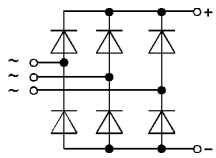
SEMIKRON

| $V_{RSM}$ $V_{RRM}$ | $I_D$ ($T_{case}$ = 100 °C) 110 A | 160 A |
|---|---|---|
| 200 V | **SKD 110/02** | **SKD 160/02** |
| 400 V | **SKD 110/04** | **SKD 160/04** |
| 800 V | **SKD 110/08** | **SKD 160/08** |
| 1200 V | **SKD 110/12** | **SKD 160/12** |
| 1400 V | **SKD 110/14** | **SKD 160/14** |
| 1600 V | **SKD 110/16** | **SKD 160/16** |
| 1800 V | **SKD 110/18*** | **SKD 160/18*** |

# SEMIPONT® 4
# Power Bridge Rectifiers

## SKD 110
## SKD 160



**SKD**

| Symbol | Conditions | SKD 110 | SKD 160 | Units |
|---|---|---|---|---|
| $I_D$ | $T_{case}$ = 100 °C | 110 | 160 | A |
| | $T_{amb}$ = 45 °C, chassis[1)] | 28 | 30 | A |
| | P1/200 | 70 | 75 | A |
| | $T_{amb}$ = 35 °C, P1/120 F | 110 | 145 | A |
| | P3/120 F | 123 | 146 | A |
| $I_{FSM}$ | $T_{vj}$ = 25 °C, 10 ms | 1200 | 1800 | A |
| | $T_{vj}$ = 150 °C, 10 ms | 1000 | 1500 | A |
| $i^2t$ | $T_{vj}$ = 25 °C, 8,3...10 ms | 7200 | 16 200 | $A^2s$ |
| | $T_{vj}$ = 150 °C, 8,3...10 ms | 5000 | 11 200 | $A^2s$ |
| $V_F$ | $T_{vj}$ = 25 °C; $I_F$ = 300 A | 1, 9 | 1,65 | V |
| $V_{(TO)}$ | $T_{vj}$ = 150 °C | 0,85 | 0,85 | V |
| $r_T$ | $T_{vj}$ = 150 °C | 4 | 3 | mΩ |
| $I_{RD}$ | $T_{vj}$ = 25 °C; $V_{RD}$ = $V_{RRM}$ | 0,5 | 0,5 | mA |
| | $T_{vj}$ = 150 °C; $V_{RD}$ = $V_{RRM}$ | 5 | 6 | mA |
| $R_{thjc}$ | per diode | 0,9 | 0,65 | °C/W |
| | total | 0,15 | 0,11 | °C/W |
| $R_{thch}$ | total | 0,03 | | °C/W |
| $T_{vj}$ | | – 40 . . . + 150 | | °C |
| $T_{stg}$ | | – 40 . . . + 125 | | °C |
| $V_{isol}$ | a.c. 50...60 Hz; r.m.s.; 1 s / 1 min | 3600 / 3000 | | V~ |
| $M_1$ | to heatsink SI units | 5 ± 15 % | | Nm |
| | US units | 44 ± 15 % | | lb. in. |
| $M_2$ | to terminals SI units | 5 ± 15 % | | Nm |
| | US units | 44 ± 15 % | | lb. in. |
| w | | 270 | | g |
| Case | | G 37 | | |

