

Stud Diode

V_{RSM} V	V_{RRM} V	I_{FRMS} = 80 A (maximum value for continuous operation) I_{FAV} = 45 A (sin. 180; T_c = 125 °C)		
400	400	SKN 45/04	SKR 45/04	
800	800	SKN 45/08	SKR 45/08	
1200	1200	SKN 45/12	SKR 45/12	
1400	1400	SKN 45/14	SKN 45/14	
1600	1600	SKN 45/16	SKR 45/16	

Symbol	Conditions	Values	Units
I_{FAV}	sin. 180; T_c = 100 °C	50	A
I_D	K 5; T_a = 45 °C; B2 / B6	40 / 57	A
	K 1,1; T_a = 45 °C; B2 / B6	86 / 120	A
I_{FSM}	T_{vj} = 25 °C; 10 ms	700	A
	T_{vj} = 180 °C; 10 ms	600	A
i²t	T_{vj} = 25 °C; 8,3 ... 10 ms	2500	A²s
	T_{vj} = 180 °C; 8,3 ... 10 ms	1800	A²s
V_F	T_{vj} = 25 °C; I_F = 150 A	max. 1,6	V
$V_{(TO)}$	T_{vj} = 180 °C	max. 0,85	V
r_T	T_{vj} = 180 °C	max. 5	mΩ
I_{RD}	T_{vj} = 180 °C; V_{RD} = V_{RRM}	max. 10	mA
Q_{rr}	T_{vj} = 160 °C; - di_F/dt = 10 A/µs	70	µC
$R_{th(j-c)}$		0,85	K/W
$R_{th(c-s)}$		0,25	K/W
T_{vj}		- 40 ... + 180	°C
T_{stg}		- 55 ... + 180	°C
V_{isol}		-	V~
M_s	to heatsink	4	Nm
a		5 * 9,81	m/s²
m	approx.	30	g
Case		E 12	

Rectifier Diode

SKN 45

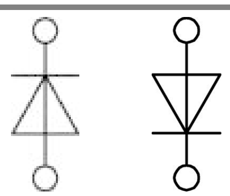
SKR 45

Features

- Reverse voltages up to 1600 V
- Hermetic metal case with glass insulator
- Threaded stud ISO M8
- 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
- Recommended snubber network: RC: 0,1 µF, 100 Ω (P_R = 1 W) R_P = 80 kΩ (P_R = 6 W)



