

Rectifier Diodes

SKN 45 **SKR 45**
SKN 70 **SKR 70**
SKN 71 **SKR 71**









Features

- Reverse voltages up to 1600 V
- Hermetic metal cases with glass insulators
- Threaded studs ISO M8 (SKN/R 71 also 1/4 – 28 UNF)
- **SKN**: anode to stud
- **SKR**: cathode to stud

Typical Applications

- All-purpose mean power rectifier diodes
- Cooling via heatsinks
- Non-controllable and half-controllable rectifiers
- Free-wheeling diodes

* available with UNF thread
1/4–28 UNF 2 A;
e.g. SKN 71/12 UNF

| V _{RSM} V _{RRM} V | I _{FRMS} (maximum values for continuous operations) | | | | | |
|---|---|---|---|---|---|---|
| | 80 A | | | 150 A | | |
| | I _{FAV} (sin. 180; T _{case} = ...) | | | | | |
| | 50 A (118 °C) | | 95 A (100 °C) | | | |
| |  |  |  |  |  |  |
| 400 | SKN 45/04 | SKR 45/04 | SKN 70/04 | SKR 70/04 | SKN 71/04* | SKR 71/04* |
| 800 | SKN 45/08 | SKR 45/08 | SKN 70/08 | SKR 70/08 | SKN 71/08* | SKR 71/08* |
| 1200 | SKN 45/12 | SKR 45/12 | SKN 70/12 | SKR 70/12 | SKN 71/12* | SKR 71/12* |
| 1400 | SKN 45/14 | SKR 45/14 | SKN 70/14 | SKR 70/14 | SKN 71/14* | SKR 71/14* |
| 1600 | SKN 45/16 | SKR 45/16 | SKN 70/16 | SKR 70/16 | SKN 71/16* | SKR 71/16* |

| Symbol | Conditions | SKN 45 SKR 45 | SKN 70 SKR 70 | SKN 71 SKR 71 | Units |
|-------------------|---|------------------|------------------|------------------|------------------|
| I _{FAV} | sin. 180; T _{case} = 100 °C | – | 95 | – | A |
| | = 118 °C | 50 | – | – | A |
| | = 125 °C | 45 | 70 | – | A |
| I _{FSM} | T _{vj} = 25 °C; 10 ms | 700 | 1150 | – | A |
| | T _{vj} = 180 °C; 10 ms | 600 | 1000 | – | A |
| i ² t | T _{vj} = 25 °C; 8,3 ... 10 ms | 2500 | 6600 | – | A ² s |
| | T _{vj} = 180 °C; 8,3 ... 10 ms | 1800 | 5000 | – | A ² s |
| Q _{rr} | T _{vj} = 160 °C; – di _F /dt = 10 A/μs | typ. 70 | typ. 70 | – | μC |
| I _R | T _{vj} = 25 °C; V _R = V _{RRM} | 0,6 | 0,6 | – | mA |
| | T _{vj} = 180 °C; V _R = V _{RRM} | 10 | 10 | – | mA |
| V _F | T _{vj} = 25 °C; (I _F = ...); max. | 1,6 (150) | 1,5 (200) | – | V (A) |
| V _(TO) | T _{vj} = 180 °C | 0,85 | 0,85 | – | V |
| r _T | T _{vj} = 180 °C | 5 | 3 | – | mΩ |
| R _{thjc} | | 0,85 | 0,55 | – | °C/W |
| R _{thch} | | 0,25 | 0,2 | – | °C/W |
| T _{vj} | | | – 40 ... + 180 | – | °C |
| T _{stg} | | | – 55 ... + 180 | – | °C |
| M | M8 | SI units | 4 | – | Nm |
| | 1/4-28 UNF 2A | US units | 35 | – | lb.in. |
| a | | SI units | 2,5 | – | Nm |
| | | US units | 22 | – | lb.in. |
| w | approx. | | 5 · 9,81 | – | m/s ² |
| RC | (P _R = ...) | 0,1 (1 W) | 0,1 (2 W) | – | μF |
| R _p | P _R = 6 W | 100 | 100 | – | Ω |
| | | 80 | 80 | – | kΩ |
| Case | | E 12 | E 12 | E 11 | |

