

Rectifier Diodes

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



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

V _{VRSM} V _{VRM}	I _{FRMS} (maximum values for continuous operation)					
	200 A		260 A		500 A	
	I _{FAV} (sin. 180; T _{case} = 100 °C)					
V	125 A		165 A		320 A	
						
	SKN	SKR	SKN	SKR	SKN	SKR
200	100/02	100/02	130/02	130/02*	240/02	240/02*
400	100/04	100/04	130/04	130/04*	240/04	240/04*
800	100/08	100/08	130/08	130/08*	240/08	240/08*
1200	100/12	100/12	130/12	130/12*	240/12	240/12*
1400	100/14	100/14	130/14	130/14*	240/14	240/14*
1600	100/16	100/16	130/16	130/16*	240/16	240/16*
1800	100/18+	100/18+	130/18+	130/18+	240/18+	240/18+

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

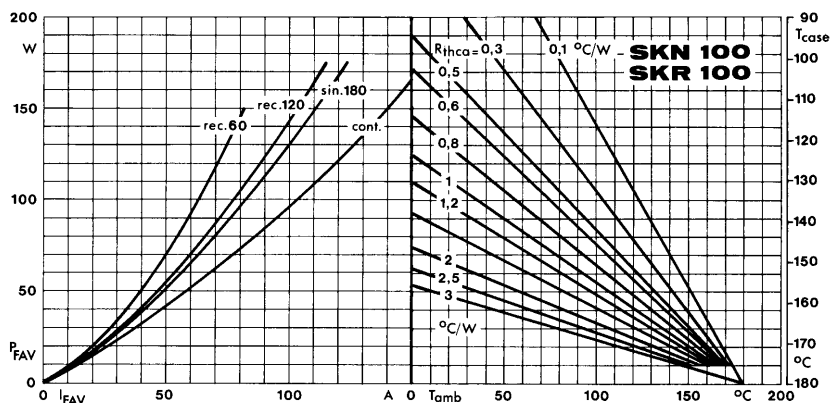


Fig. 1 a Power dissipation vs. forward current and case temperature

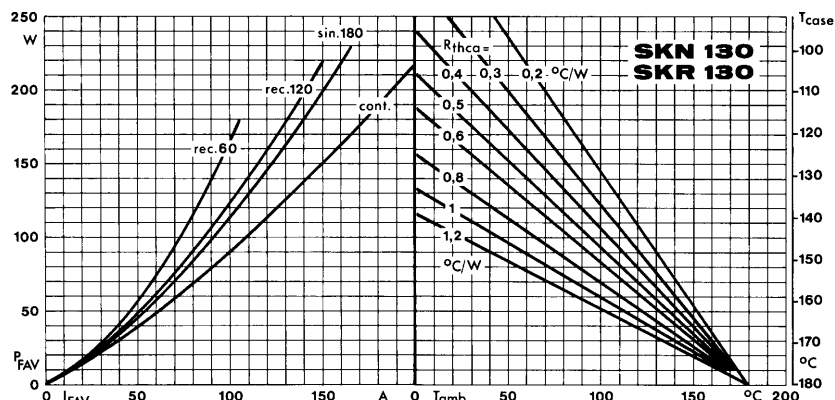


Fig. 1 b Power dissipation vs. forward current and case temperature

