

# SKN 45, SKR 45



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	SKR 45/14
1600	1600	SKN 45/16	SKR 45/16

## Rectifier Diode

**SKN 45**  
**SKR 45**

### Features

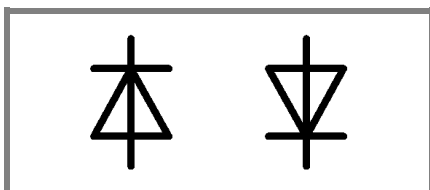
- Reverse voltages up to 1600 V
- Hermetic metal case with glass insulator
- Cooling via heatsinks
- Threaded stud ISO M8 or 1/4 - 28 UNF 2A
- **SKN**: anode to stud
- **SKR**: cathode to stud

### Typical Applications \*

- All purpose high power rectifier diode
- Non-controllable and half-controllable rectifiers
- Free-wheeling diodes
- Recommended snubber network:  
 $R_C$ : 0,1  $\mu$ F, 100  $\Omega$  ( $P_R = 1$ W),  
 $R_D$ : 80 k $\Omega$  ( $P_R = 6$ W)

1) Mounting with grease-like thermal compound or joint contact compound

Symbol	Condition	Values	Units
$I_{FAV}$	sin. 180 ; $T_C = 117$ °C	50	A
$I_D$	K 5; $T_a = 45$ °C; B2 / B6 K 1,1; $T_a = 45$ °C; B2 / B6	40 / 57 86 / 120	A A
$I_{FSM}$	$T_{vj} = 25$ ° C ; 10 ms $T_{vj} = 180$ ° C ; 10 ms	700 600	A A
$i^2t$	$T_{vj} = 25$ ° C ; 8,3...10 ms $T_{vj} = 180$ ° C ; 8,3...10 ms	2500 1800	A <sup>2</sup> s A <sup>2</sup> s
$V_F$	$T_{vj} = 25$ ° 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	m $\Omega$
$I_{RD}$	$T_{vj} = 180$ ° C ; $V_{RD} = V_{RRM}$	max. 10	mA
$Q_{rr}$	$T_{vj} = 160$ °C, $-di_F/dt = 10$ A/ $\mu$ s	70	$\mu$ C
$R_{th(i-c)}$		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~
$M_s$	M8 Stud 1/4 - 28 UNF 2A M8 Stud (lubricated) <sup>1)</sup> 1/4 - 28 UNF 2A (lubricated) <sup>1)</sup>	4 2,5 3 2	Nm Nm Nm Nm
a		5 * 9,81	m/s <sup>2</sup>
m	approx.	30	g
Case		E 12	



