



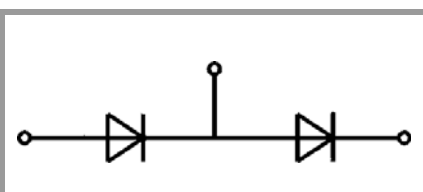
SEMIPACK® 3

Rectifier Diode Modules

SKKD 353/18

Features*

- Industrial standard package
- Electrically insulated base plate
- Heat transfer through aluminum oxide ceramic insulated metal base plate
- Chip soldered on direct copper bonded Al₂O₃ ceramic
- UL recognition, file no. E63532



SKKD

| Absolute Maximum Ratings | | | | |
|--------------------------|--|-------------------------|-------------|------------------|
| Symbol | Conditions | | Values | Unit |
| Rectifier Diode | | | | |
| I _{FAV} | sin. 180° T _{j max} = 130 °C | T _c = 85 °C | 350 | A |
| | | T _c = 100 °C | 260 | A |
| I _{FRMS} | continuous operation | | 580 | A |
| I _{FSM} | 10 ms | T _j = 25 °C | 10500 | A |
| | | T _j = 130 °C | 9500 | A |
| i ² t | 10 ms | T _j = 25 °C | 551250 | A ² s |
| | | T _j = 130 °C | 451250 | A ² s |
| V _{RSM} | T _j = 25 °C | | 1900 | V |
| V _{RRM} | T _j = 25 °C | | 1800 | V |
| T _j | | | -40 ... 130 | °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 | | | | 1.38 | V |
| V _{F0} | T _j = 130 °C | | | | 0.84 | V |
| r _F | T _j = 130 °C | | | | 0.67 | mΩ |
| I _R | T _j = 130 °C, V _{RD} = V _{RRM} | | | | 15 | mA |
| R _{th(j-c)} | cont. | per chip | | | 0.09 | K/W |
| | | per module | | | 0.045 | K/W |
| R _{th(j-c)} | sin. 180° | per chip | | | 0.092 | K/W |
| | | per module | | | 0.046 | K/W |
| Module | | | | | | |
| R _{th(c-s)} | chip | | | 0.08 | | K/W |
| | module | | | 0.04 | | K/W |
| M _s | to heatsink M5 | | 4.25 | | 5.75 | Nm |
| M _t | to terminals M8 | | 7.65 | | 10.35 | Nm |
| a | | | | | 5 * 9.81 | m/s ² |
| w | | | | 410 | | g |