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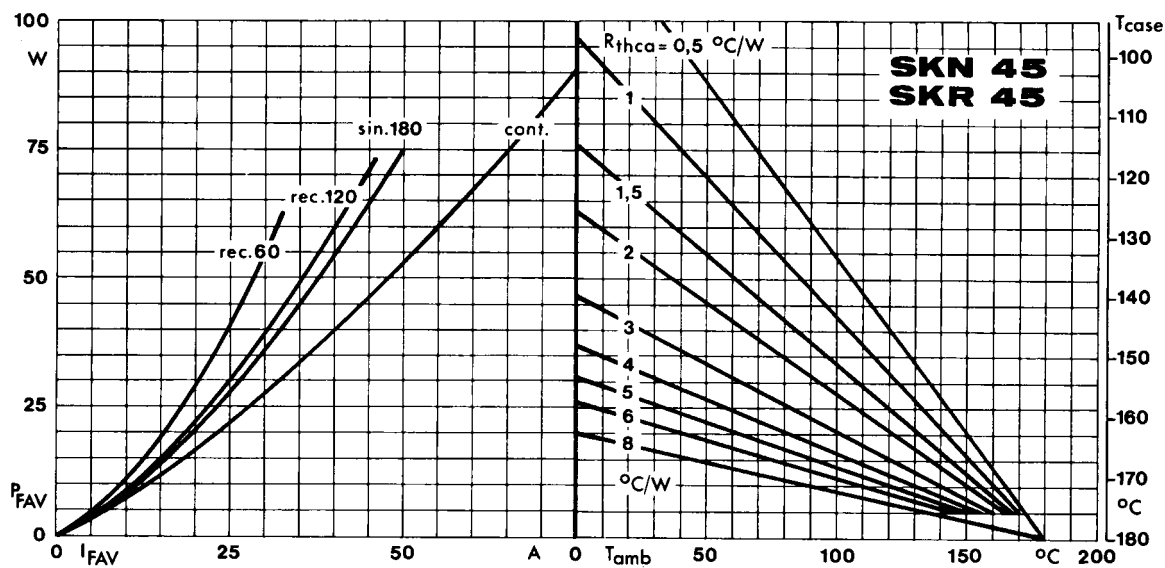


