

SKNa 402



Stud Diode

Avalanche Diode

SKNa 402

Publish Data

Features

- Avalanche type reverse characteristic
- Reverse voltages up to 5000 V
- Hermetic metal case with ceramic insulator and extra long creepage distances
- Threaded stud ISO M24 x 1,5
- Cooling via heatsinks
- SKN: Anode to stud

Typical Applications

- High voltage rectifier diode for traction and heavy duty applications
- Series connections for high voltage applications
- Non-controllable and half-controllable rectifiers
- Free-wheeling diodes

| $V_{(BR)min}$ | $I_{FRMS} = 700 A$ (maximum value for continuous operation) | C_{max} | R_{min} |
|---------------|----------------------------------------------------------------|-----------|-----------|
| V | $I_{FAV} = 400 A$ (sin. 180; $T_c = 88 °C$) | μF | Ω |
| 3600 | SKNa 402/36 | | |
| 4000 | SKNa 402/40 | | |
| 4200 | SKNa 402/42 | | |
| 4500 | SKNa 402/45 | | |
| 4600 | SKNa 402/46 | | |
| 4800 | SKNa 402/48 | | |
| 5000 | SKNa 402/50 | | |

| Symbol | Conditions | Values | Units |
|---------------|--------------------------------------------|----------------|------------------|
| I_{FAV} | sin. 180 ; $T_c = 88 (100) °C$ | 400 (350) | A |
| I_D | P4/200; $T_a = 45 °C$; B2 / B6 | 455 / 655 | A |
| | K 0,55F; $T_a = 35 °C$; B2 / B6 | 585 / 830 | A |
| I_{FSM} | $T_{vj} = 25 °C$; 10 ms | 7800 | A |
| | $T_{vj} = 160 °C$; 10 ms | 6600 | A |
| i^2t | $T_{vj} = 25 °C$; 8,3 ... 10 ms | 300000 | A ² s |
| | $T_{vj} = 160 °C$; 8,3 ... 10 ms | 140000 | A ² s |
| V_F | $T_{vj} = 25 °C$; $I_F = 1200 A$ | max. 1,85 | V |
| $V_{(TO)}$ | $T_{vj} = 150 °C$ | max. 1 | V |
| r_T | $T_{vj} = 150 °C$ | max. 0,8 | m Ω |
| I_{RD} | $T_{vj} = 25 °C$; $V_{RD} = V_{(BR)min}$ | max. 3000 | μA |
| | $T_{vj} = 160 °C$; $V_{RD} = V_{(BR)min}$ | max. 60 | mA |
| P_{RSM} | $T_{vj} = 160 °C$; $t_p = 10 \mu s$ | 90 | kW |
| $R_{th(j-c)}$ | | 0,1 | K/W |
| $R_{th(c-s)}$ | | 0,01 | K/W |
| T_{vj} | | - 40 ... + 160 | $°C$ |
| T_{stg} | | - 40 ... + 160 | $°C$ |
| V_{isol} | | - | V~ |
| M_s | to heatsink | 60 | Nm |
| | | 530 | lb.in. |
| a | | 5 * 9,81 | m/s ² |
| m | approx. | 550 | g |
| Case | | E 46 | |