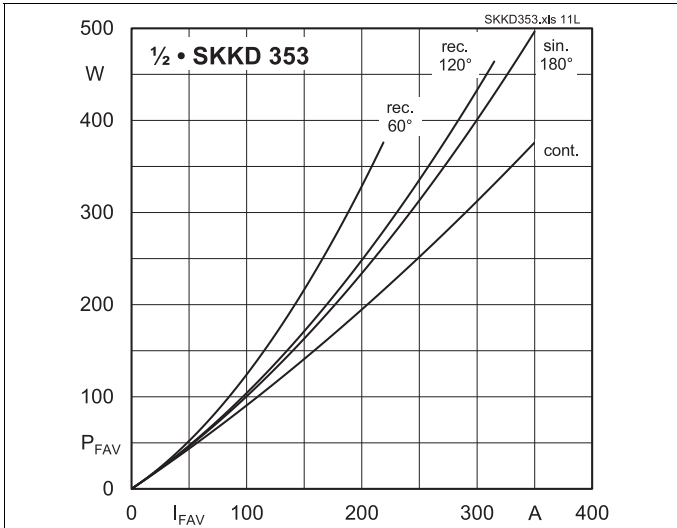


Fig. 11L: Power dissipation per diode vs. forward current

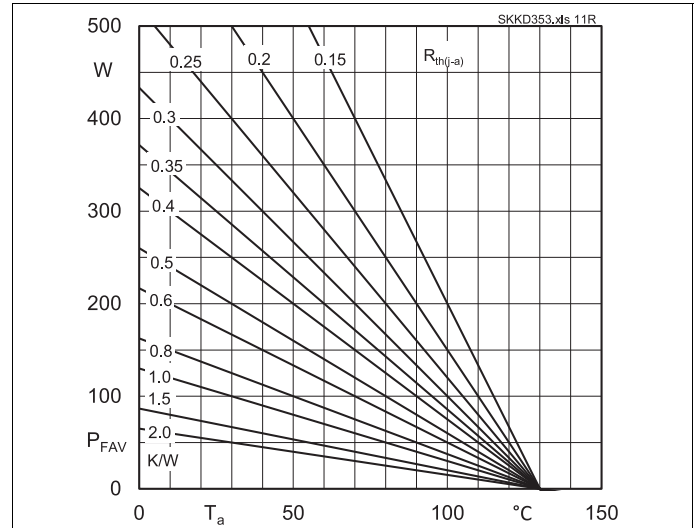


Fig. 11R: Power dissipation per diode vs. ambient temperature

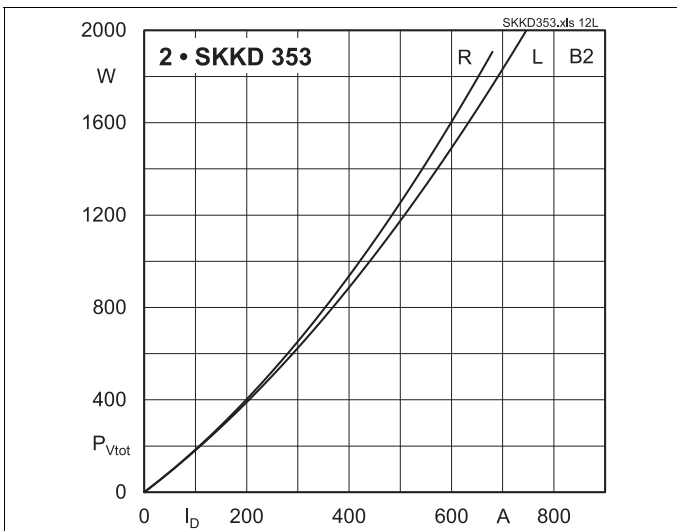


Fig. 12L: Power dissipation of two modules vs. direct current

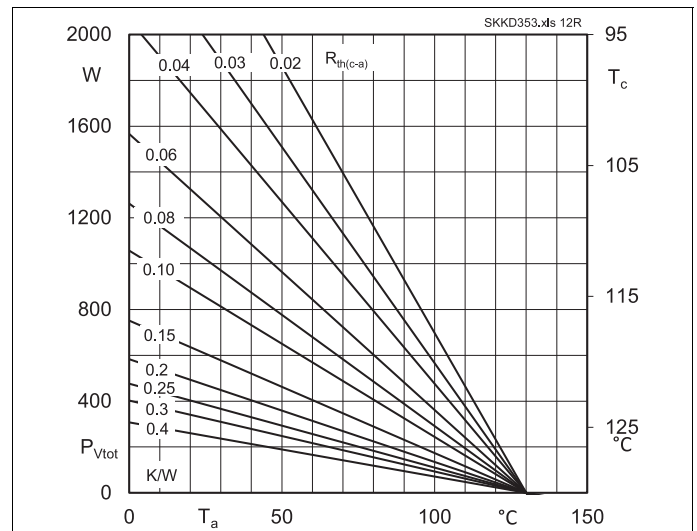


