

## Rectifier Diodes

**SKN 100 SKR 100**  
**SKN 130 SKR 130**  
**SKN 240 SKR 240**

V <sub>RRM</sub> V <sub>RSM</sub>	I <sub>FRMS</sub> (maximum values for continuous operation)					
	200 A		260 A		500 A	
	I <sub>FAV</sub> (sin. 180; T <sub>case</sub> = 100 °C)					
V	125 A		165 A		320 A	
200	<b>SKN</b>	<b>SKR</b>	<b>SKN</b>	<b>SKR</b>	<b>SKN</b>	<b>SKR</b>
400	<b>100/02</b>	<b>100/02</b>	<b>130/02</b>	<b>130/02*</b>	<b>240/02</b>	<b>240/02*</b>
800	<b>100/04</b>	<b>100/04</b>	<b>130/04</b>	<b>130/04*</b>	<b>240/04</b>	<b>240/04*</b>
1200	<b>100/08</b>	<b>100/08</b>	<b>130/08</b>	<b>130/08*</b>	<b>240/08</b>	<b>240/08*</b>
1400	<b>100/12</b>	<b>100/12</b>	<b>130/12</b>	<b>130/12*</b>	<b>240/12</b>	<b>240/12*</b>
1600	<b>100/14</b>	<b>100/14</b>	<b>130/14</b>	<b>130/14*</b>	<b>240/14</b>	<b>240/14*</b>
1800	<b>100/16</b>	<b>100/16</b>	<b>130/16</b>	<b>130/16*</b>	<b>240/16</b>	<b>240/16*</b>
1800	<b>100/18†</b>	<b>100/18†</b>	<b>130/18†</b>	<b>130/18†</b>	<b>240/18†</b>	<b>240/18†</b>

Symbol	Conditions	SKN 100 SKR 100	SKN 130 SKR 130	SKN 240 SKR 240
I <sub>FAV</sub>	sin. 180; T <sub>case</sub> = 100 °C = 125 °C	125 A 100 A	165 A 130 A	320 A 240 A
I <sub>FSM</sub>	T <sub>vj</sub> = 25 °C; 10 ms T <sub>vj</sub> = 180 °C; 10 ms	1 750 A 1 500 A	2 500 A 2 000 A	6 000 A 5 000 A
i <sup>2</sup> t	T <sub>vj</sub> = 25 °C   8,3... T <sub>vj</sub> = 180 °C   10 ms	15 000 A <sup>2</sup> s 11 500 A <sup>2</sup> s	31 000 A <sup>2</sup> s 20 000 A <sup>2</sup> s	180 000 A <sup>2</sup> s 125 000 A <sup>2</sup> s
Q <sub>rr</sub>	T <sub>vj</sub> = 160 °C; - $\frac{di_F}{dt} = 10 \frac{A}{\mu s}$	typ. 100 μC	typ. 120 μC	typ. 200 μC
I <sub>R</sub>	T <sub>vj</sub> = 25 °C; V <sub>R</sub> = V <sub>RRM</sub> T <sub>vj</sub> = 180 °C; V <sub>R</sub> = V <sub>RRM</sub>	1 mA 15 mA	1 mA 22 mA	2 mA 60 mA
V <sub>F</sub>	T <sub>vj</sub> = 25 °C; (I <sub>F</sub> = ...); max.	1,55V (400A)	1,5V (500A)	1,4V (750A)
V <sub>(TO)</sub>	T <sub>vj</sub> = 180 °C	0,85 V	0,85 V	0,85 V
r <sub>T</sub>	T <sub>vj</sub> = 180 °C	1,8 mΩ	1,3 mΩ	0,6 mΩ
R <sub>thjc</sub>		0,45 °C/W	0,35 °C/W	0,20 °C/W
R <sub>thch</sub>		0,08 °C/W	0,08 °C/W	0,03 °C/W
T <sub>vj</sub>		- 40 ... + 180 °C		
T <sub>stg</sub>		- 55 ... + 180 °C		
M	SI units/US units	10Nm/90lb.in.	10Nm/90lb.in.	30Nm/270lb.in.
a		5 · 9,81 m/s <sup>2</sup>	5 · 9,81 m/s <sup>2</sup>	5 · 9,81 m/s <sup>2</sup>
w	approx.	100 g	100 g	250 g
RC	P <sub>R</sub> = 2 W	0,25μF + 50Ω	0,25μF + 50Ω	0,5μF + 30Ω
R <sub>p</sub>	P <sub>R</sub> = 20 W	50 kΩ	50 kΩ	50 kΩ
Case		E 13	E 14	E 15



### Features

- Reverse voltages up to 1600 V
- Hermetic metal cases with glass insulators
- Threaded studs ISO M 12, M16 x 1,5 (SKR 130 also 1/2–20 UNF or 3/8–24 UNF, SKR 240 also 3/4–16 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 in limited quantities
- \* available with UNF threads: 3/8–24 UNF 2 A (e.g. SKR130/02 UNF 3/8) or 1/2–20 UNF 2 A (e.g. SKR 130/02 UNF), SKR 240/02 UNF with 3/4–16 UNF 2 A thread

