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## Stud Diode

## Avalanche Diode

### SKNa 402

#### Publish Data

#### Features

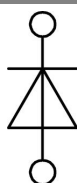
- Avalanche type reverse characteristic
- Reverse voltages up to 5000 V
- Hermetic metal case with ceramic insulator and extra long creepage distances
- Threaded stud ISO M24 x 1,5
- Cooling via heatsinks
- SKN: Anode to stud

#### 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

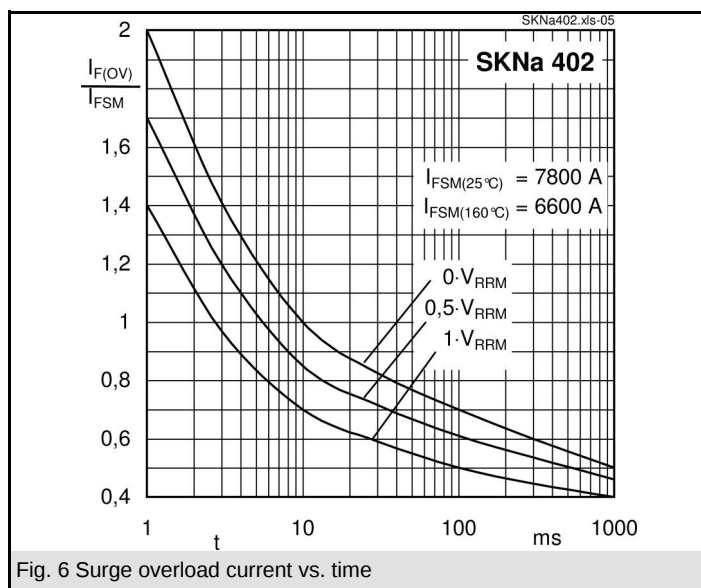
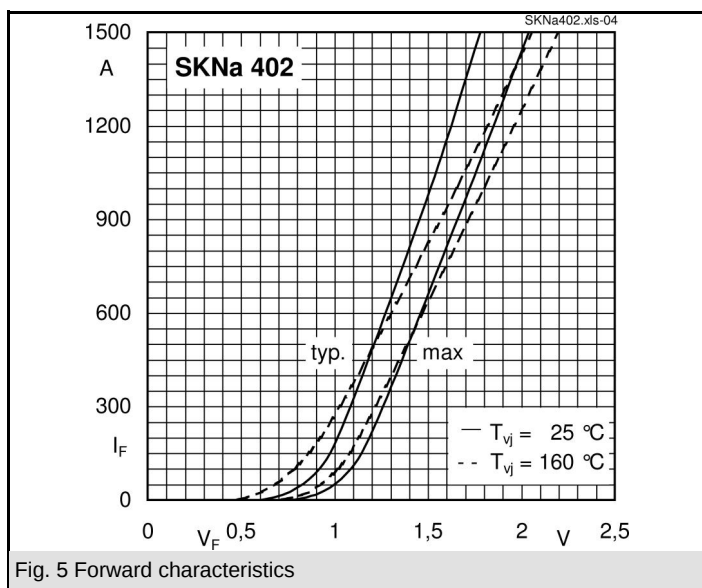
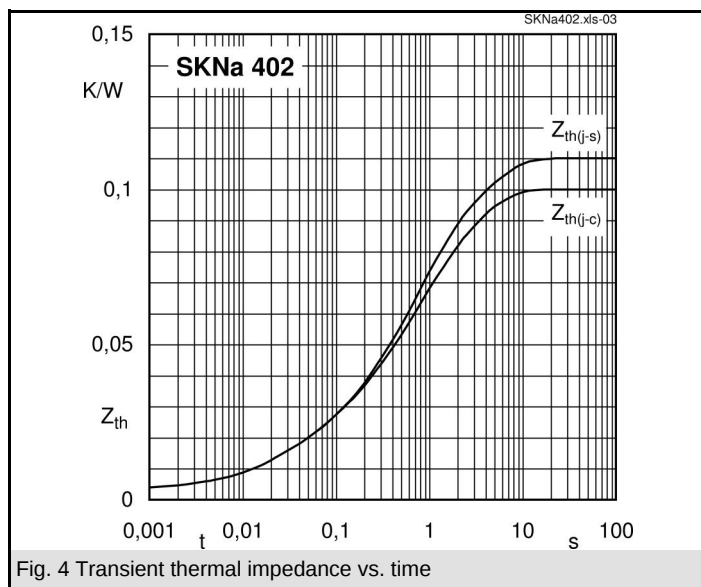
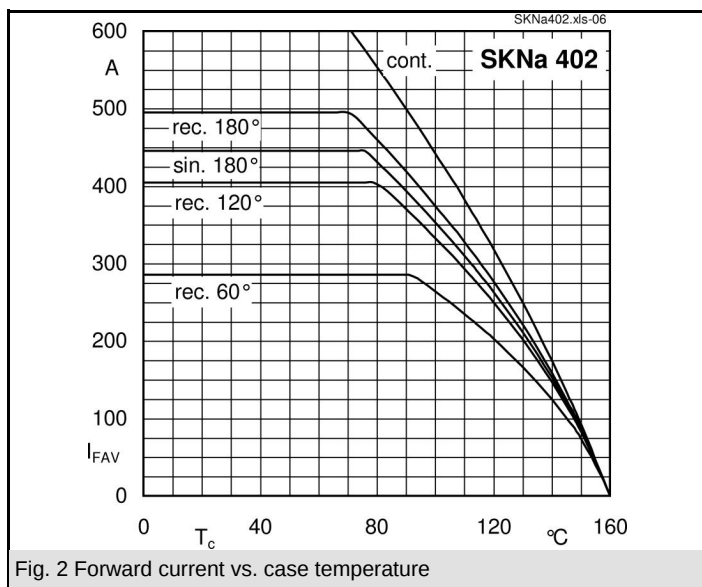
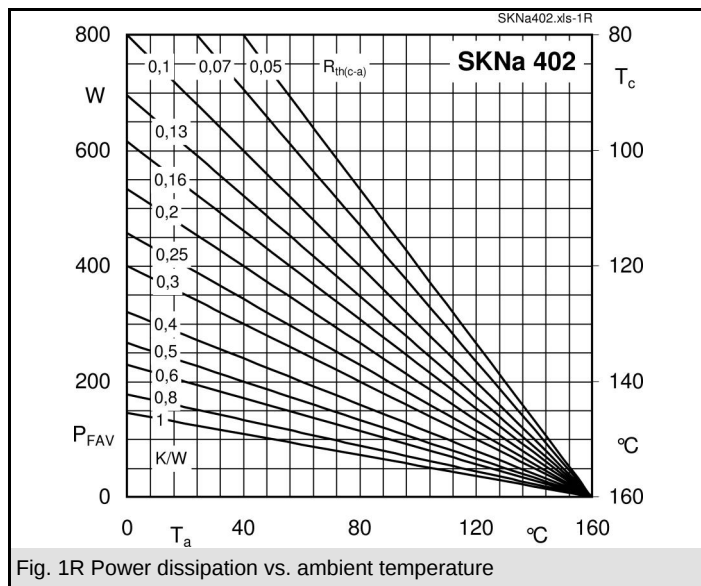
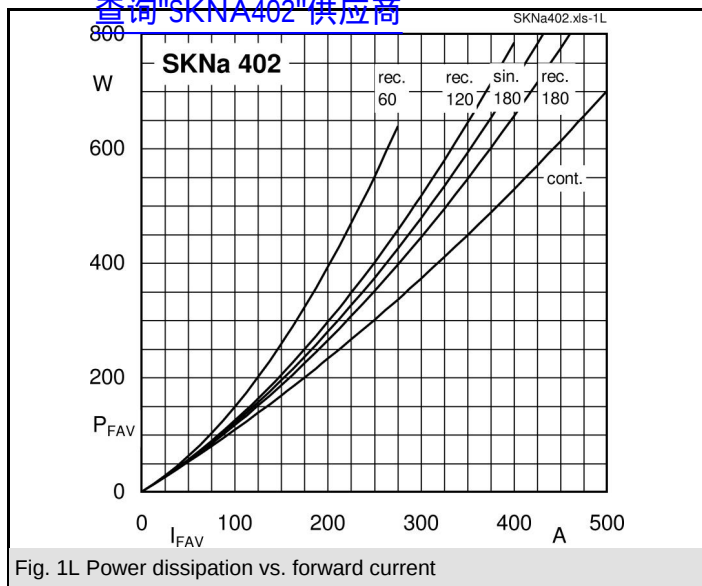
| $V_{(BR)min}$ | $I_{FRMS} = 700 \text{ A}$<br>(maximum value for continuous operation) | $C_{max}$     | $R_{min}$ |
|---------------|------------------------------------------------------------------------|---------------|-----------|
| V             | $I_{FAV} = 400 \text{ A (sin. 180; } T_c = 88 \text{ °C)}$             | $\mu\text{F}$ | $\Omega$  |
| 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 ; $T_c = 88 (100) \text{ °C}$                                                                    | 400 (350)              | A                                    |
| $I_D$         | P4/200; $T_a = 45 \text{ °C}$ ; B2 / B6<br>K 0,55F; $T_a = 35 \text{ °C}$ ; B2 / B6                       | 455 / 655<br>585 / 830 | A<br>A                               |
| $I_{FSM}$     | $T_{vj} = 25 \text{ °C}$ ; 10 ms<br>$T_{vj} = 160 \text{ °C}$ ; 10 ms                                     | 7800<br>6600           | A<br>A                               |
