

**Stud Diode**

## Rectifier Diode

**SKN 20**

**SKR 20**

### Features

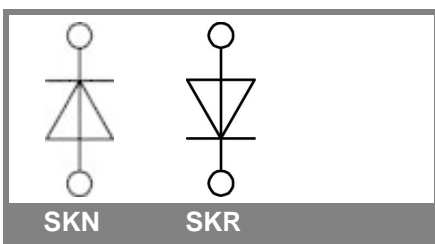
- Reverse voltages up to 1600 V
- Hermetic metal case with glass insulator
- Threaded stud ISO M6
- SKN: anode to stud,  
SKR: cathode to stud

### Typical Applications\*

- All-purpose mean power rectifier diodes
- Cooling via metal plates or heatsinks
- Non-controllable and half-controllable rectifiers
- Free-wheeling diodes
- Recommended snubber network:  
RC: 0,05  $\mu$ F, 200  $\Omega$  ( $P_R = 1$  W),  
 $R_p = 150$  k $\Omega$  ( $P_R = 4$  W)

$V_{RSM}$ V	$V_{RRM}$ V	$I_{FRMS} = 40$ A (maximum value for continuous operation)	
		$I_{FAV} = 20$ A (sin. 180 °; $T_c = 125$ °C)	
400	400	SKN 20/04	SKR 20/04
800	800	SKN 20/08	SKR 20/08
1200	1200	SKN 20/12	SKR 20/12
1400	1400	SKN 20/14	SKR 20/14
1600	1600	SKN 20/16	SKR 20/16

Symbol	Conditions	Values	Units
$I_{FAV}$	sin. 180; $T_c = 100$ °C	25	A
$I_D$	K 9; $T_a = 45$ °C; B2 / B6	20 / 29	A
	K 3; $T_a = 45$ °C; B2 / B6	35 / 50	A
$I_{FSM}$	$T_{vj} = 25$ °C; 10 ms	375	A
	$T_{vj} = 180$ °C; 10 ms	320	A
$i^2t$	$T_{vj} = 25$ °C; 8,3 ... 10 ms	700	A <sup>2</sup> s
	$T_{vj} = 180$ °C; 8,3 ... 10 ms	510	A <sup>2</sup> s
$V_F$	$T_{vj} = 25$ °C; $I_F = 60$ A	max. 1,55	V
$V_{(TO)}$	$T_{vj} = 180$ °C	max. 0,85	V
$r_T$	$T_{vj} = 180$ °C	max. 11	m $\Omega$
$I_{RD}$	$T_{vj} = 180$ °C; $V_{RD} = V_{RRM}$	max. 4	mA
$Q_{rr}$	$T_{vj} = 160$ °C; $-di_F/dt = 10$ A/ $\mu$ s	20	$\mu$ C
$R_{th(j-c)}$		2	K/W
$R_{th(c-s)}$		1	K/W
$T_{vj}$		- 40 ... + 180	°C
$T_{stg}$		- 55 ... + 180	°C
$V_{isol}$		-	V~
$M_s$	to heatsink	2,0	Nm
$a$		5 * 9,81	m/s <sup>2</sup>
$m$	approx.	11	g
Case		E 9	