SKN

SKR

# SKN 45, SKR 45

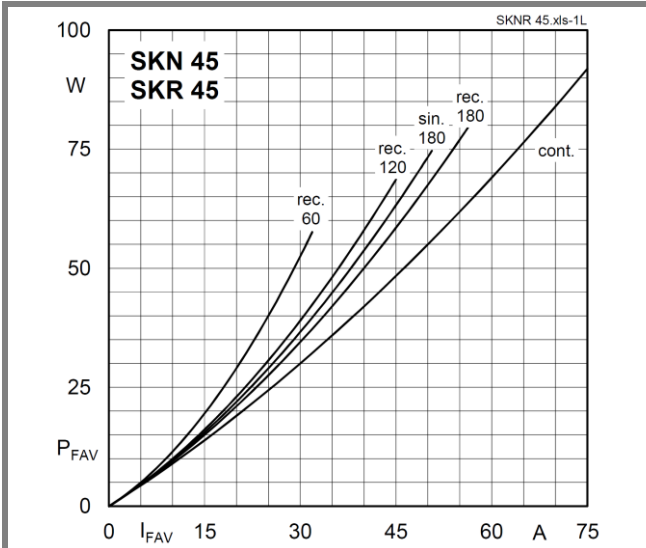


Fig. 1L Power dissipation vs. forward current

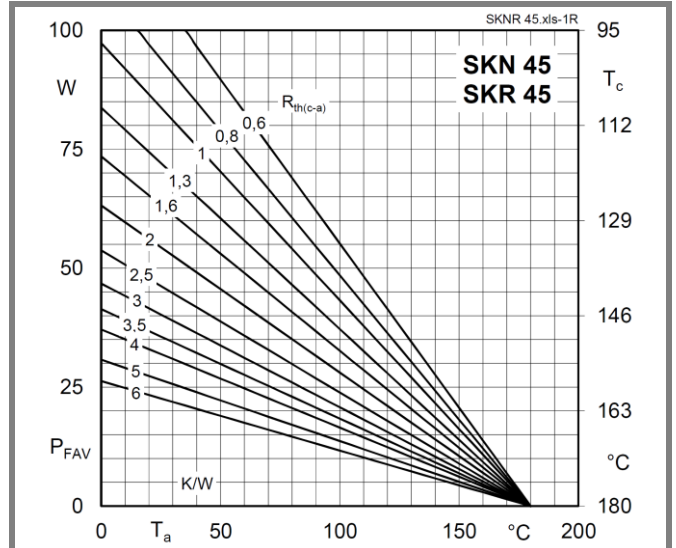


Fig. 1R Power dissipation vs. ambient temperature

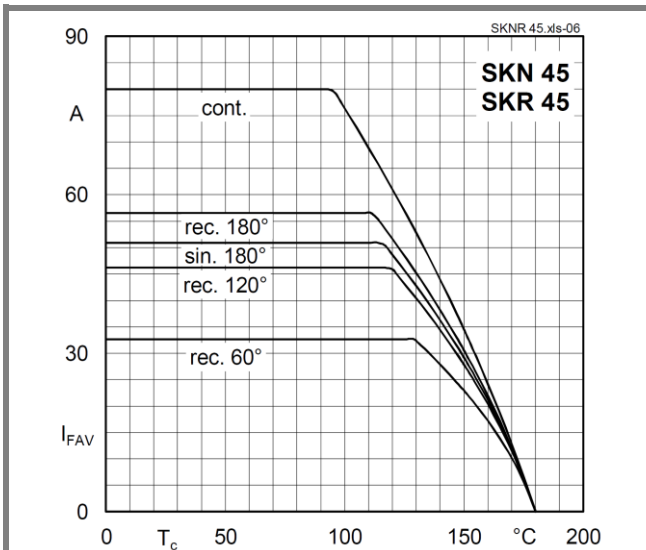


Fig. 2 Forward current vs. case temperature

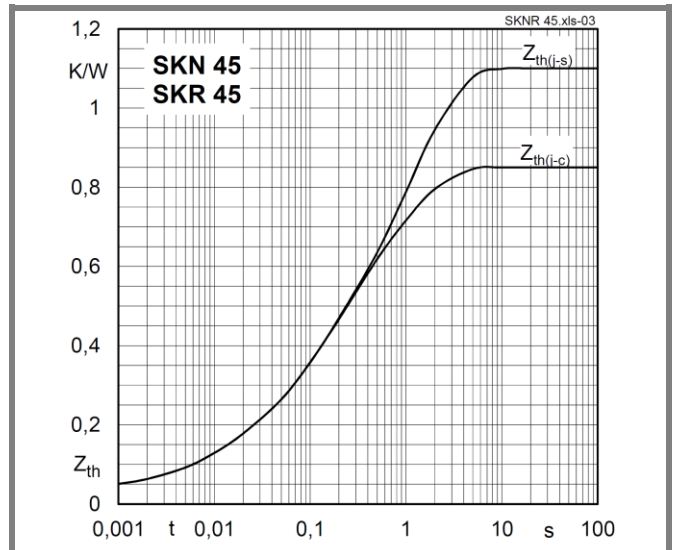


