

**Stud Diode**

## Rectifier Diode

**SKN 45**

**SKR 45**

### Features

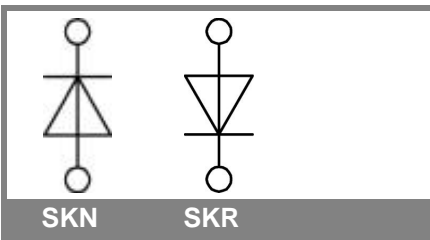
- Reverse voltages up to 1600 V
- Hermetic metal case with glass insulator
- Threaded stud ISO M8
- SKN: anode to stud, SKR: cathode to stud

### Typical Applications

- All-purpose mean power rectifier diodes
- Cooling via heatsinks
- Non-controllable and half-controllable rectifiers
- Free-wheeling diodes
- Recommended snubber network:  
 $RC: 0,1 \mu F, 100 \Omega (P_R = 1 W)$   
 $R_P = 80 k\Omega (P_R = 6 W)$

$V_{RSM}$ V	$V_{RRM}$ V	$I_{FRMS} = 80 A$ (maximum value for continuous operation) $I_{FAV} = 45 A$ (sin. 180; $T_c = 125^\circ C$ )	
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; $T_c = 100^\circ C$	50	A
$I_D$	K 5; $T_a = 45^\circ C$ ; B2 / B6	40 / 57	A
	K 1,1; $T_a = 45^\circ C$ ; B2 / B6	86 / 120	A
$I_{FSM}$	$T_{vj} = 25^\circ C$ ; 10 ms	700	A
	$T_{vj} = 180^\circ C$ ; 10 ms	600	A
$i^2t$	$T_{vj} = 25^\circ C$ ; 8,3 ... 10 ms	2500	A <sup>2</sup> s
	$T_{vj} = 180^\circ C$ ; 8,3 ... 10 ms	1800	A <sup>2</sup> s
$V_F$	$T_{vj} = 25^\circ C$ ; $I_F = 150 A$	max. 1,6	V
$V_{(TO)}$	$T_{vj} = 180^\circ C$	max. 0,85	V
$r_T$	$T_{vj} = 180^\circ C$	max. 5	m $\Omega$
$I_{RD}$	$T_{vj} = 180^\circ C$ ; $V_{RD} = V_{RRM}$	max. 10	mA
$Q_{rr}$	$T_{vj} = 160^\circ C$ ; $- di_F/dt = 10 A/\mu s$	70	$\mu C$
$R_{th(j-c)}$		0,85	K/W
$R_{th(c-s)}$		0,25	K/W
$T_{vj}$		- 40 ... + 180	$^\circ C$
$T_{stg}$		- 55 ... + 180	$^\circ C$
$V_{isol}$		-	V~
$M_s$	to heatsink	4	Nm
a		5 * 9,81	m/s <sup>2</sup>
m	approx.	30	g
Case		E 12	