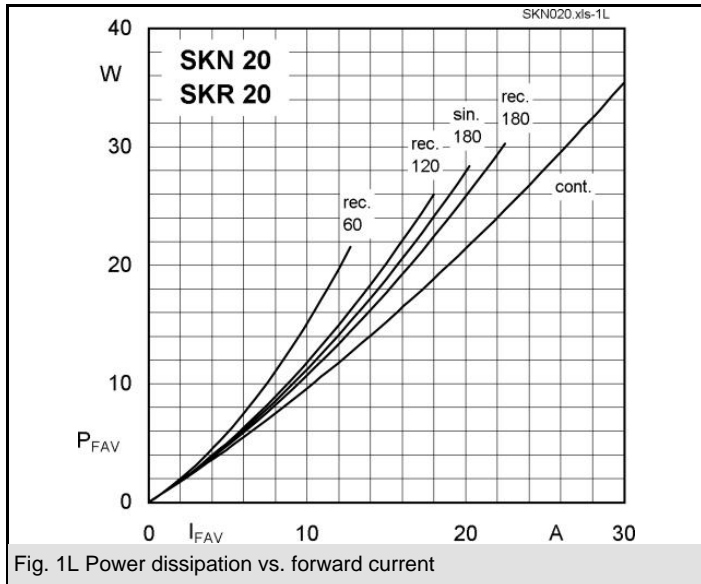


Fig. 1L Power dissipation vs. forward current

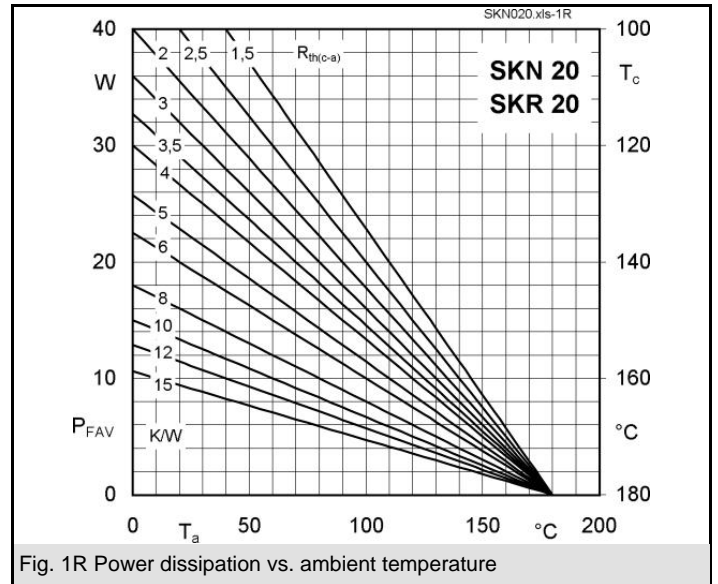


Fig. 1R Power dissipation vs. ambient temperature

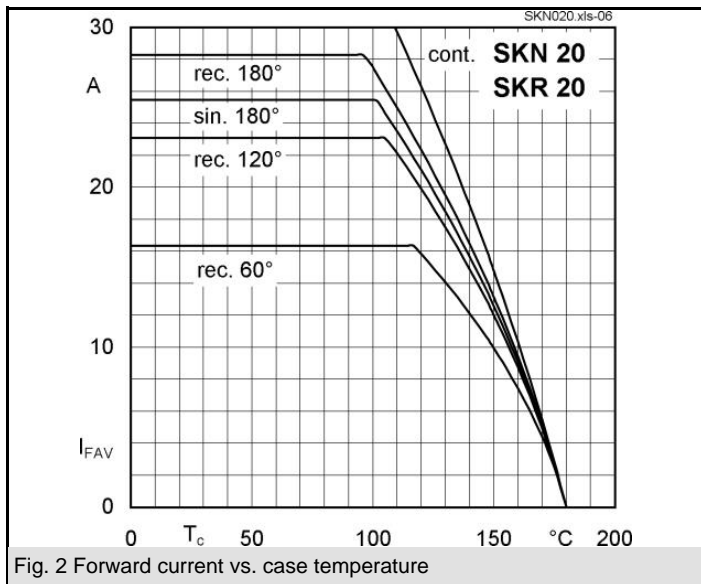


Fig. 2 Forward current vs. case temperature