* Available in limited quantities

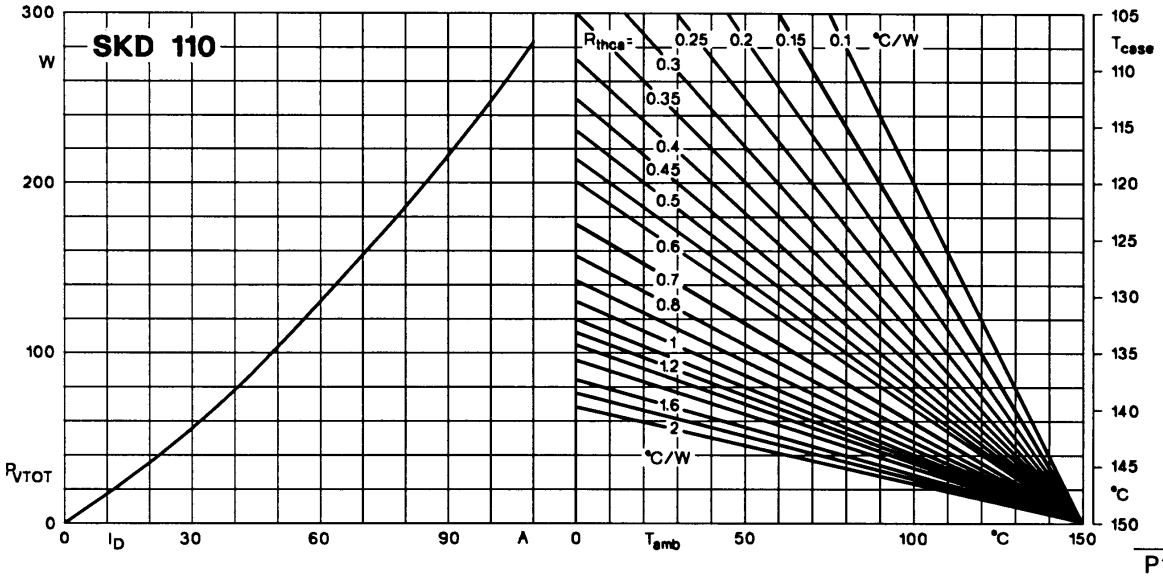
### Features

- Robust plastic case with screw terminals
- Large, isolated base plate
- Blocking voltage to 1800 V
- High surge currents
- Easy chassis mounting
- UL recognized, file no. E 63 532

### Typical Applications

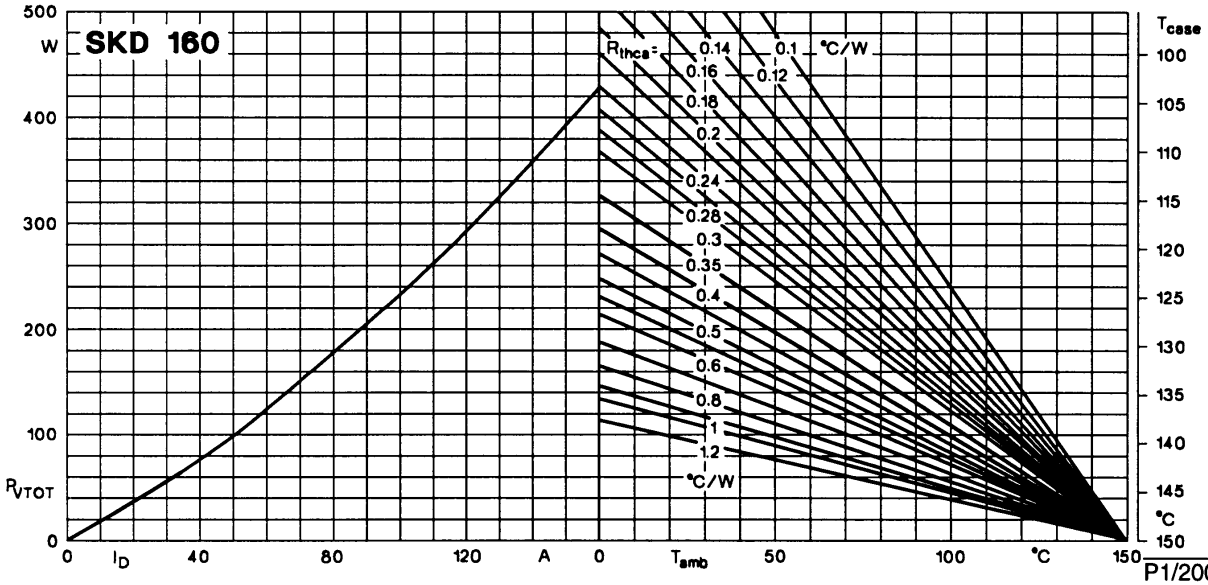
- Three phase rectifiers for power supplies
- Input rectifiers for variable frequency drives
- Rectifiers for DC motor field supplies
- Battery charger rectifiers

