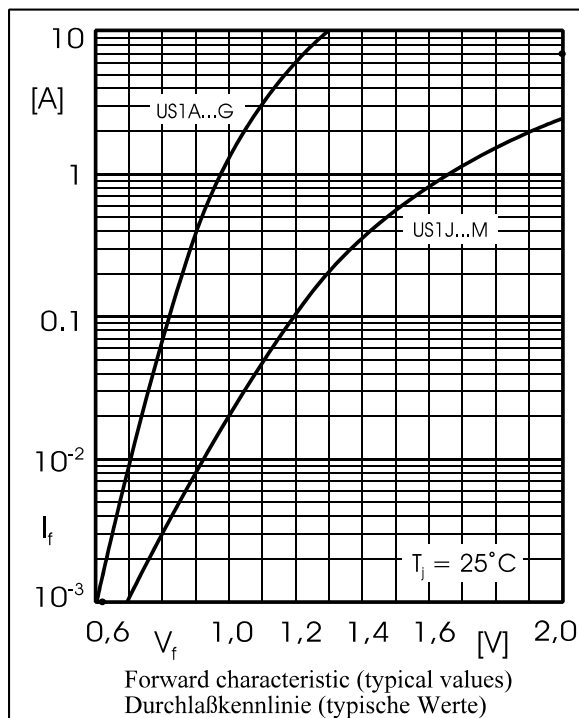
**Characteristics****Kennwerte**

| Type<br>Typ     | Reverse recovery time<br>Sperrverzugszeit<br>$t_{rr}$ [ns] <sup>1)</sup> | Forward voltage<br>Durchlaßspannung<br>$V_F$ [V] at / bei $I_F$ [A] |
|-----------------|--------------------------------------------------------------------------|---------------------------------------------------------------------|
| US 1A ... US 1G | < 50                                                                     | < 1.0      1                                                        |
| US 1J ... US 1M | < 75                                                                     | < 1.7      1                                                        |

|                               |                                                       |                                    |                |                                           |
|-------------------------------|-------------------------------------------------------|------------------------------------|----------------|-------------------------------------------|
| Leakage current<br>Sperrstrom | $T_j = 25^\circ\text{C}$<br>$T_j = 100^\circ\text{C}$ | $V_R = V_{RRM}$<br>$V_R = V_{RRM}$ | $I_R$<br>$I_R$ | < 10 $\mu\text{A}$<br>< 100 $\mu\text{A}$ |
|-------------------------------|-------------------------------------------------------|------------------------------------|----------------|-------------------------------------------|

|                                                                                             |           |                        |
|---------------------------------------------------------------------------------------------|-----------|------------------------|
| Thermal resistance junction to ambient air<br>Wärmewiderstand Sperrschicht – umgebende Luft | $R_{thA}$ | < 70 K/W <sup>2)</sup> |
|---------------------------------------------------------------------------------------------|-----------|------------------------|

|                                                                                    |           |          |
|------------------------------------------------------------------------------------|-----------|----------|
| Thermal resistance junction to terminal<br>Wärmewiderstand Sperrschicht – Anschluß | $R_{thT}$ | < 30 K/W |
|------------------------------------------------------------------------------------|-----------|----------|



<sup>1)</sup>  $I_F = 0.5$  A through/über  $I_R = 1$  A to/auf  $I_R = 0.25$  A

<sup>2)</sup> Mounted on P.C. board with 25 mm<sup>2</sup> copper pads at each terminal  
Montage auf Leiterplatte mit 25 mm<sup>2</sup> Kupferbelag (Lötpad) an jedem Anschluß