Fig. 12R: Power dissipation of two modules vs. case temperature

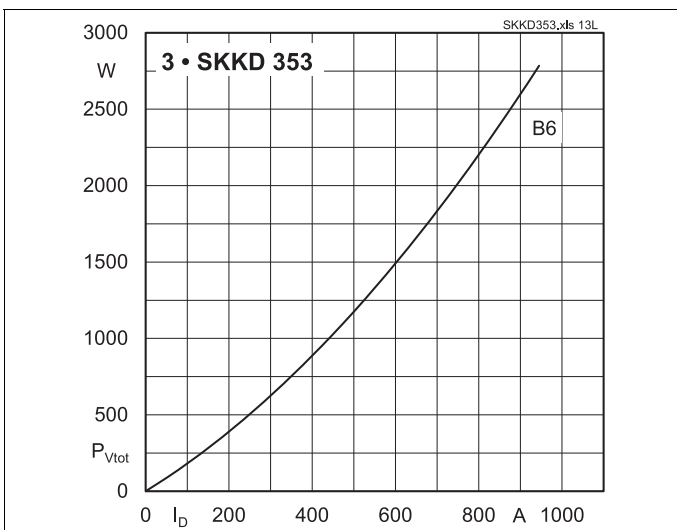


Fig. 13L: Power dissipation of three modules vs. direct current

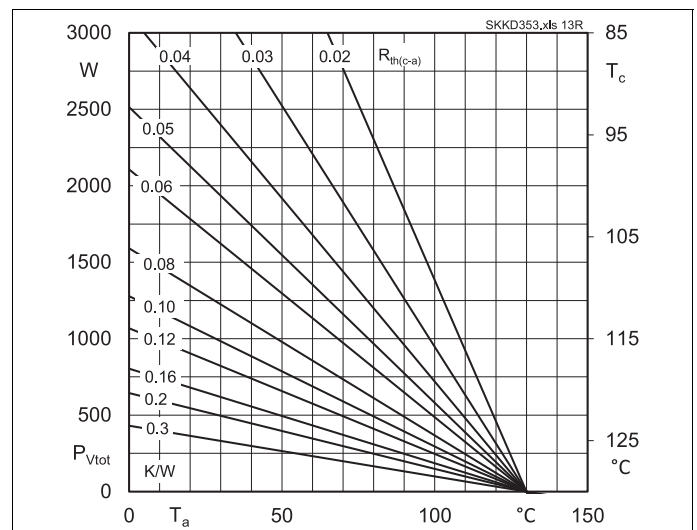


Fig. 13R: Power dissipation of three modules vs. case temperature

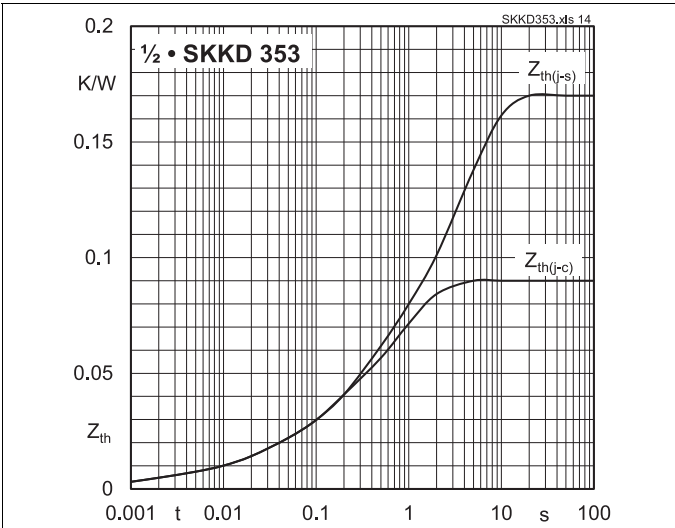


Fig. 14: Transient thermal impedance vs. time

