

SEMIKRON INC

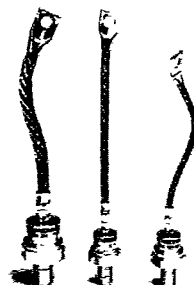
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V _{RRM} V _{RRM}	I _{FRMS} (maximum values for continuous operation)		
	200 A	260 A	500 A
	I _{FAV} (sin. 180; T _{case} = 100 °C)		
V	125 A	165 A	320 A
200	SKN 100/02	SKN 130/02	SKN 240/02
400	SKN 100/04	SKN 130/04	SKN 240/04
800	SKN 100/08	SKN 130/08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

Rectifier Diodes

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

T-DI-21



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	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 T _{vj} = 180 °C	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.	1,55 V (400 A)	1,5 V (500 A)	1,4 V (750 A)
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	10 Nm/90 lb. in.	10 Nm/90 lb. 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	0,25 μF + 50 Ω	0,25 μF + 50 Ω	0,5 μF + 30 Ω
R _p	P _R = 20 W	50 kΩ	50 kΩ	50 kΩ
Case		E 13	E 14	E 15



SKN



SKR

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)
- 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 threads 3/8–24 UNF 2 A (e.g. SKR 130/02 UNF 3/8) or 1/2–20 UNF 2 A (e.g. SKR 130/02 UNF)