SKN SKR

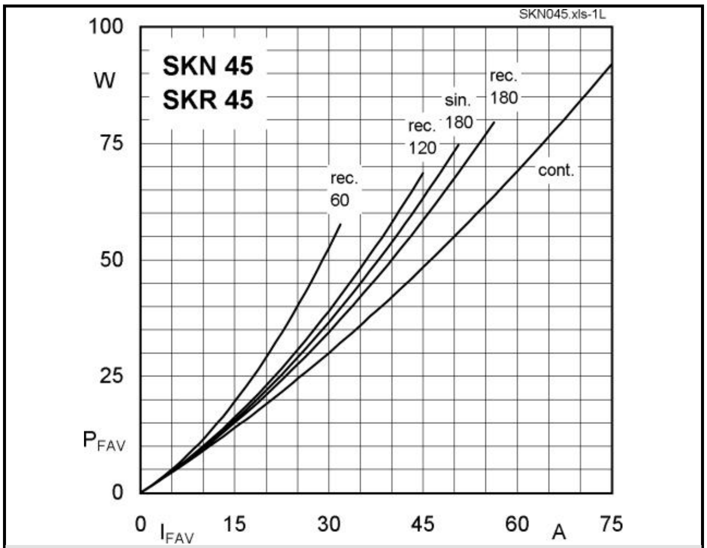


Fig. 1L Power dissipation vs. forward current

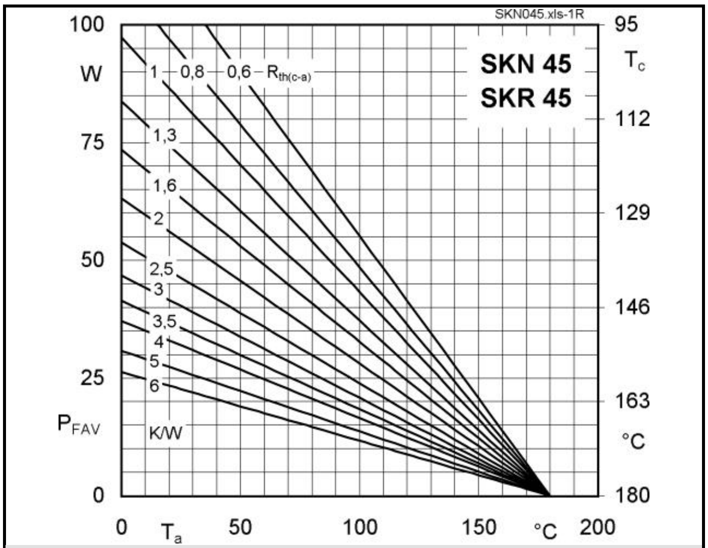


Fig. 1R Power dissipation vs. ambient temperature

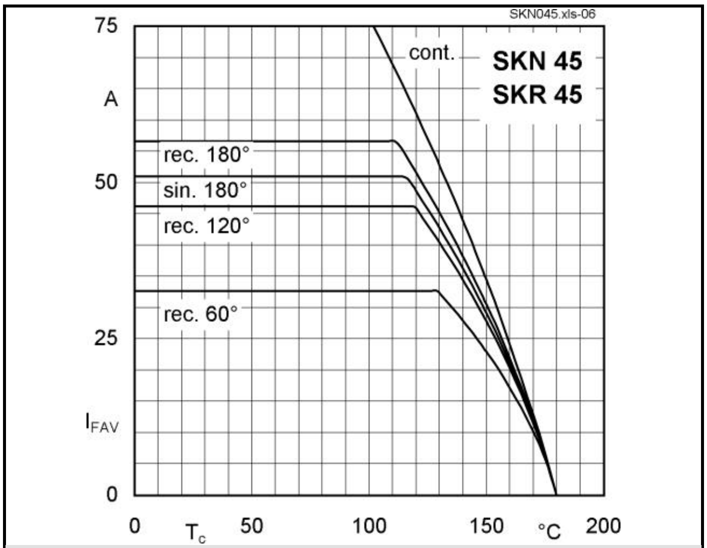


Fig. 2 Forward current vs. case temperature

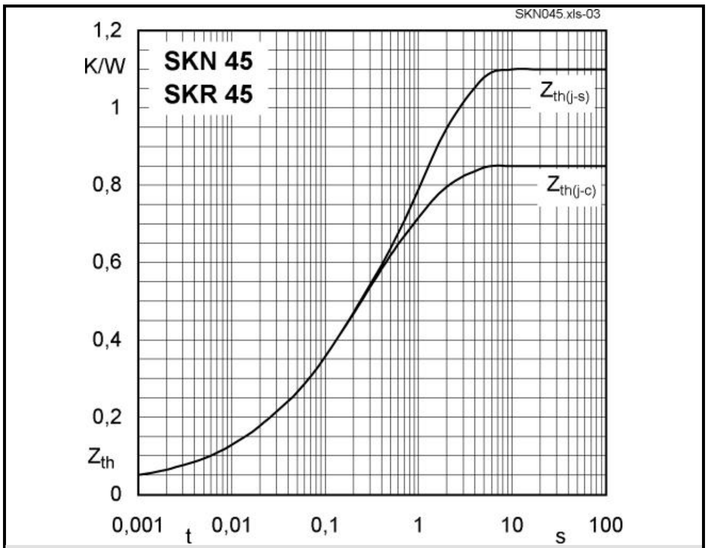


Fig. 4 Transient thermal impedance vs. time

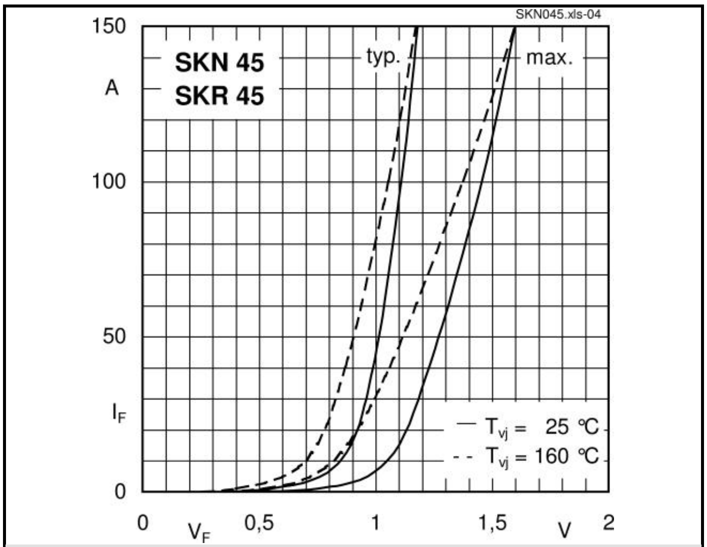


Fig. 5 Forward characteristics

