# SKN 163, SKR 163

Stud Diode

## Rectifier Diode

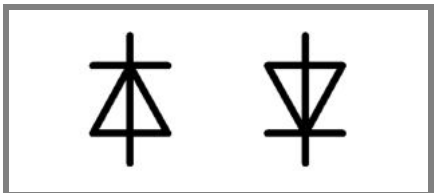
**SKN 163**
**SKR 163**

### Features

- Reverse voltages up to 1600 V
- Hermetic metal cases with glass insulator and epoxy resin reinforcement.
- Optional Silicone Sleeve
- Threaded stud 3/8" – 24 UNF
- **SKN:** anode to stud
- **SKR:** cathode to stud

### Typical Applications *

- Rotating rectifiers for brushless generators
- All purpose mean power rectifier diodes
- Cooling via heatsinks
- Non-controllable and half-controllable rectifiers
- Free-wheeling diodes
- Recommended snubber network:
  RC: 0,25 µF, 50 Ω ($P_R$ = 2W),
  $R_p$: 50 KΩ ($P_R$ = 20 W)



SKN SKR

| $V_{RSM}$ V | $V_{RRM}$ V | $I_{FRMS}$ = 260 A (maximum value for continuous operation)<br>$I_{FAV}$ = 165 A (sin. 180; $T_c$ = 100 ºC) | |
|---|---|---|---|
| 1200<br>1600 | 1200<br>1600 | SKN 163/12 UNF<br>SKN 163/16 UNF | SKR 163/12 UNF<br>SKR 163/16 UNF |

| Symbol | Condition | Values | Units |
|---|---|---|---|
| $I_{FAV}$ | sin. 180 ; $T_C$ = 100 ºC | 165 | A |
| | sin. 180 ; $T_C$ = 125 ºC | 130 | A |
| $I_D$ | K1,1; $T_a$ = 45º C; B2/B6 | 160 / 225 | A |
| | K1,1F; $T_a$ = 35º C; B2/B6 | 290 / 405 | A |
| $I_{FSM}$ | $T_{vj}$ = 25º C ; 10 ms | 2500 | A |
| | $T_{vj}$ = 180º C ; 10 ms | 2000 | A |
| $i^2t$ | $T_{vj}$ = 25º C ; 8,3...10 ms | 31000 | $A^2s$ |
| | $T_{vj}$ = 180º C ; 8,3...10 ms | 20000 | $A^2s$ |
| $V_F$ | $T_{vj}$ = 25º C, $I_F$ = 500 A | Max. 1,5 | V |
| $V_{(TO)}$ | $T_{vj}$ = 180º C | Max 0,85 | V |
| $r_T$ | $T_{vj}$ = 180º C | Max 1,3 | mΩ |
| $I_{RD}$ | $T_{vj}$ = 180º C ; $V_R$ = $V_{RRM}$ | Max. 22 | mA |
| $Q_{rr}$ | $T_{vj}$ = 160°C, -$di_F/dt$ = 10 A/µs | 120 | µC |
| $R_{th(j-c)}$ | | 0,35 | K/W |
| $R_{th(c-s)}$ | | 0,08 | K/W |
| $T_{vj}$ | | -40...+180 | °C |
| $T_{stg}$ | | -55...+180 | °C |
| $V_{isol}$ | | - | V~ |
| $M_s$ | to heatsink (SI units) | 8 | Nm |
| | to heatsink (US units) | 71 | lb.in. |
| m | approx. | 105 | g |
| Case | | Special | |