Fig. 4 Transient thermal impedance vs. time

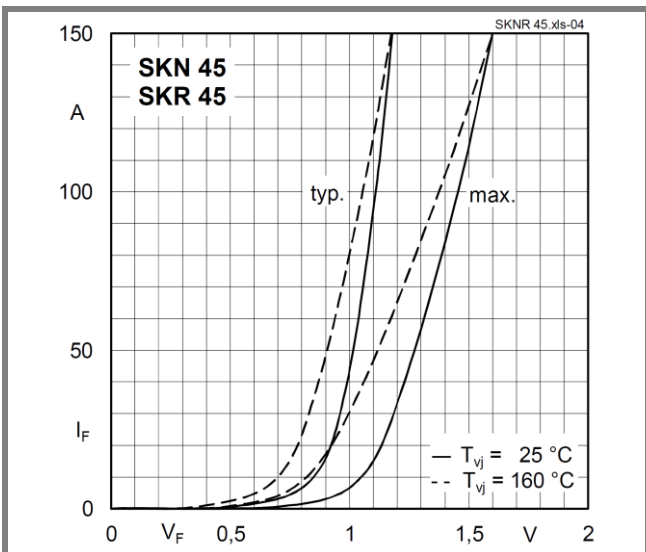


Fig. 5 Forward characteristics

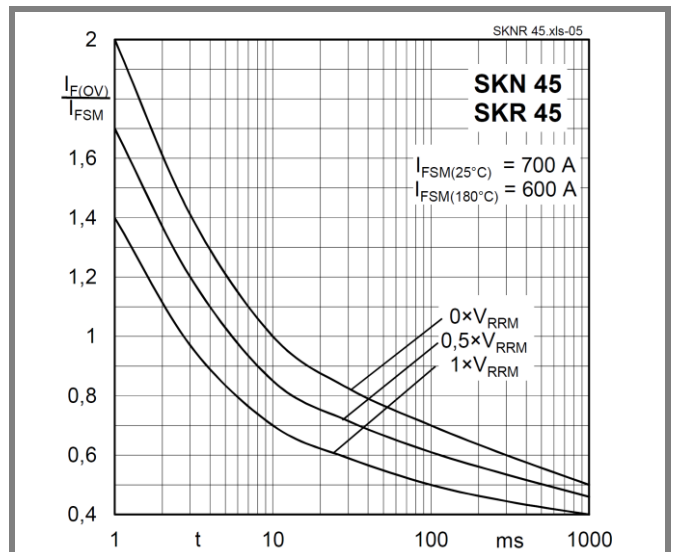
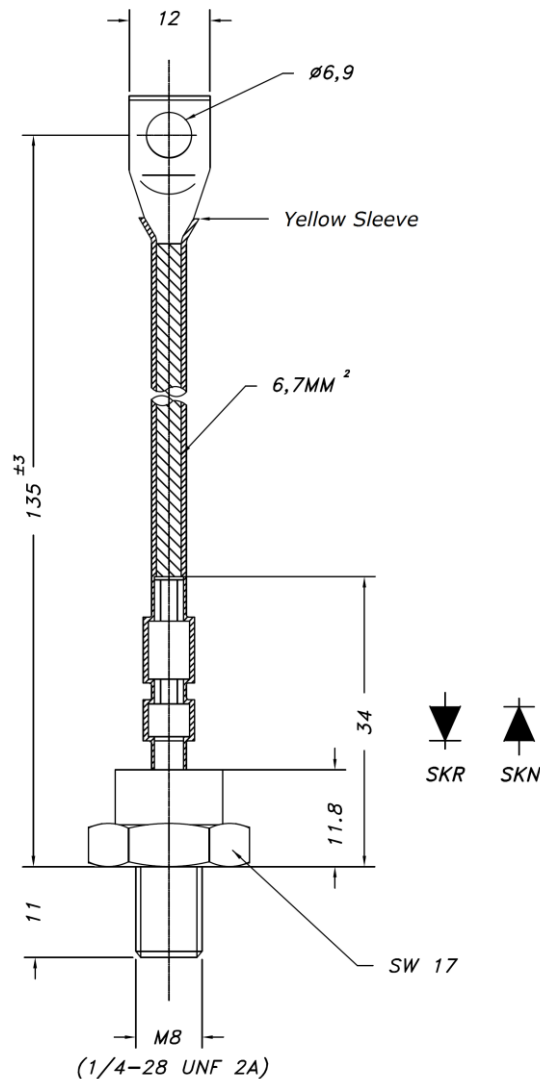


Fig. 6 Surge overload current vs. time



Case E12 (IEC 60191: A 16 U; A 17 MB 2; JEDEC: SO-32B)

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