| $i^2t$        | $T_{vj} = 25 \text{ °C}$ ; 8,3 ... 10 ms<br>$T_{vj} = 160 \text{ °C}$ ; 8,3 ... 10 ms                     | 300000<br>140000       | A <sup>2</sup> s<br>A <sup>2</sup> s |
| $V_F$         | $T_{vj} = 25 \text{ °C}$ ; $I_F = 1200 \text{ A}$                                                         | max. 1,85              | V                                    |
| $V_{(TO)}$    | $T_{vj} = 150 \text{ °C}$                                                                                 | max. 1                 | V                                    |
| $r_T$         | $T_{vj} = 150 \text{ °C}$                                                                                 | max. 0,8               | m $\Omega$                           |
| $I_{RD}$      | $T_{vj} = 25 \text{ °C}$ ; $V_{RD} = V_{(BR)min}$<br>$T_{vj} = 160 \text{ °C}$ ; $V_{RD} = V_{(BR)min}$ ; | max. 3000<br>max. 60   | $\mu\text{A}$<br>mA                  |
| $P_{RSM}$     | $T_{vj} = 160 \text{ °C}$ ; $t_p = 10 \text{ }\mu\text{s}$                                                | 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<br>530              | Nm<br>lb.in.                         |
| a             |                                                                                                           | 5 * 9,81               | m/s <sup>2</sup>                     |
| m             | approx.                                                                                                   | 550                    | g                                    |
| Case          |                                                                                                           | E 46                   |                                      |