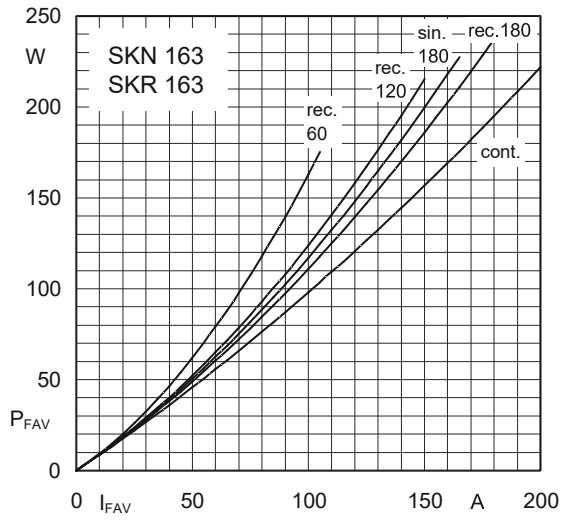



Fig. 1L Power dissipation vs. forward current

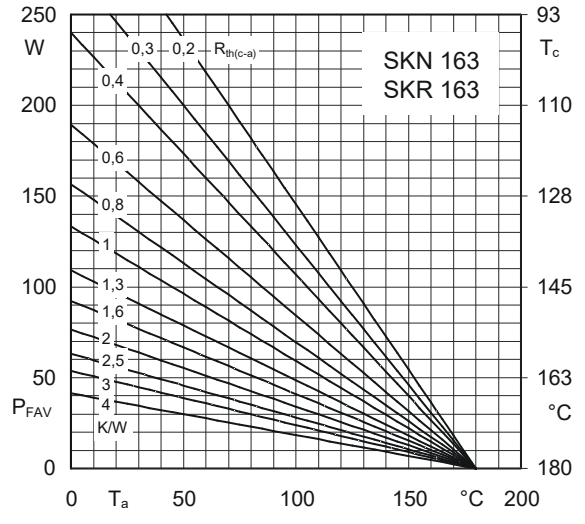



Fig. 1R Power dissipation vs. ambient temperature

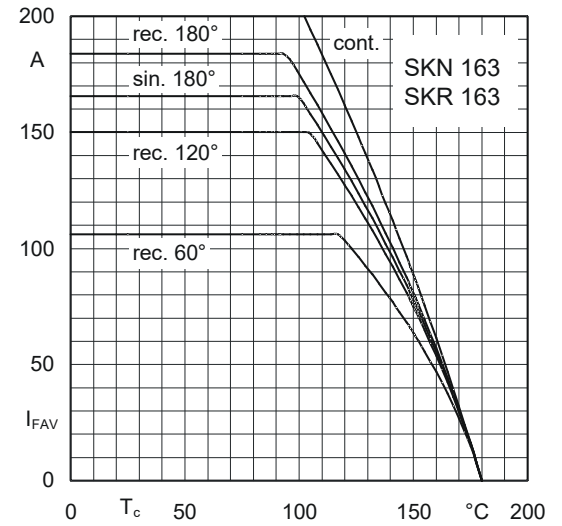



Fig. 2 Forward current vs. case temperature

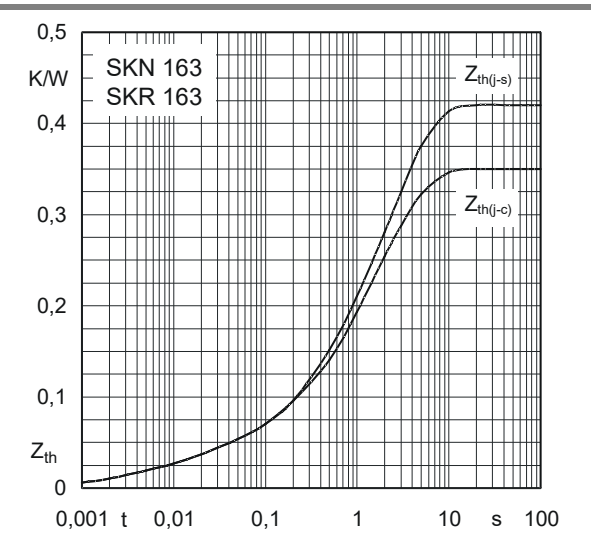