SKN

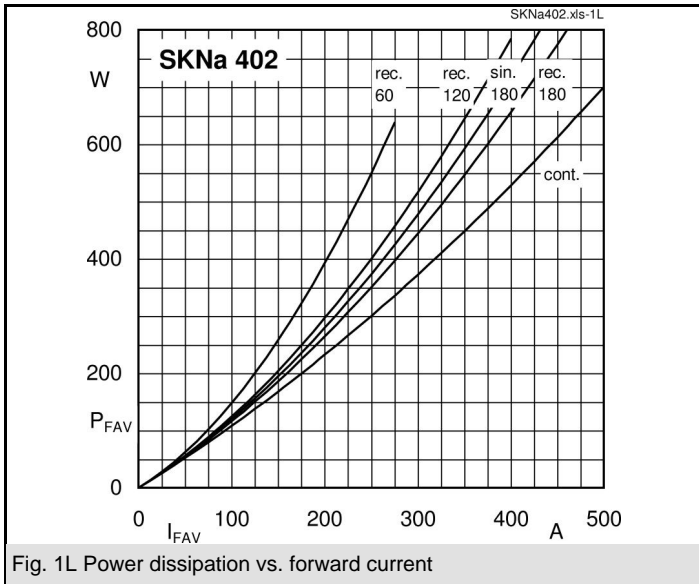


Fig. 1L Power dissipation vs. forward current

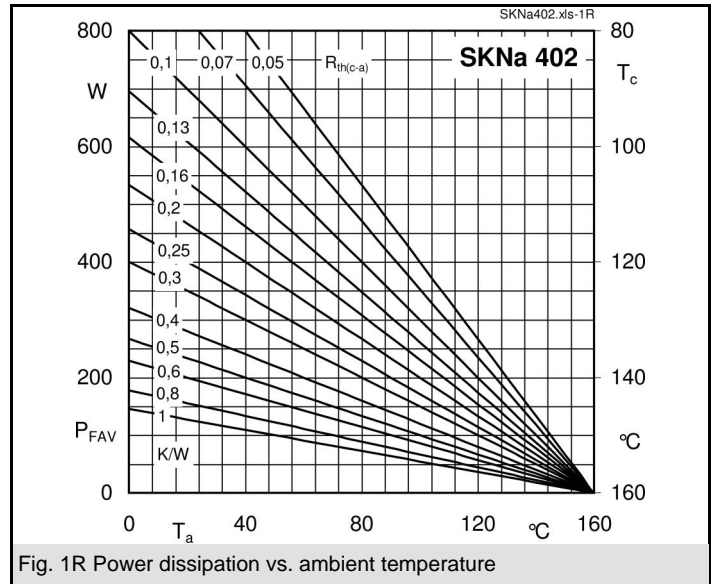


Fig. 1R Power dissipation vs. ambient temperature

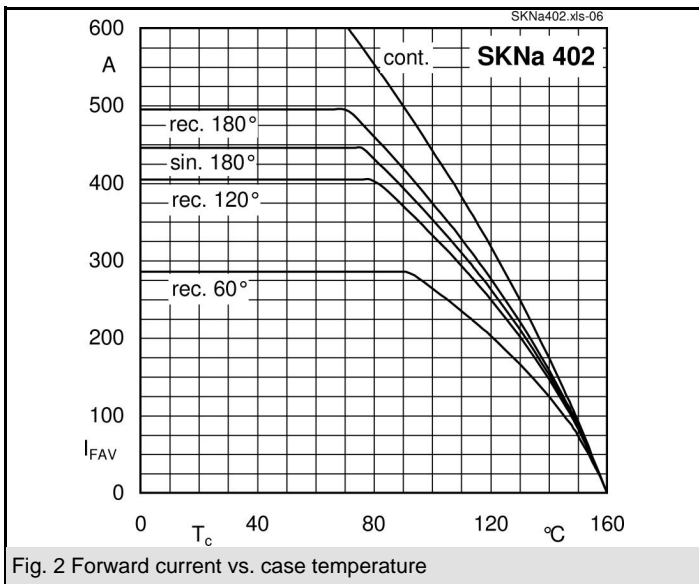


Fig. 2 Forward current vs. case temperature

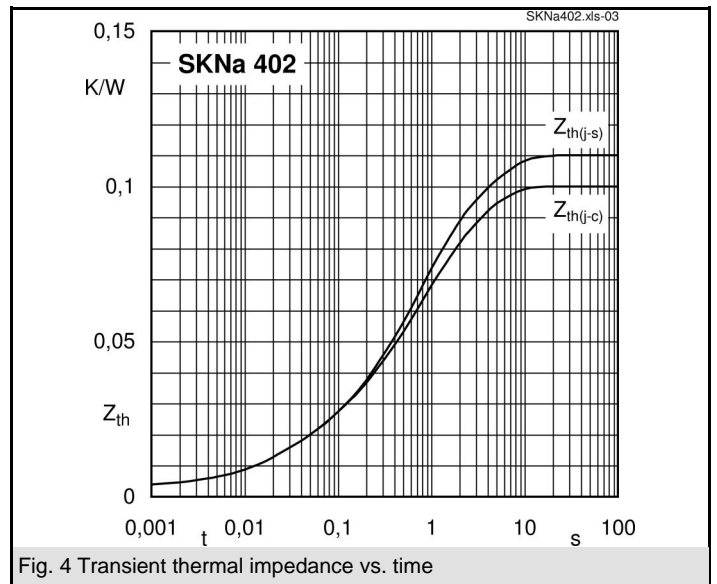


Fig. 4 Transient thermal impedance vs. time