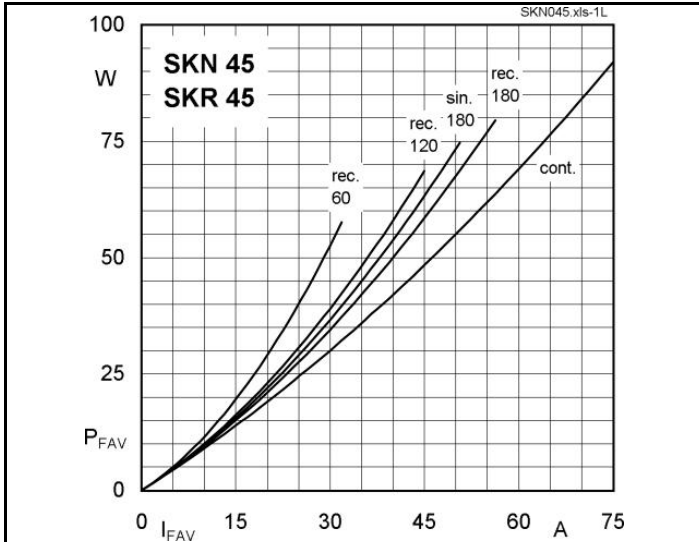


Fig. 1L Power dissipation vs. forward current

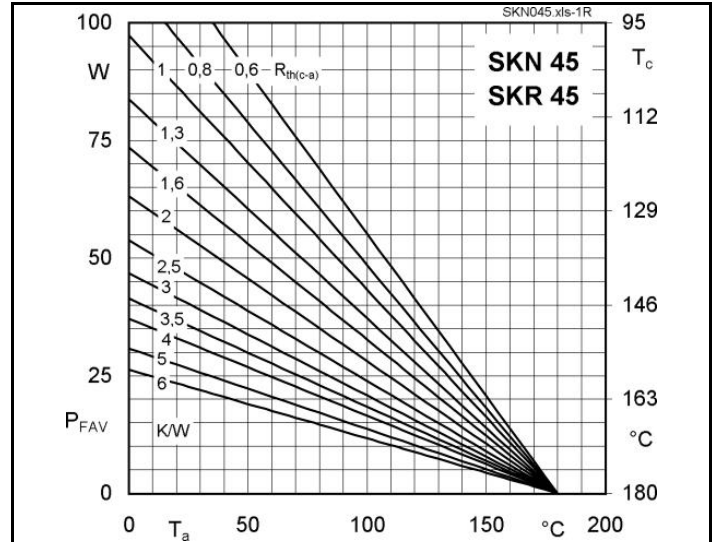


Fig. 1R Power dissipation vs. ambient temperature

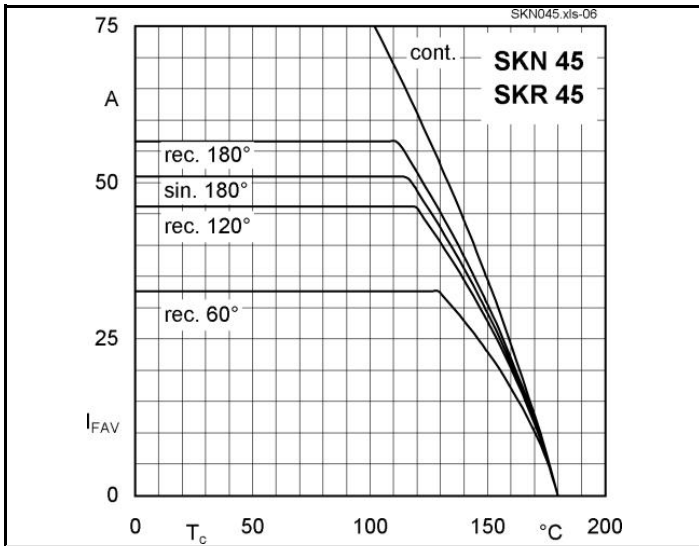


Fig. 2 Forward current vs. case temperature

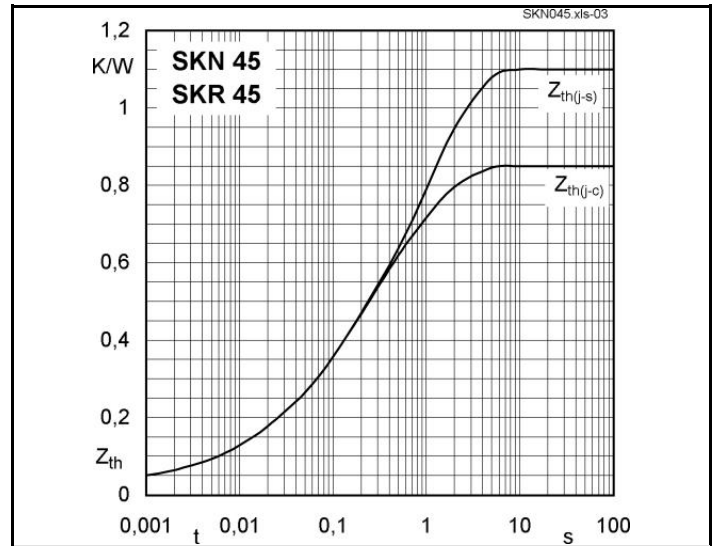


Fig. 4 Transient thermal impedance vs. time