Fig. 1 a Power dissipation vs. forward current and case temperature

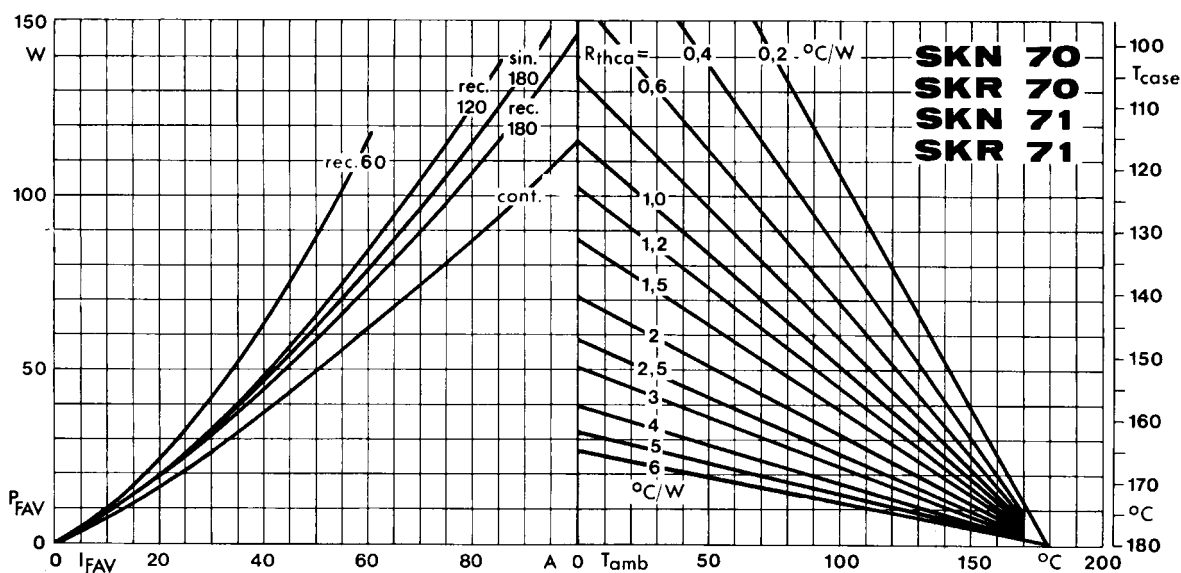


Fig. 1 b Power dissipation vs. forward current and case temperature

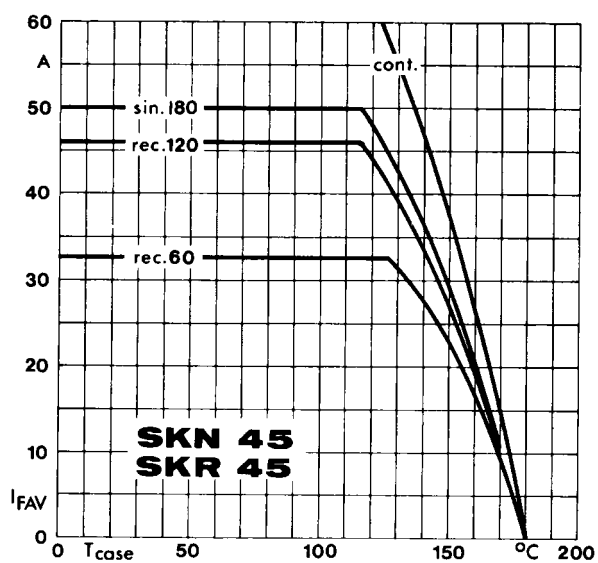


Fig. 3 a Rated forward current vs. case temperature

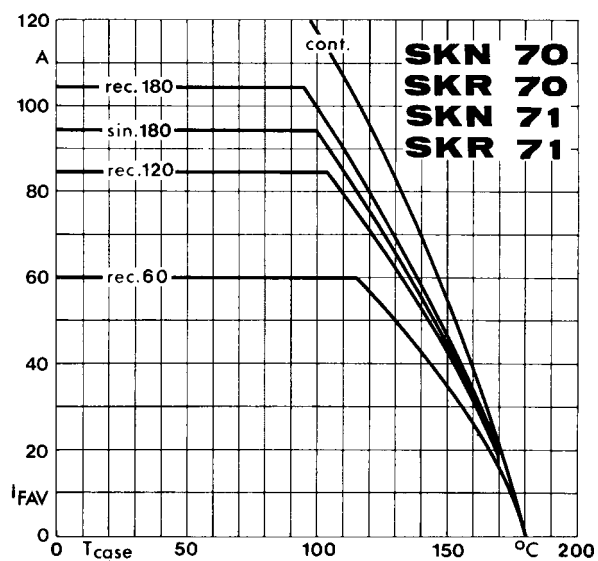


Fig. 3 b Rated forward current vs. case temperature

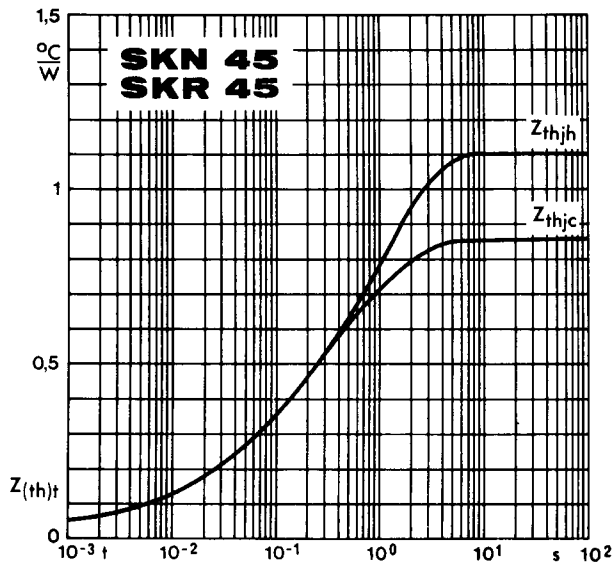