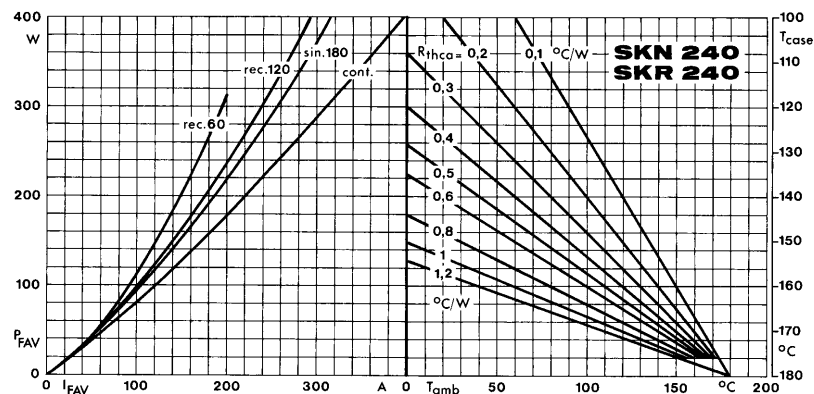


Fig. 1 c Power dissipation vs. forward current and case temperature

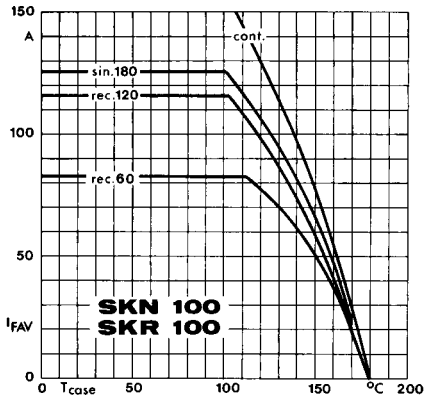


Fig. 3 a Rated forward current vs. case temperature

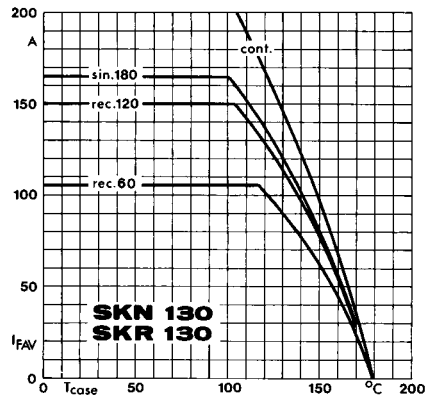


Fig. 3 b Rated forward current vs. case temperature

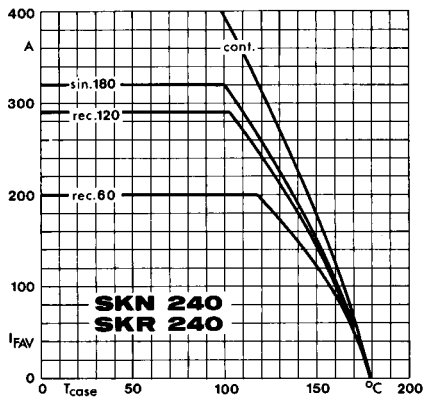


Fig. 3 c Rated forward current vs. case temperature

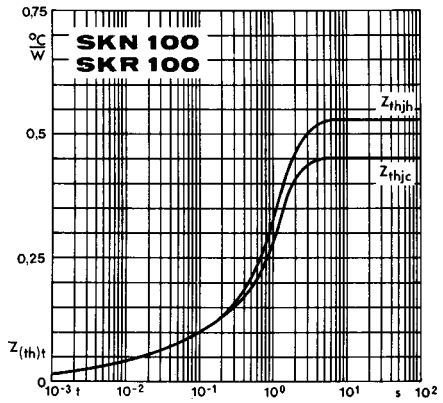


Fig. 5 a Transient thermal impedance vs. time

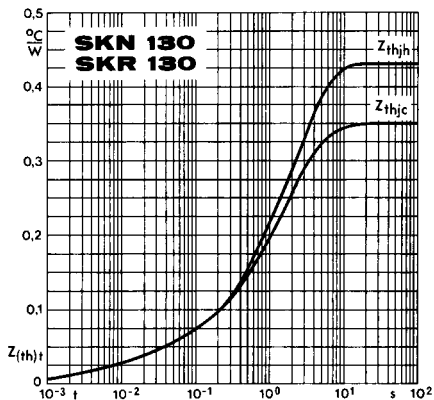


Fig. 5 b Transient thermal impedance vs. time

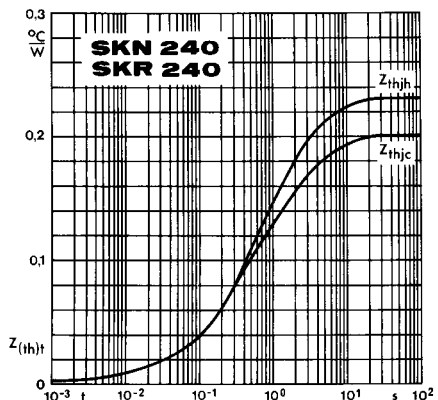


Fig. 5 c Transient thermal impedance vs. time

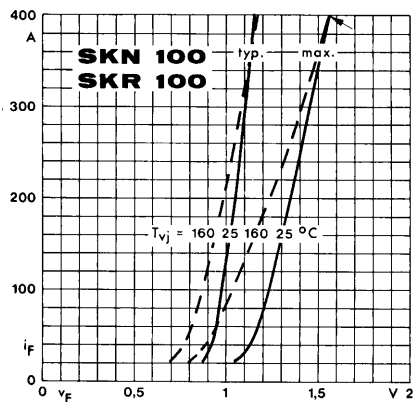


Fig. 6 a Forward characteristics

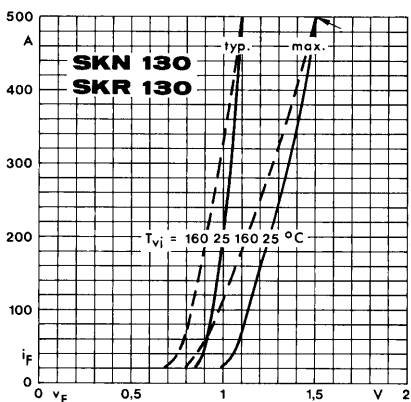


Fig. 6 b Forward characteristics

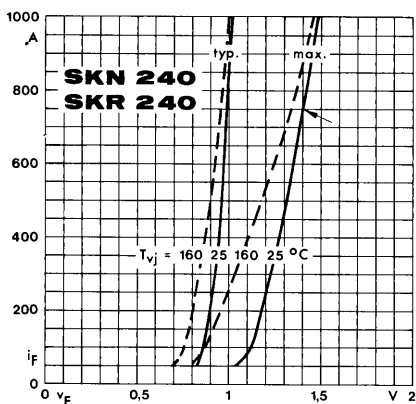


Fig. 6 c Forward characteristics

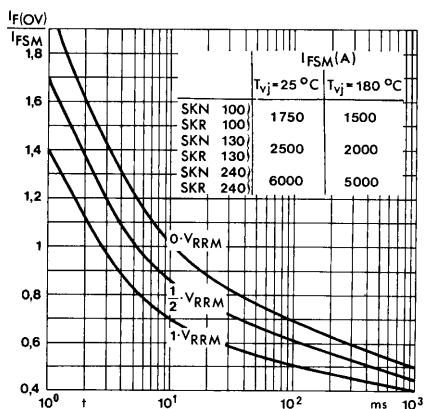


Fig. 7 Surge overload current vs. time