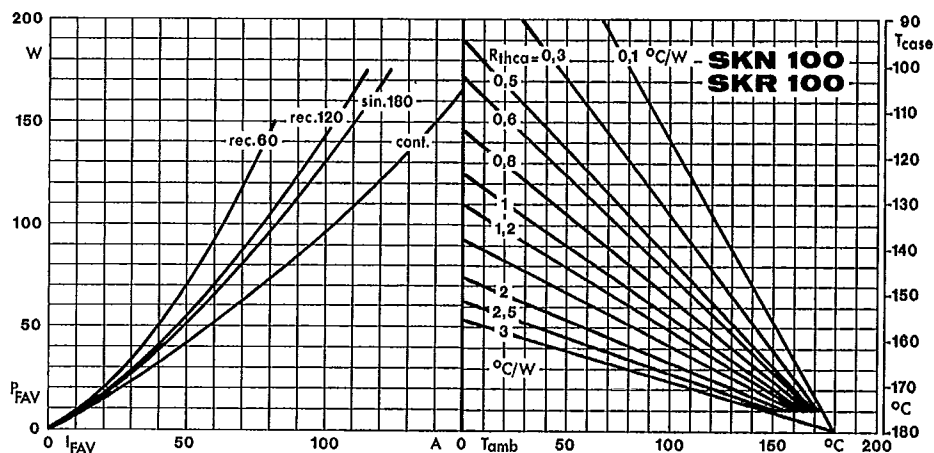


Fig. 1 a Power dissipation vs. forward current and case temperature

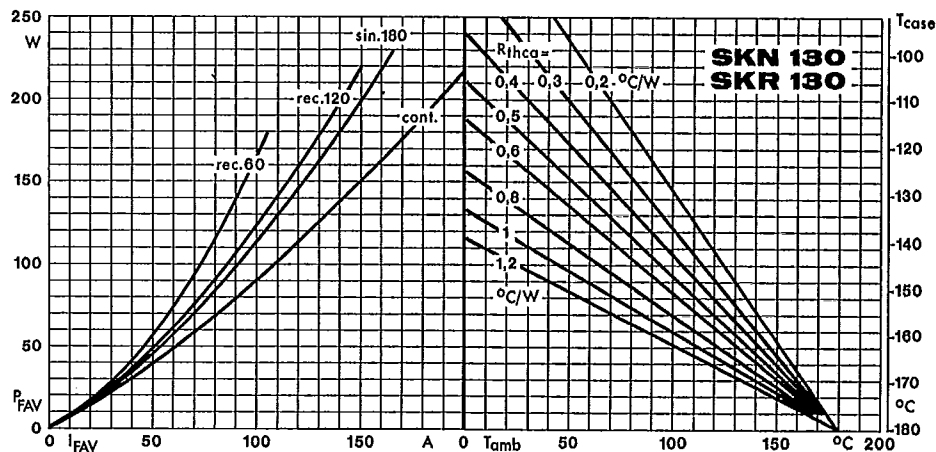


Fig. 1 b Power dissipation vs. forward current and case temperature

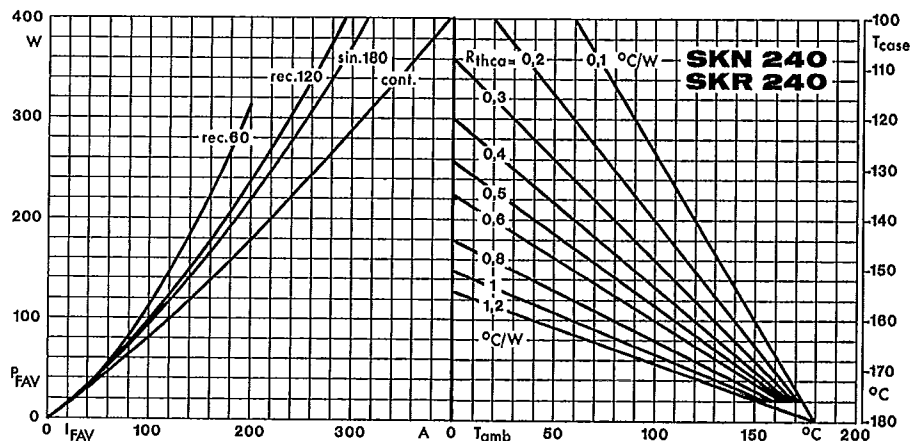


Fig. 1 c Power dissipation vs. forward current and case temperature

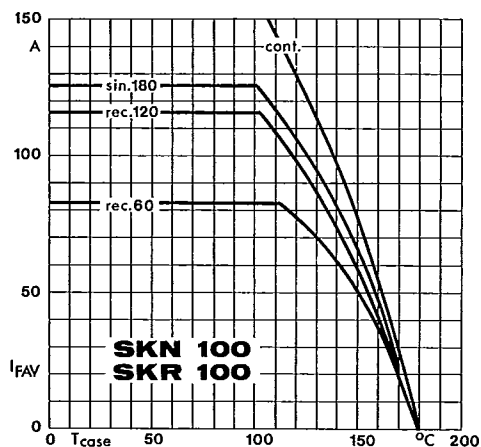


Fig. 3 a Rated forward current vs. case temperature

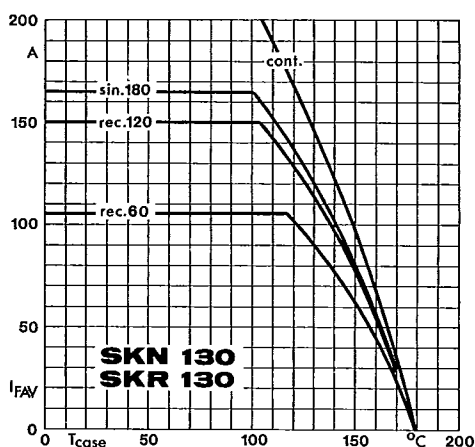


Fig. 3 b Rated forward current vs. case temperature

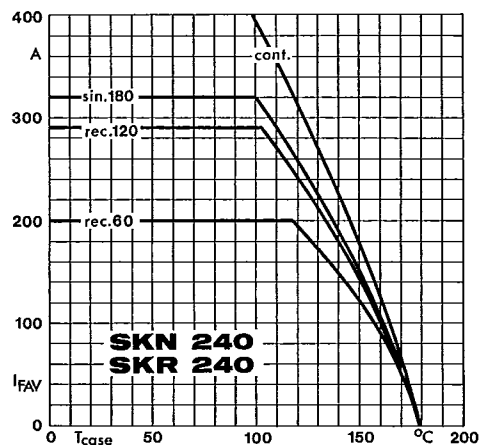


Fig. 3 c Rated forward current vs. case temperature