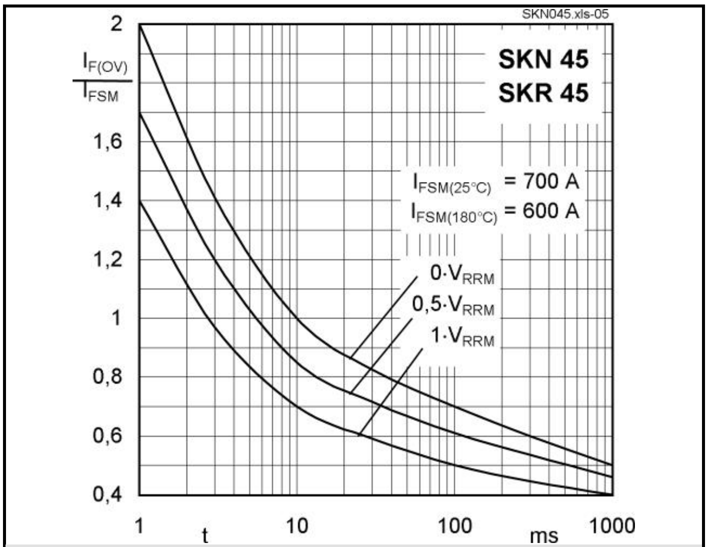
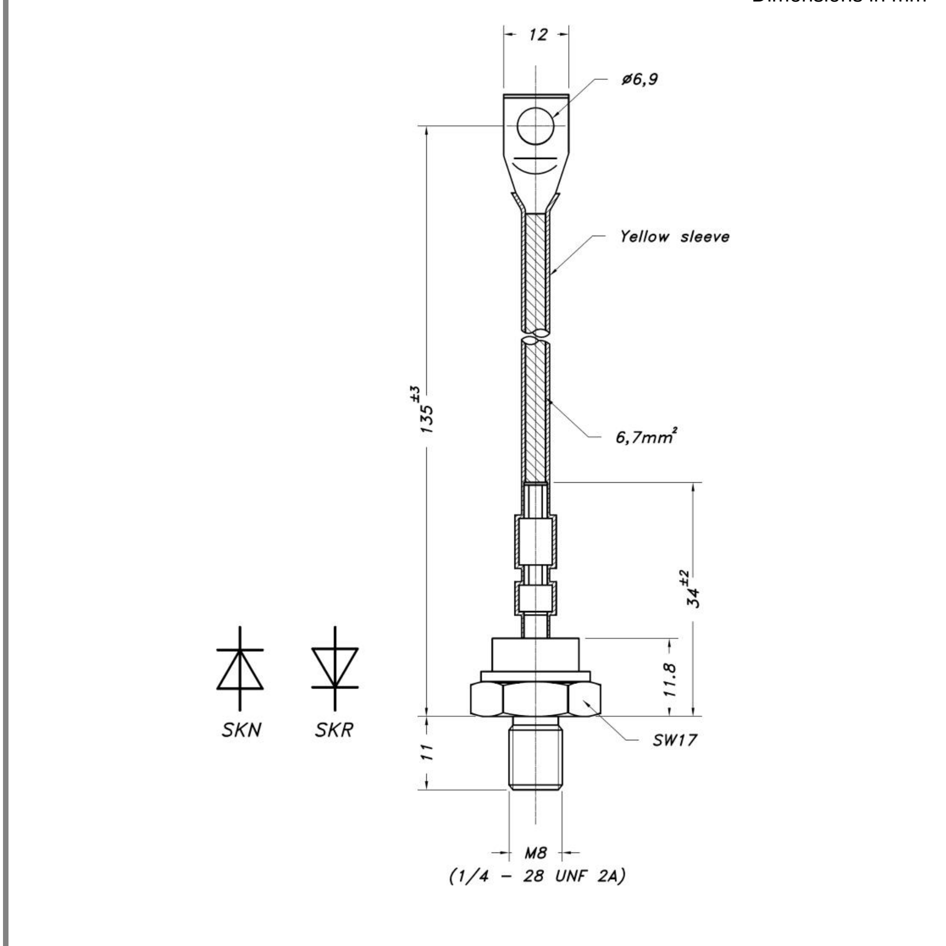


Fig. 6 Surge overload current vs. time



Case E 12 (IEC 60191: A 16 U, A 17 MB 2; JEDEC: SO-32B)

* The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON products in life support appliances and systems is subject to prior specification and written approval by SEMIKRON. We therefore strongly recommend prior consultation of our personal.