Fig. 5 a Transient thermal impedance vs. time

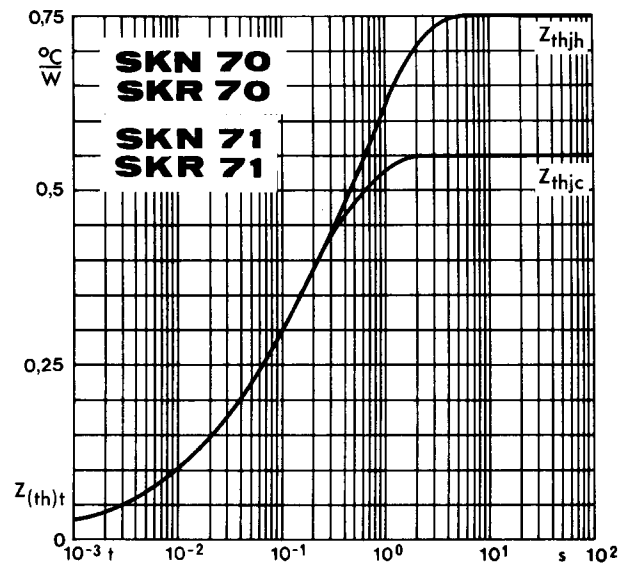


Fig. 5 b Transient thermal impedance vs. time

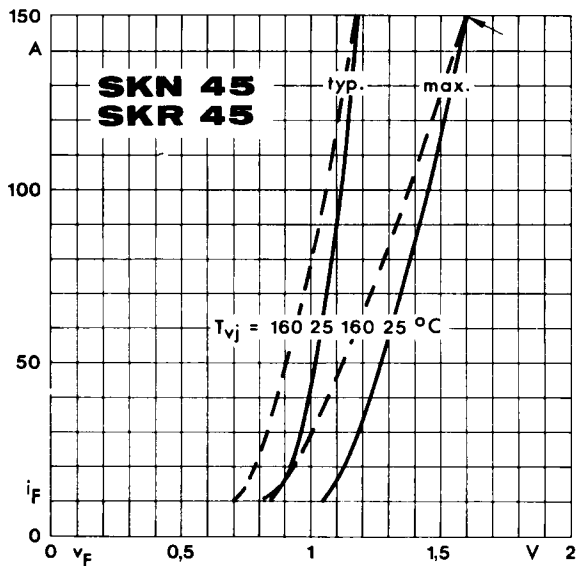


Fig. 6 a Forward characteristics

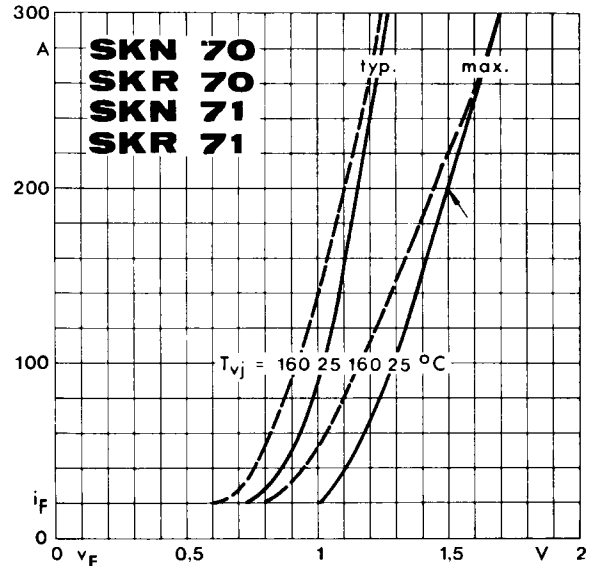


Fig. 6 b Forward characteristics

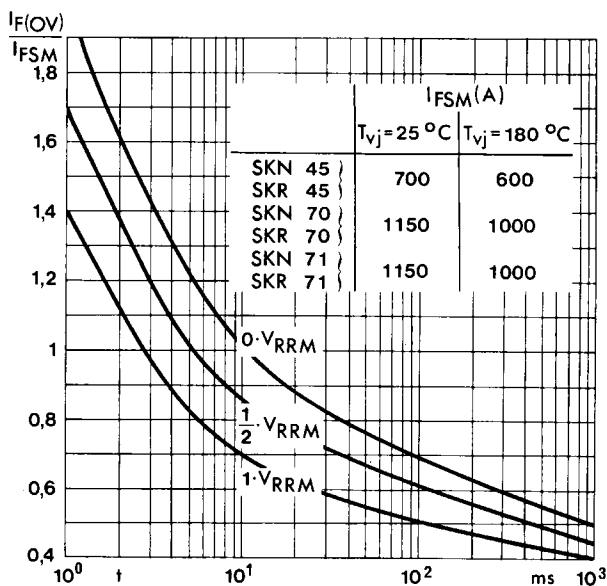
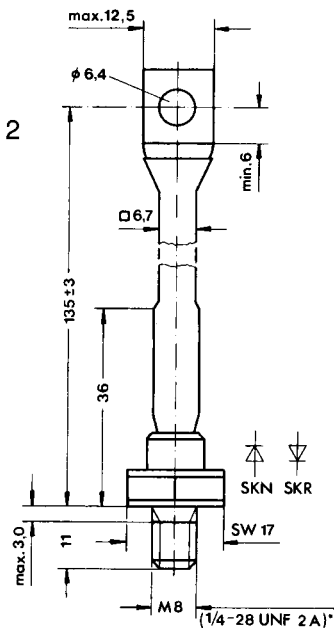