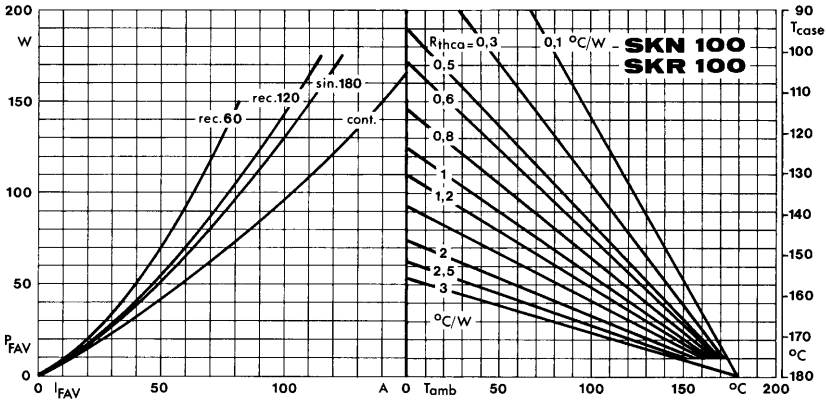


Fig. 1 a Power dissipation vs. forward current and case temperature

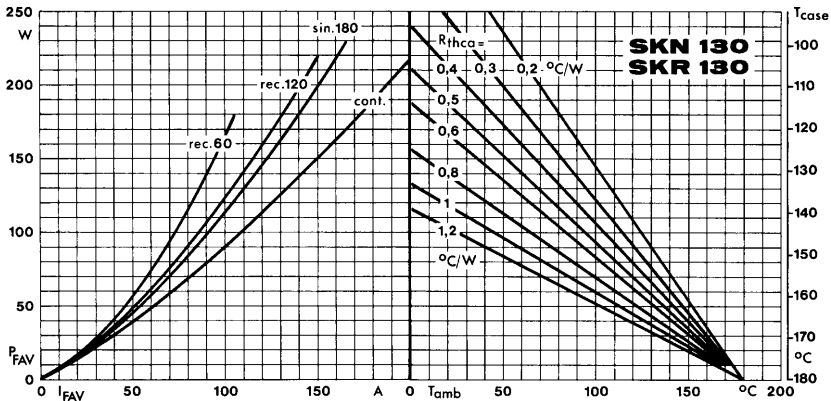


Fig. 1 b Power dissipation vs. forward current and case temperature

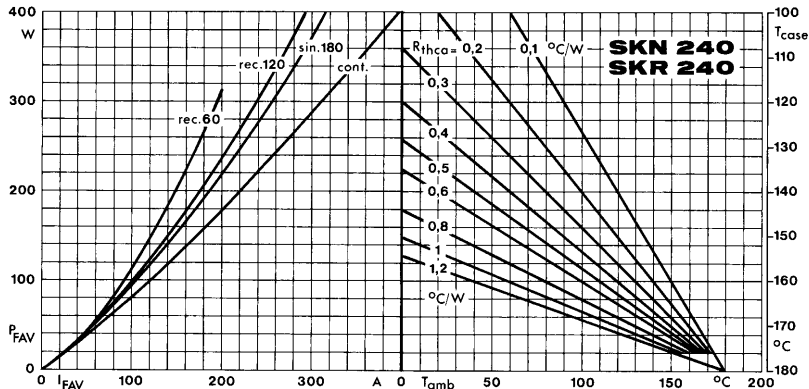


Fig. 1 c Power dissipation vs. forward current and case temperature

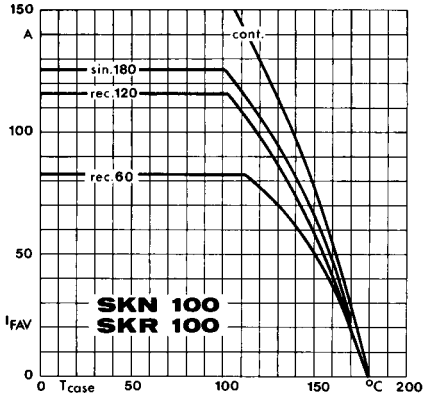


Fig. 3 a Rated forward current vs. case temperature

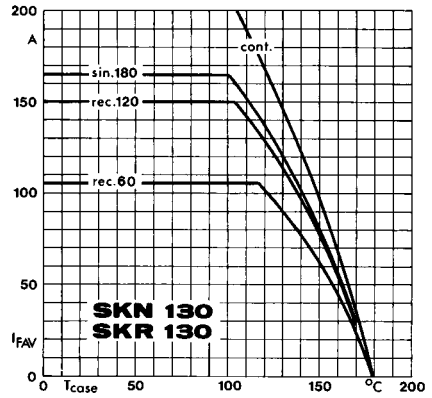


Fig. 3 b Rated forward current vs. case temperature

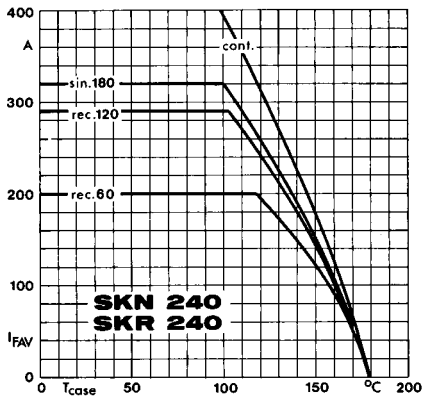


Fig. 3 c Rated forward current vs. case temperature