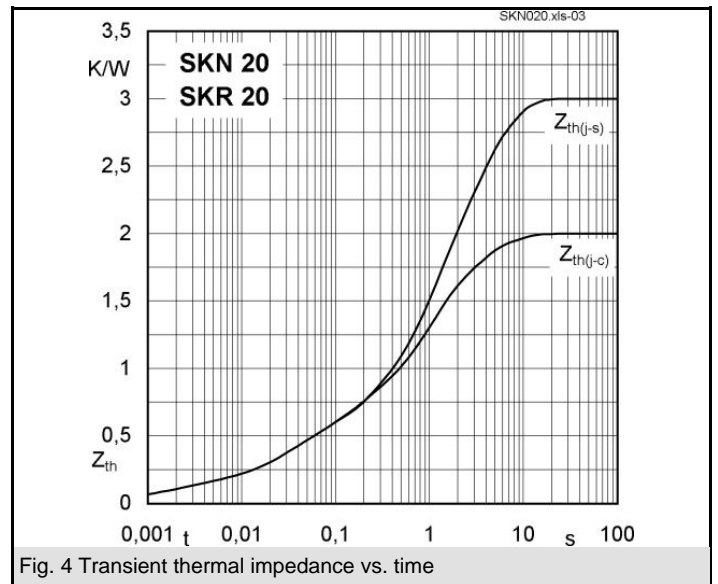


Fig. 4 Transient thermal impedance vs. time

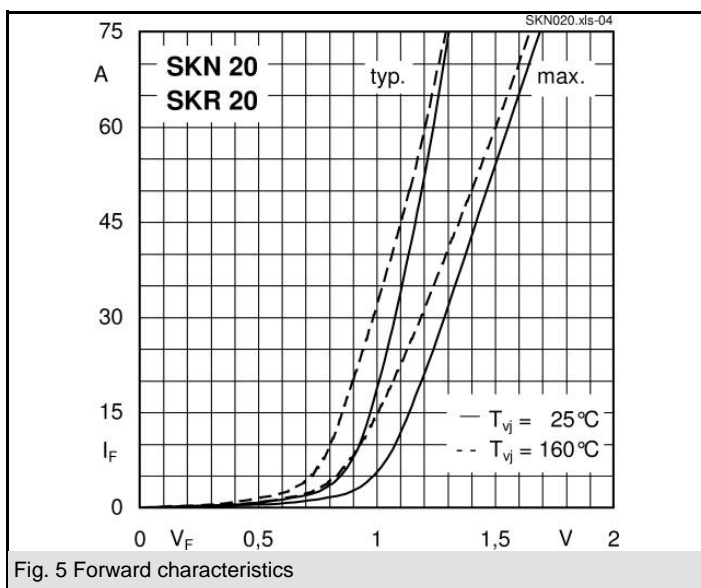


Fig. 5 Forward characteristics

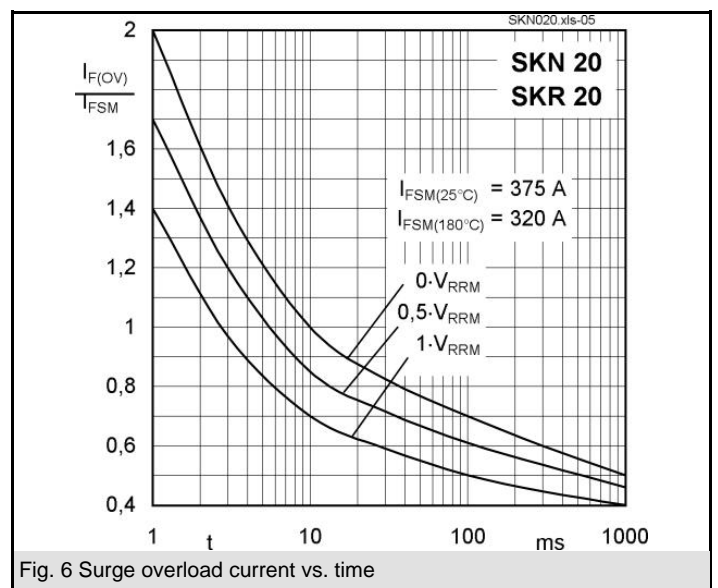


Fig. 6 Surge overload current vs. time