Fig. 4 Transient thermal impedance vs. time

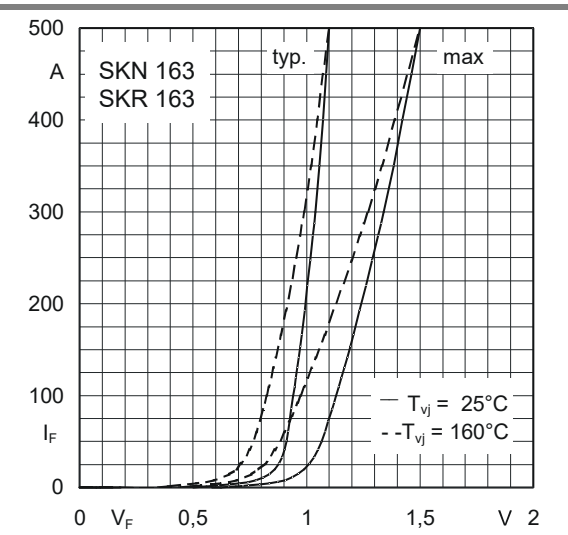



Fig. 5 Forward characteristics

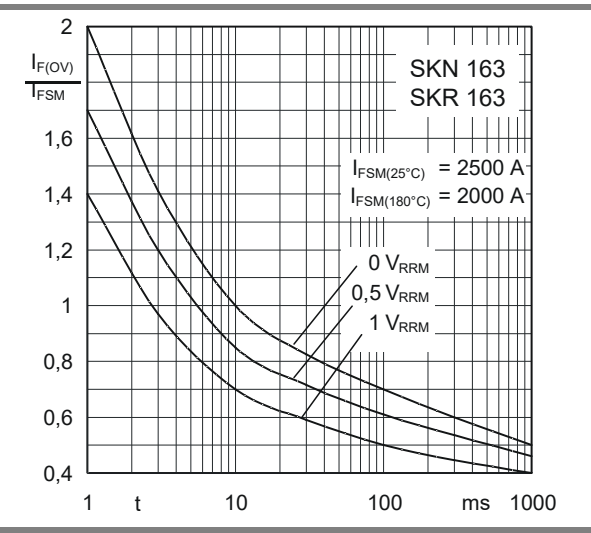
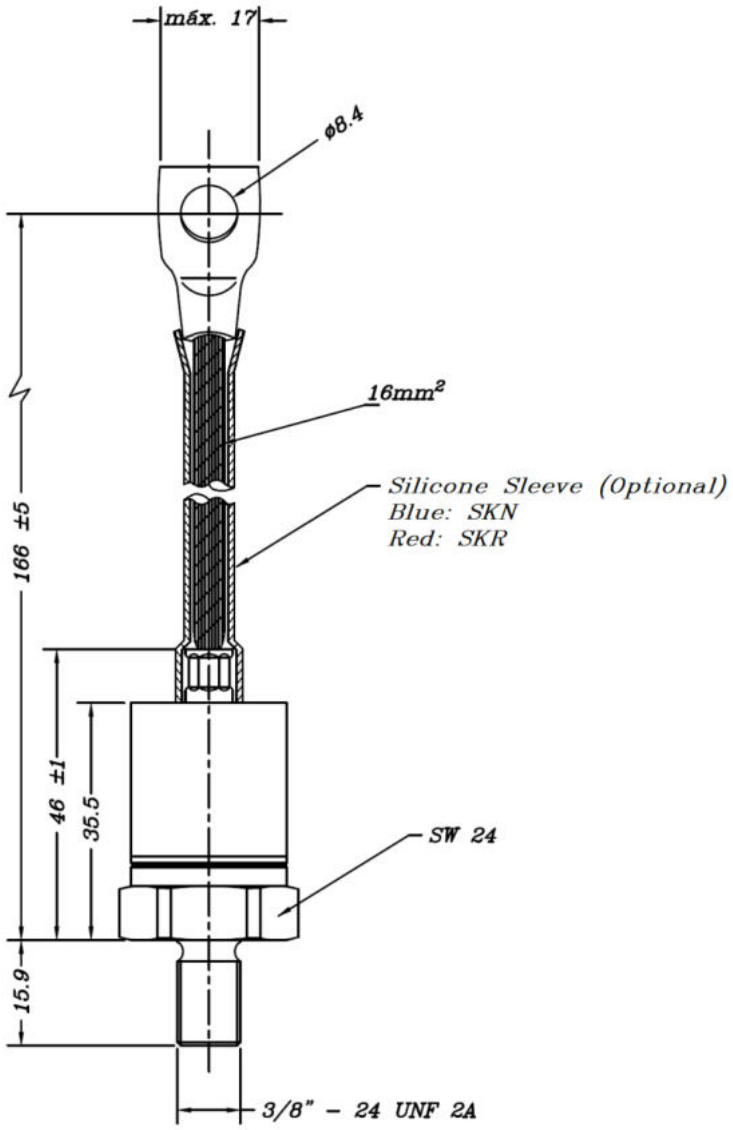



Fig. 6 Surge overload current vs. time

Dimensions in mm




Case : Special Type – 3/8" – 24 UNF 2A

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