[1)] Painted metal sheet of minimum 250 x 250 x 1 mm: $R_{thca}$ = 1,8 °C/W




| | $R_{thca}$ |
|---|---|
| P1/200 | 0,52 °C/W |
| P1/120 F | 0,20 °C/W |

Fig. 3 a Power dissipation vs. output current and case temperature




| | $R_{thca}$ |
|---|---|
| P1/200 | 0,52 °C/W |
| P1/120 F | 0,20 °C/W |

Fig. 3 b Power dissipation vs. output current and case temperature

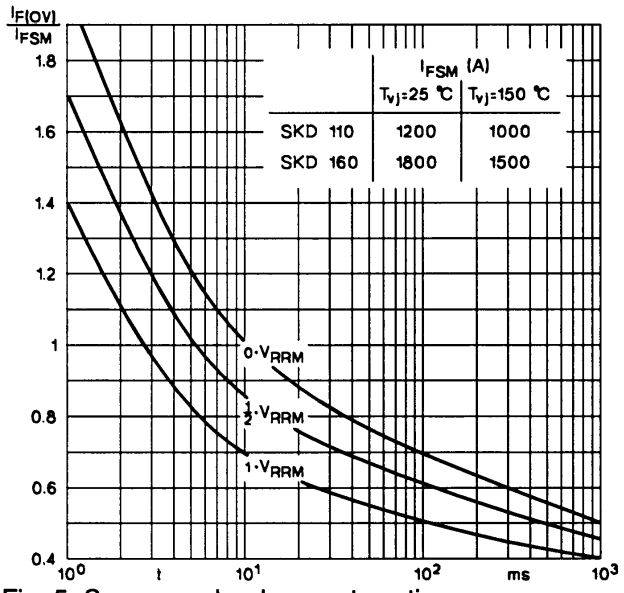



Fig. 5 Surge overload current vs. time

