# SKKD 250/16

**SEMIPACK® 2**

## Rectifier Diode Modules

**SKKD 250/16**

### Features*

- Heat transfer through aluminum oxide ceramic insulated metal baseplate
- Hard soldered joints for high reliability
- UL recognized, file no. E63532

### Typical Applications

- Non-controllable rectifiers for AC/AC converters
- Line rectifiers for transistorized AC motor controllers
- Field supply for DC motors

| Absolute Maximum Ratings | | | | |
|---|---|---|---|---|
| **Symbol** | **Conditions** | | **Values** | **Unit** |
| **Recitifier Diode** | | | | |
| $I_{FAV}$ | sin. 180° | $T_c$ = 85 °C | 255 | A |
| | $T_{j\,max}$ = 135 °C | $T_c$ = 100 °C | 199 | A |
| $I_{FSM}$ | 10 ms | $T_j$ = 25 °C | 6600 | A |
| | | $T_j$ = 135 °C | 6000 | A |
| $i^2t$ | 10 ms | $T_j$ = 25 °C | 217800 | $A^2s$ |
| | | $T_j$ = 135 °C | 180000 | $A^2s$ |
| $V_{RSM}$ | $T_j$ = 25 °C | | 1700 | V |
| $V_{RRM}$ | $T_j$ = 25 °C | | 1600 | V |
| $T_j$ | | | -40 ... 135 | °C |
| **Module** | | | | |
| $T_{stg}$ | | | -40 ... 125 | °C |
| $V_{isol}$ | a.c.; 50 Hz; r.m.s. | 1 min | 3000 | V |
| | | 1 s | 3600 | V |

| Characteristics | | | | | | |
|---|---|---|---|---|---|---|
| **Symbol** | **Conditions** | | **min.** | **typ.** | **max.** | **Unit** |
| **Diode** | | | | | | |
| $V_F$ | $T_j$ = 25 °C, $I_F$ = 750 A | | | | 1.55 | V |
| $V_{F0}$ | $T_j$ = 135 °C | | | | 0.77 | V |
| $r_F$ | $T_j$ = 135 °C | | | | 1.00 | mΩ |
| $I_R$ | $T_j$ = 135 °C, $V_{RRM}$ | | | | 9 | mA |
| $R_{th(j-c)}$ | cont. | per chip | | | 0.13 | K/W |
| | | per module | | | 0.065 | K/W |
| $R_{th(j-c)}$ | sin. 180° | per chip | | | 0.14 | K/W |
| | | per module | | | 0.07 | K/W |
| **Module** | | | | | | |
| $R_{th(c-s)}$ | chip | | | 0.05 | | K/W |
| | module | | | 0.03 | | K/W |
| $M_s$ | to heatsink M5 | | 4.25 | | 5.75 | Nm |
| $M_t$ | to terminals M6 | | 4.25 | | 5.75 | Nm |
| a | | | | | 5 * 9.81 | $m/s^2$ |
| w | | | | 165 | | g |

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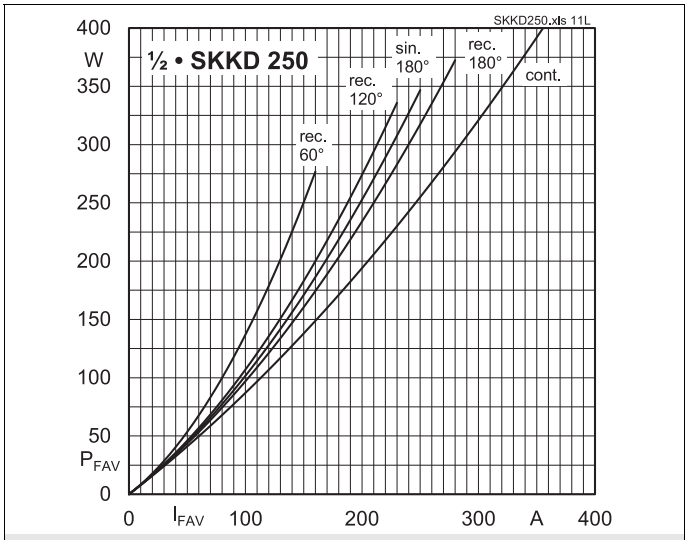