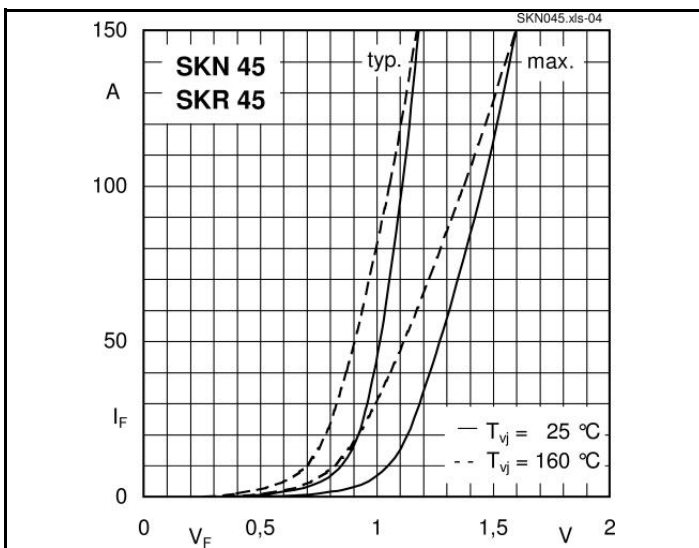


Fig. 5 Forward characteristics

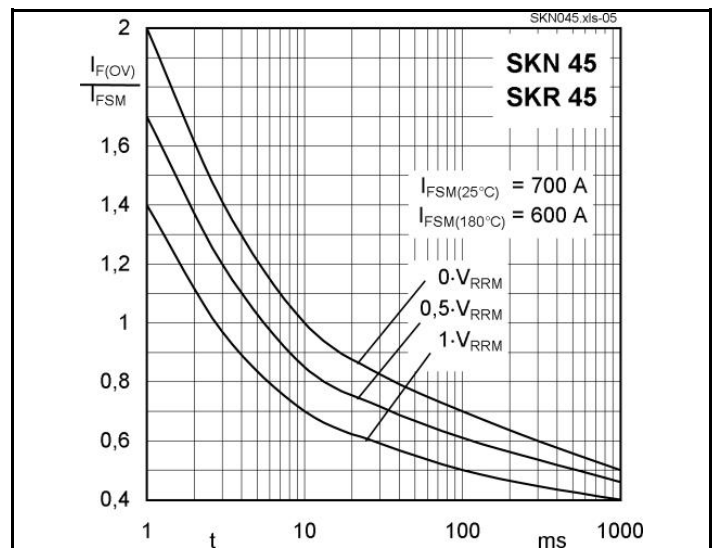
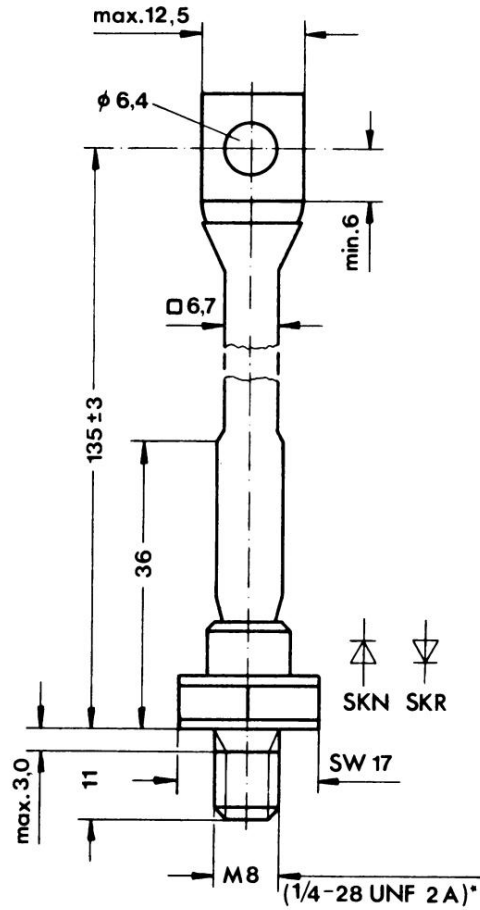


Fig. 6 Surge overload current vs. time

Dimensions in mm



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

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