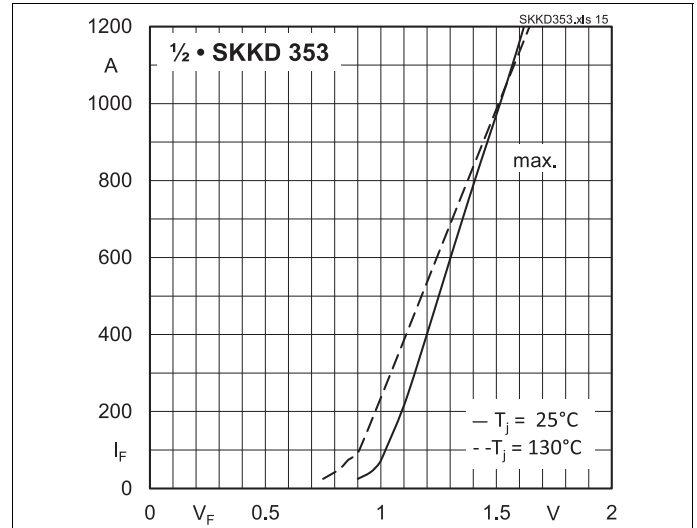


Fig. 15: Forward characteristics

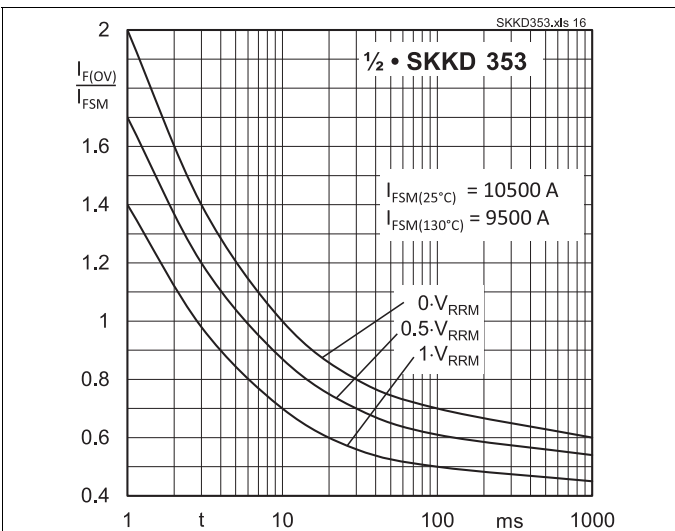
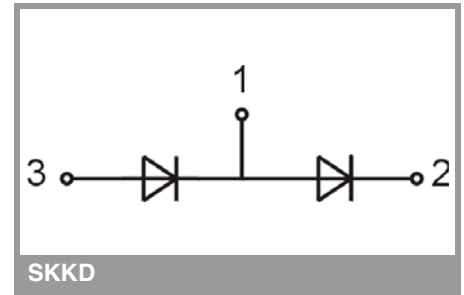
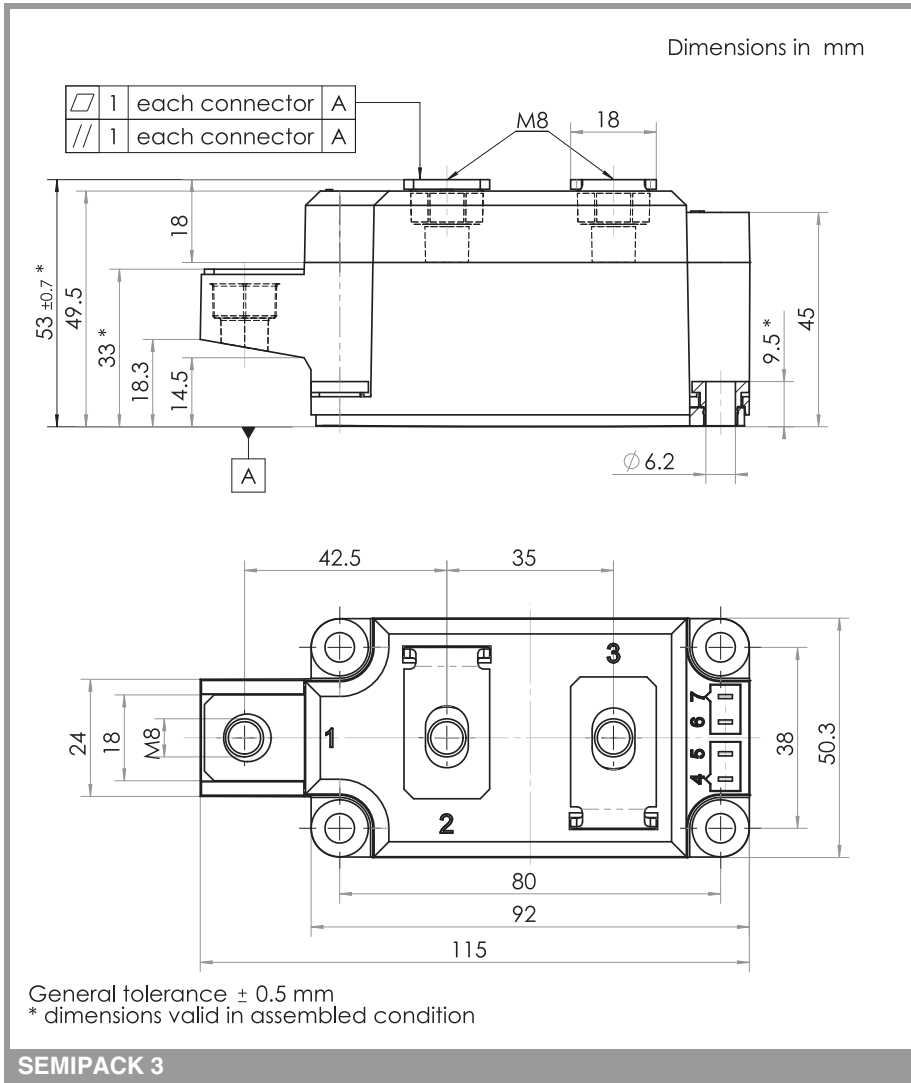


Fig. 16: Surge overload current vs. time



This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, chapter IX.

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