Fig. 11L: Power dissipation per diode vs. forward current

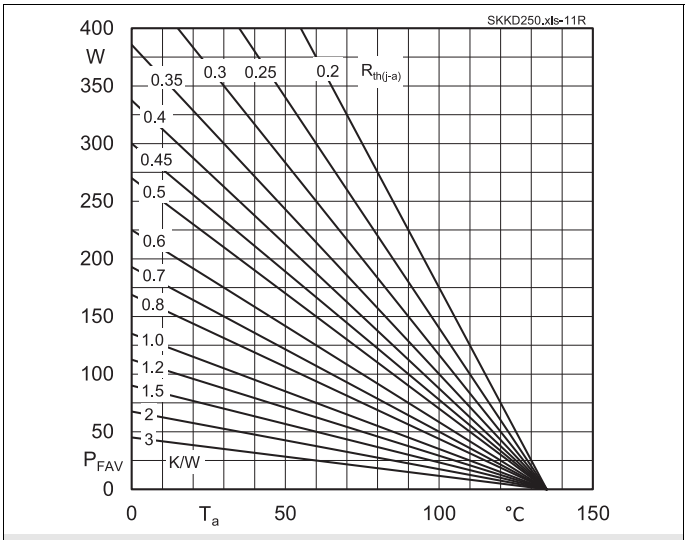


Fig. 11R: Power dissipation per diode vs. ambient temperature

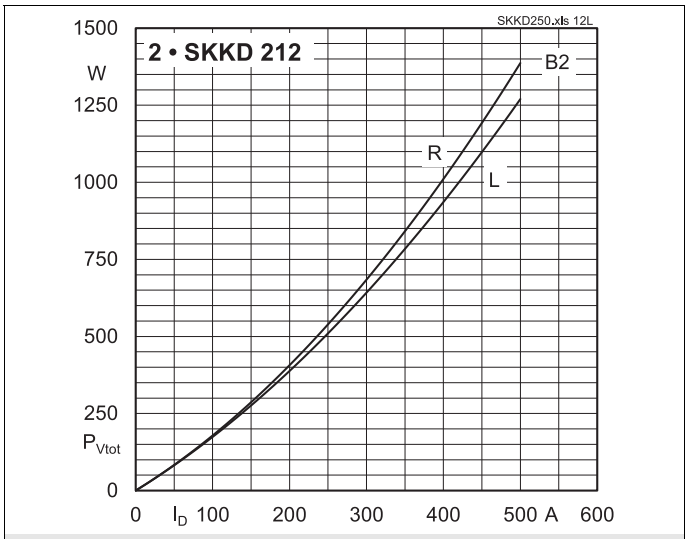


Fig. 12L: Power dissipation of two modules vs. direct current

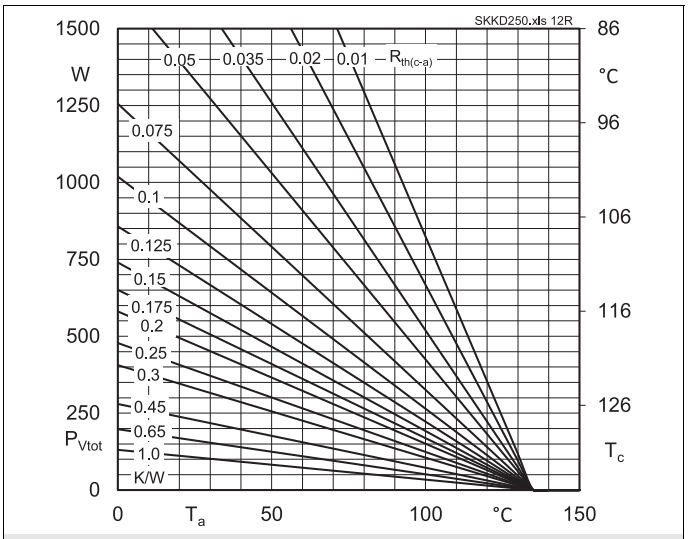


Fig. 12R: Power dissipation of two modules vs. case temperature