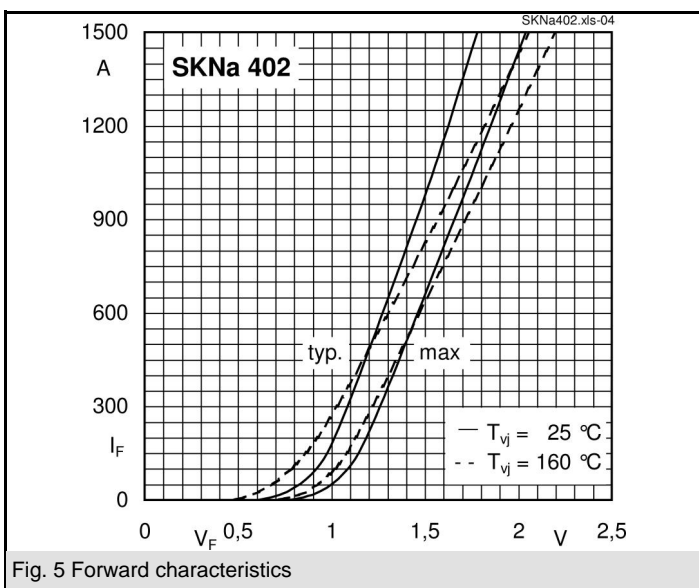


Fig. 5 Forward characteristics

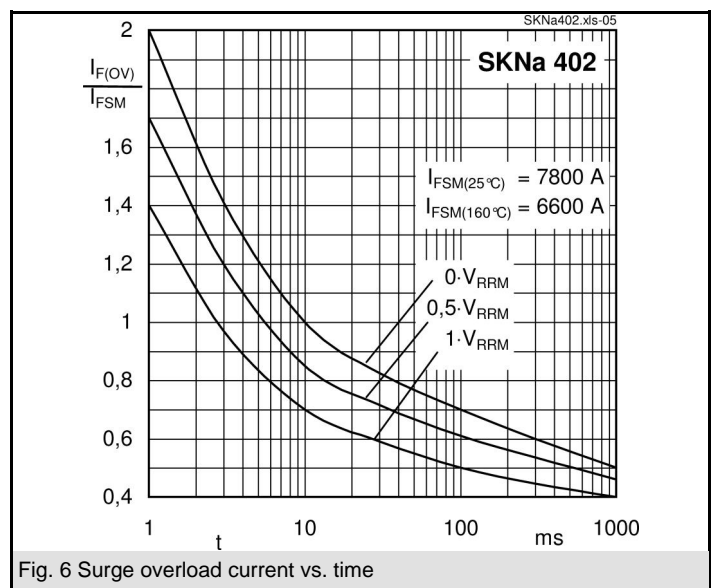
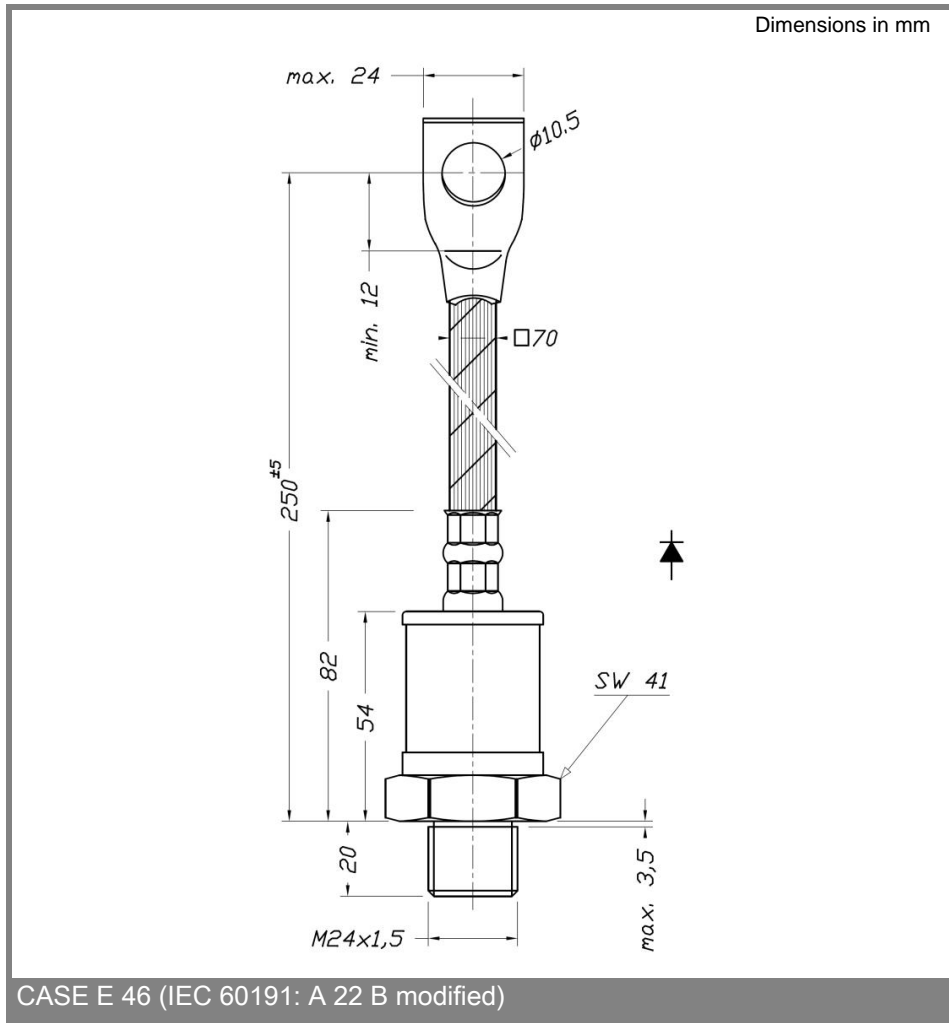


Fig. 6 Surge overload current vs. time



This technical information specifies semiconductor devices but promises no characteristics. No warranty or guarantee expressed or implied is made regarding delivery, performance or suitability.