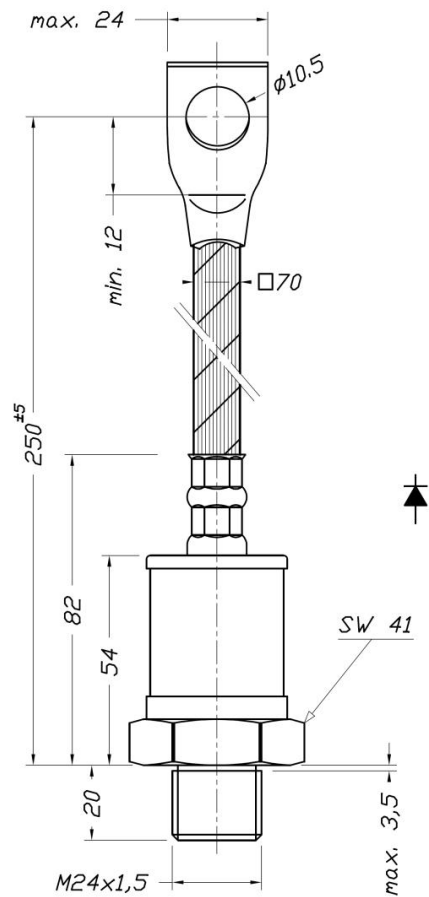
SKN

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Dimensions in mm



CASE E 46 (IEC 60191: A 22 B modified)

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