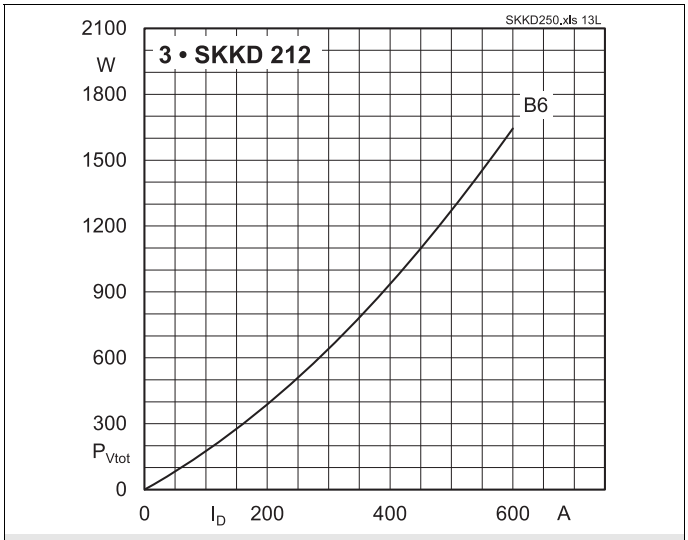


Fig. 13L: Power dissipation of three modules vs. direct current

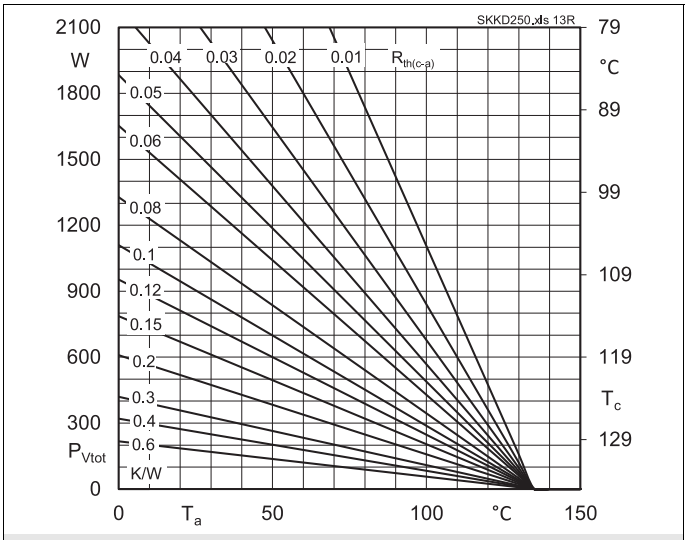


Fig. 13R: Power dissipation of three modules vs. case temperature

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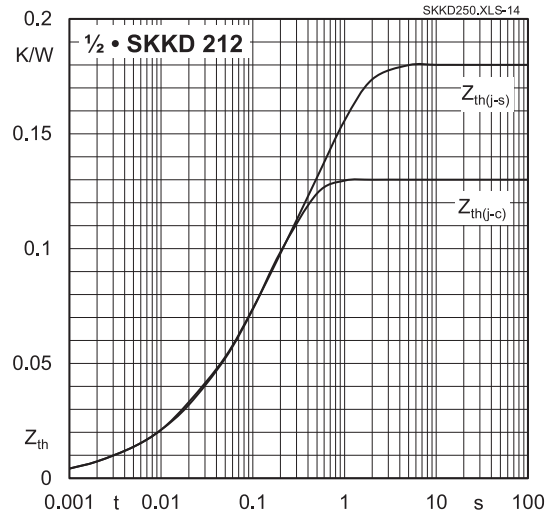