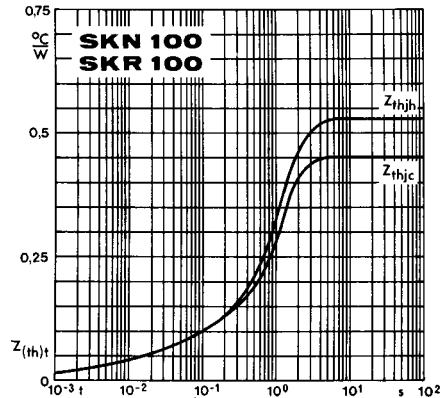


Fig. 5 a Transient thermal impedance vs. time

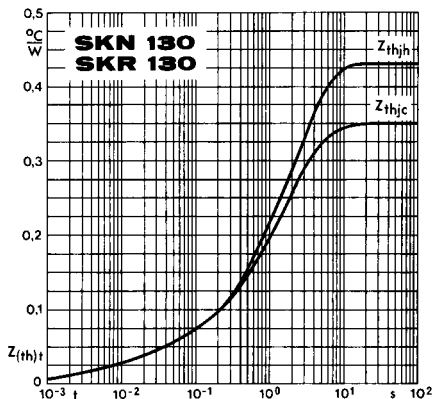


Fig. 5 b Transient thermal impedance vs. time

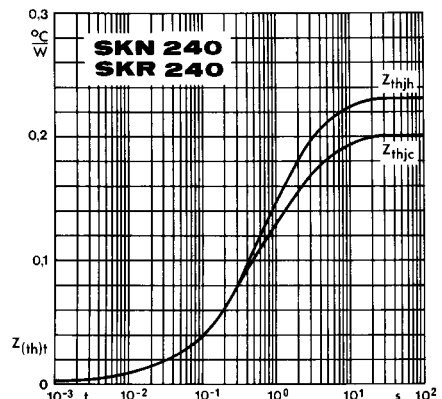


Fig. 5 c Transient thermal impedance vs. time

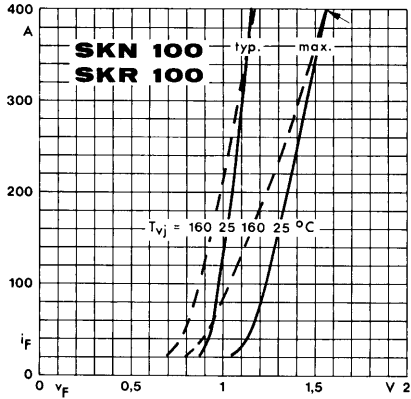


Fig. 6 a Forward characteristics

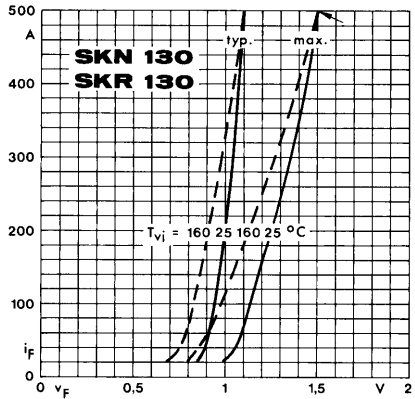


Fig. 6 b Forward characteristics

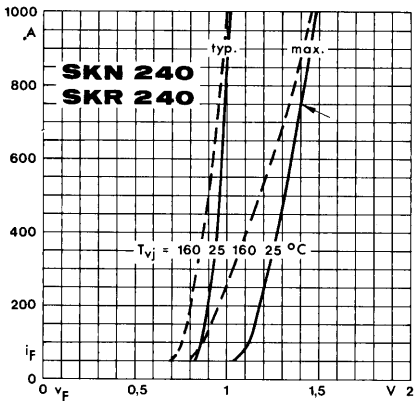


Fig. 6 c Forward characteristics

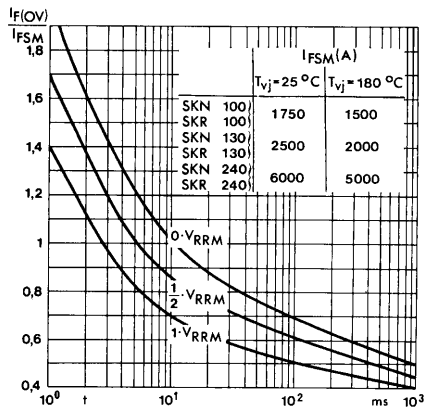


Fig. 7 Surge overload current vs. time