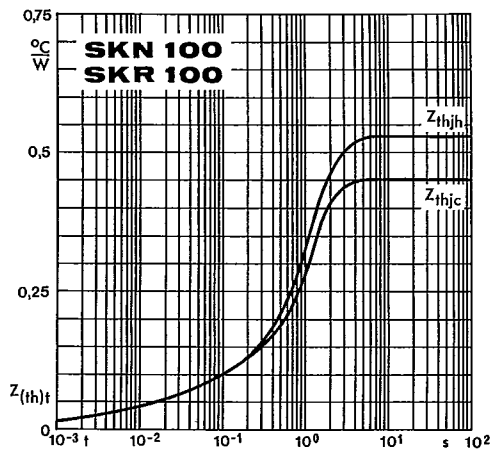


Fig. 5 a Transient thermal impedance vs. time

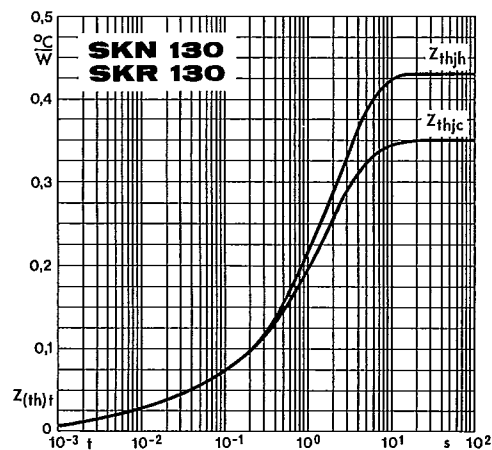


Fig. 5 b Transient thermal impedance vs. time

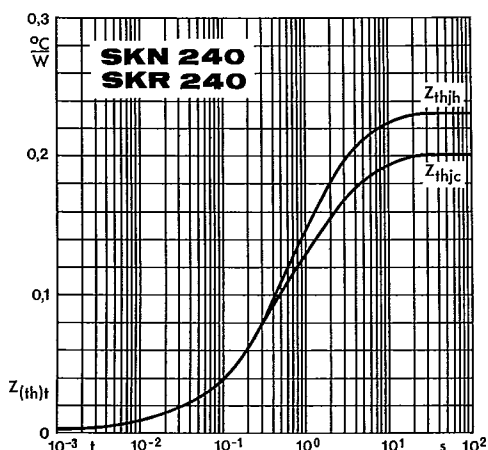


Fig. 5 c Transient thermal impedance vs. time

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T-01-21

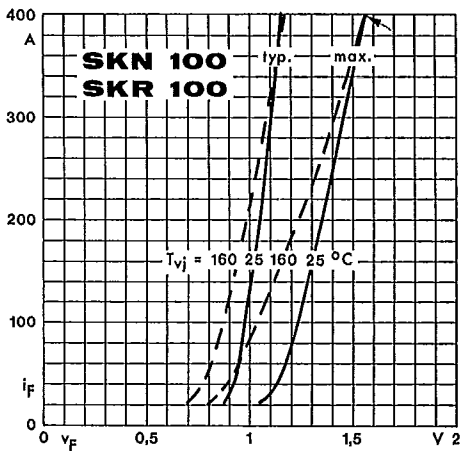


Fig. 6 a Forward characteristics

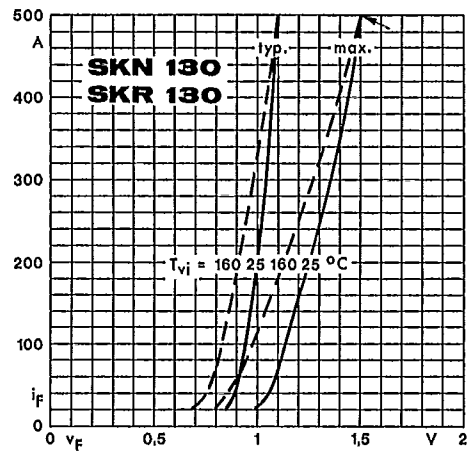


Fig. 6 b Forward characteristics

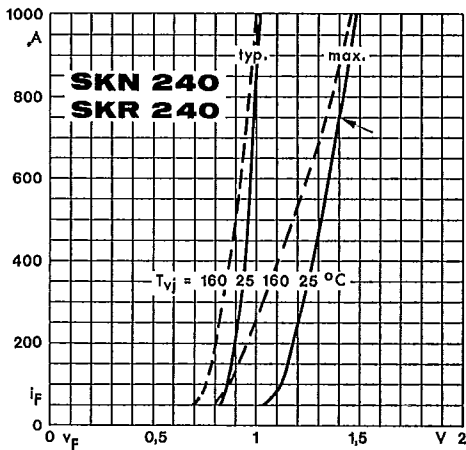


Fig. 6 c Forward characteristics

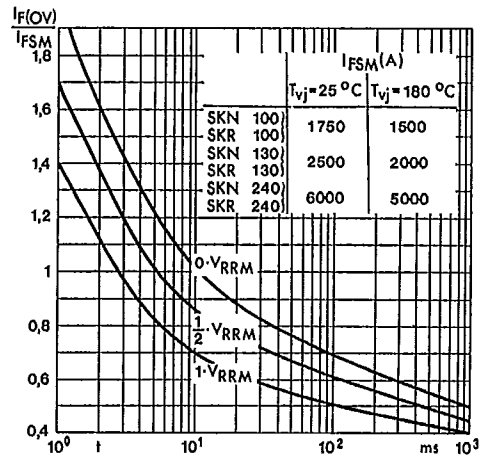


Fig. 7 Surge overload current vs. time