Fig. 14: Transient thermal impedance vs. time

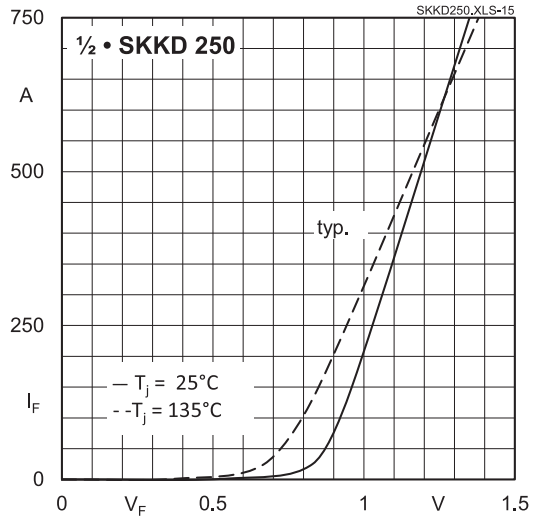



Fig. 15: Forward characteristics

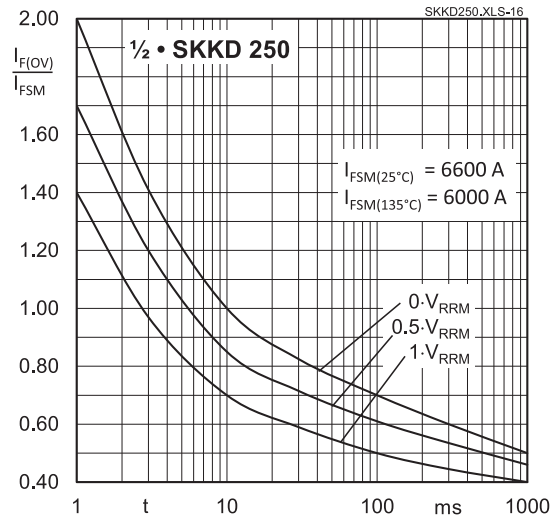
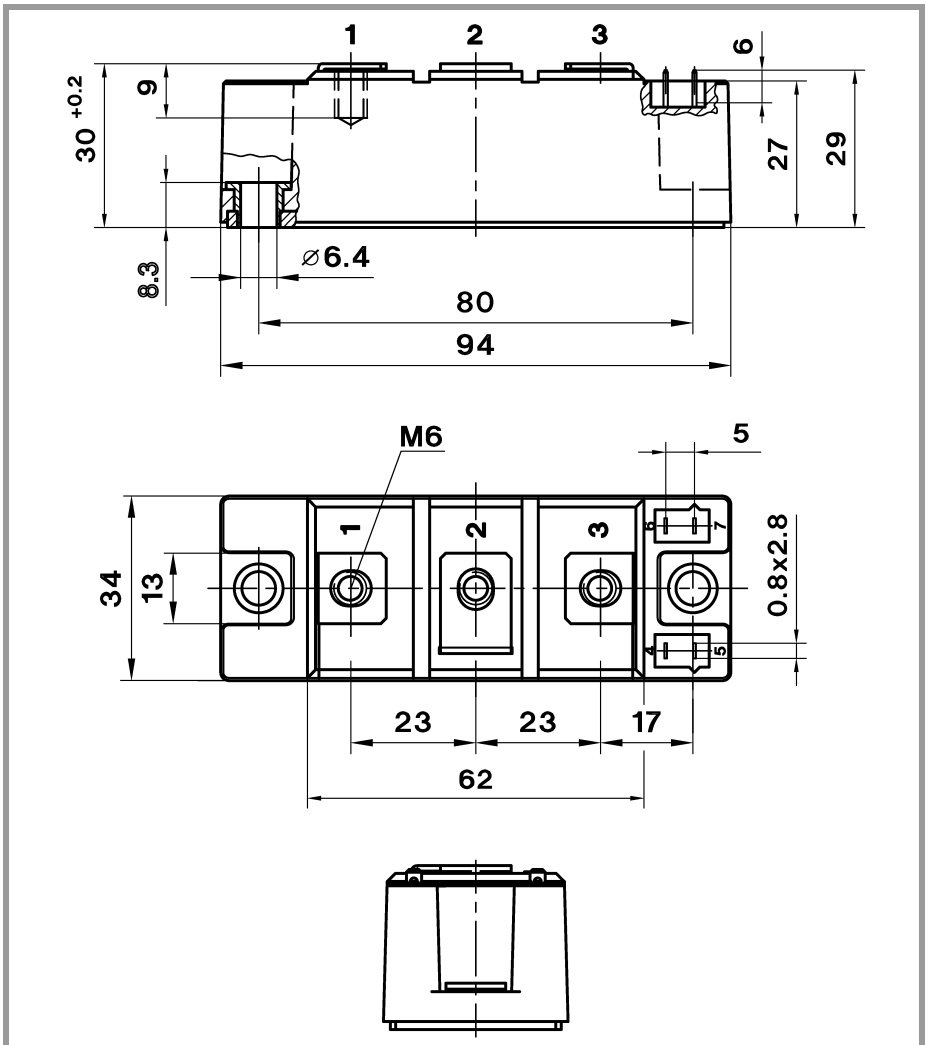



Fig. 16: Surge overload current vs. time

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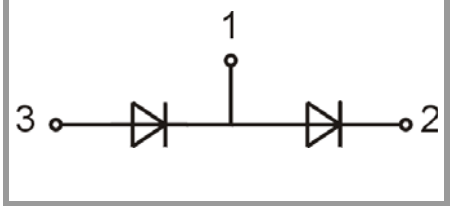


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This is an electrostatic discharge sensitive device (ESDS) due to international standard IEC 61340.

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