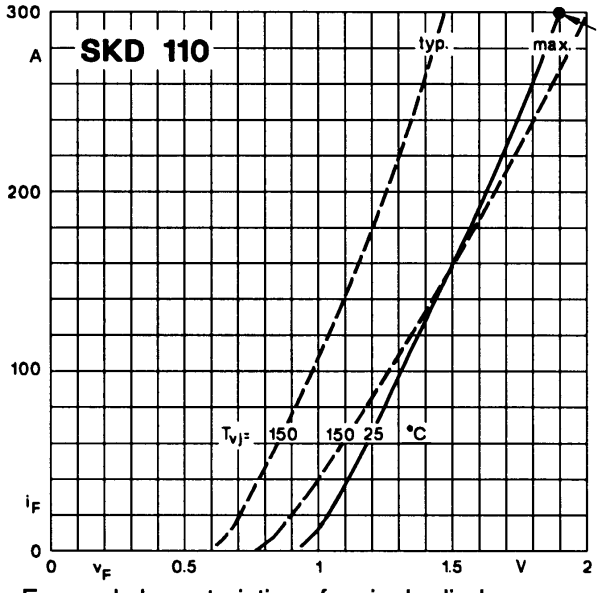



Fig. 9 a Forward characteristics of a single diode

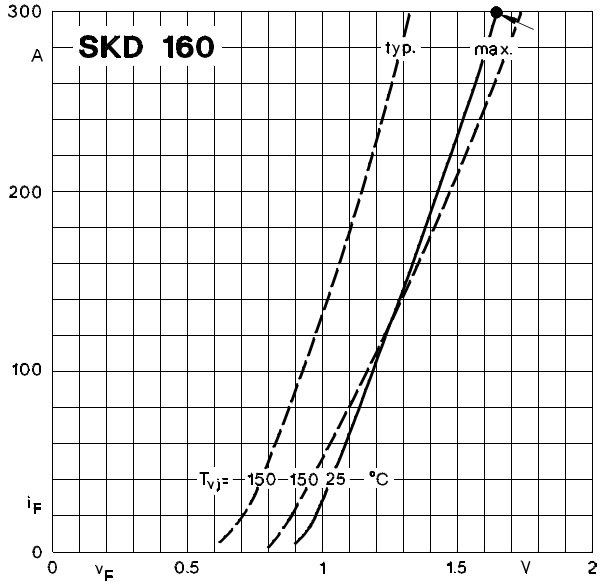



Fig. 9 b Forward characteristics of a single diode

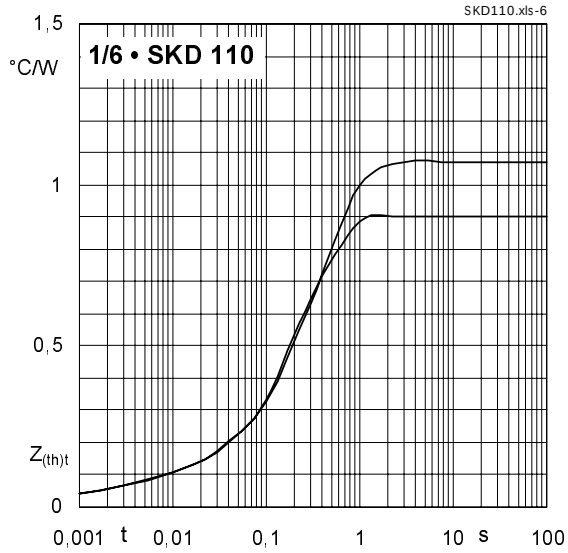



Fig. 12 a Transient thermal impedance vs. time

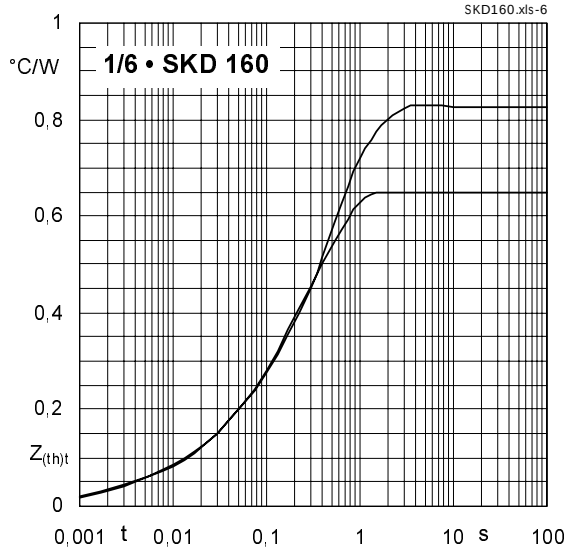
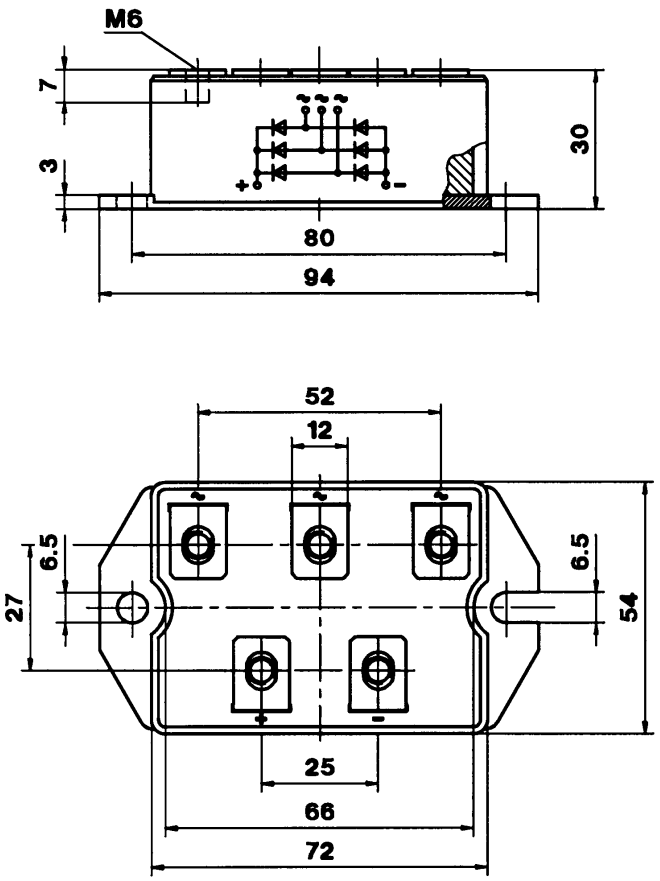



Fig. 12 b Transient thermal impedance vs. time

**SKD 110**
**SKD 160**

**SEMIPONT® 4**

Case G 37




Dimensions in mm