Fig. 7 Surge overload current vs. time

SKN 45, SKR 45 **SKN 70, SKR 70**

Case E 12

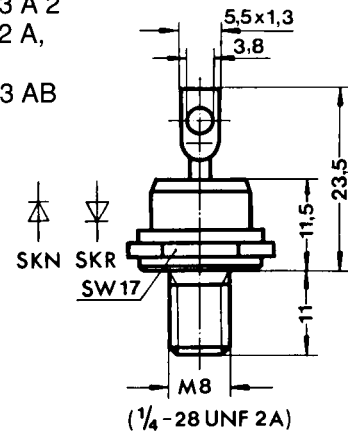
IEC: A 16 U; A 17 M B 2
DIN 41 886: 103 A 2
BS 3934: SO-32 A,
SO-32 B



SKN 71 **SKR 71**

Case E 11

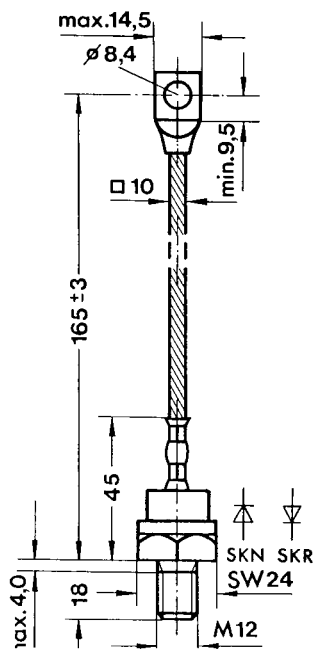
IEC: A 16 U; A 17 M B 2
DIN 41 886: 103 A 2
BS 3934: SO-32 A,
SO-32 B
JEDEC: DO-203 AB
(DO-5)



SKN 100 **SKR 100**

Case E 13

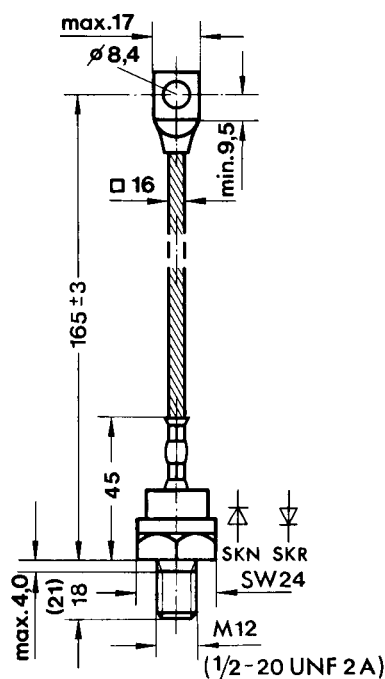
IEC: A 9 MA¹⁾
DIN 41 887: 105 B 2¹⁾
BS 3934: SO-29 B
JEDEC: DO-205 AC



SKN 130 **SKR 130**

Case E 14

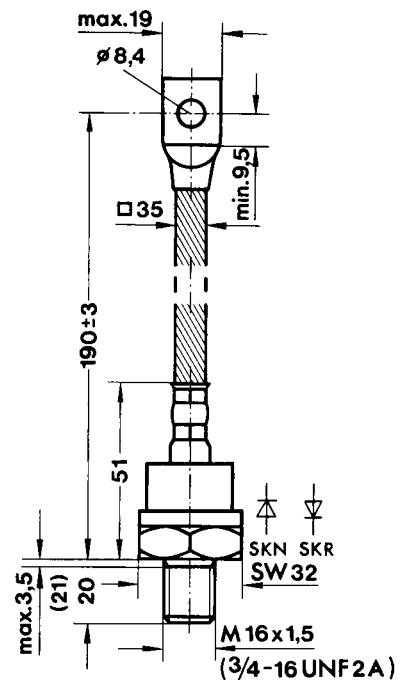
IEC: A 9 MA¹⁾
DIN 41 887: 105 B 2¹⁾
BS 3934: SO-29 B
JEDEC: DO-205 AC
(DO-30)²⁾



SKN 240 **SKR 240**

Case E 15

IEC: A 15 M
DIN 41 887: 106 B 2
BS 3934: SO-42
JEDEC: DO-205 AB
(DO-9)



¹⁾ modified

²⁾ available with thread 1/2-20 UNF 2 A or 3/8-28 UNF 2 A

Dimensions in mm