

# SKN 320, SKR 320



Stud Diode

$V_{RSM}$ V	$V_{RRM}$ V	$I_{FRMS} = 700$ A (maximum value for continuous operation) $I_{FAV} = 320$ A (sin. 180; $T_c = 120$ °C)	
400	400	SKN 320/04	SKR 320/04
800	800	SKN 320/08	SKR 320/08
1200	1200	SKN 320/12	SKR 320/12
1400	1400	SKN 320/14	SKR 320/14
1600	1600	SKN 320/16	SKR 320/16

## Rectifier Diode

**SKN 320**  
**SKR 320**

### Features

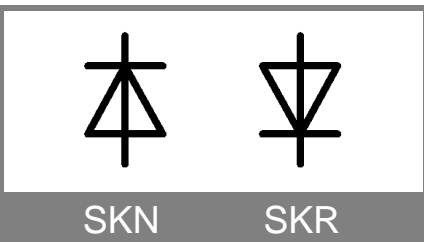
- Reverse voltages up to 1600 V
- Hermetic metal case with glass insulator
- Cooling via heatsinks
- Threaded stud ISO M24 x 1,5 or 3/4 - 16 UNF 2A<sup>2)</sup>
- **SKN**: anode to stud
- **SKR**: cathode to stud

### Typical Applications \*

- All purpose high power rectifier diodes
- Non-controllable and half-controllable rectifiers
- Free-wheeling diodes
- Recommended snubber network:  
 $R_C: 1 \mu F, 20 \Omega (P_R = 2W),$   
 $R_p: 25 k\Omega (P_R = 20 W)$

1) Mounting with grease-like thermal compound or joint contact compound  
2) M24x1,5 is standard, "UNF" should be added in description for 3/4 - 16 UNF thread.  
3) To include silicone sleeve, "C/ ESPAG." Should be added in description.

Symbol	Condition	Values	Units
$I_{FAV}$	sin. 180 ; $T_c = 85$ (100) °C	454 (400)	A
$I_D$	P 1/120; $T_a = 50$ °C; B2 / B6 P 1/120F; $T_a = 40$ °C; B2 / B6	263 / 384 557 / 798	A A
$I_{FSM}$	$T_{vj} = 25$ ° C ; 10 ms $T_{vj} = 180$ ° C ; 10 ms	9000 8000	A A
$i^2t$	$T_{vj} = 25$ ° C ; 8,3...10 ms $T_{vj} = 180$ ° C ; 8,3...10 ms	405000 320000	A <sup>2</sup> s A <sup>2</sup> s
$V_F$	$T_{vj} = 25$ ° C, $I_F = 1000$ A	max. 1,35	V
$V_{(TO)}$	$T_{vj} = 180$ ° C	max. 0,8	V
$r_T$	$T_{vj} = 180$ ° C	max. 0,45	mΩ
$I_{RD}$	$T_{vj} = 180$ ° C ; $V_{RD} = V_{RRM}$	max. 100	mA
$Q_{rr}$	$T_{vj} = 160$ °C, $-di_F/dt = 10$ A/μs	300	μC
$R_{th(j-c)}$		0,16	K/W
$R_{th(c-s)}$		0,015	K/W
$T_{vj}$		-40...+180	°C
$T_{stg}$		-40...+180	°C
$V_{isol}$		-	V~
$M_s$	M24 Stud 3/4-16 UNF Stud M24 Stud (lubricated) <sup>1)</sup> 3/4-16 UNF Stud (lubricated) <sup>1)</sup>	60 30 45 22,5	Nm Nm Nm Nm
a		5 * 9,81	m/s <sup>2</sup>
m	approx.	500	g
Case		E 16	



SKN

SKR

# SKN 320, SKR 320

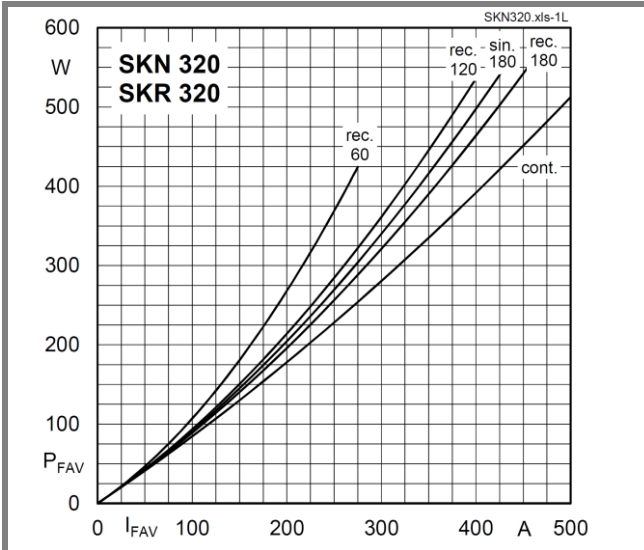


Fig. 1L Power dissipation vs. forward current

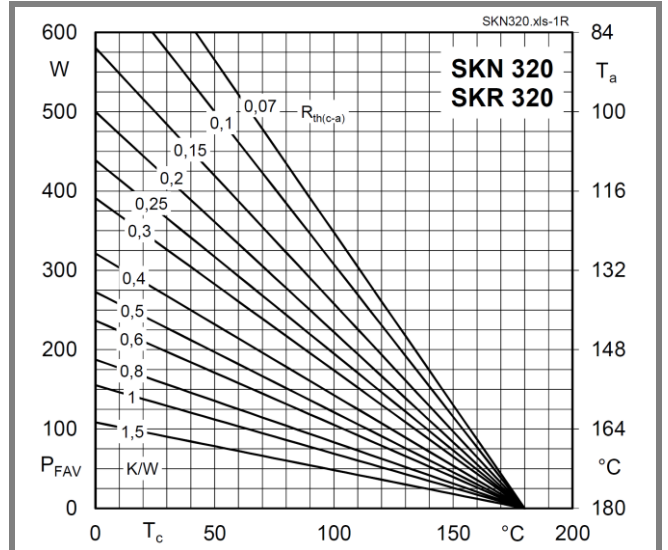


Fig. 1R Power dissipation vs. ambient temperature

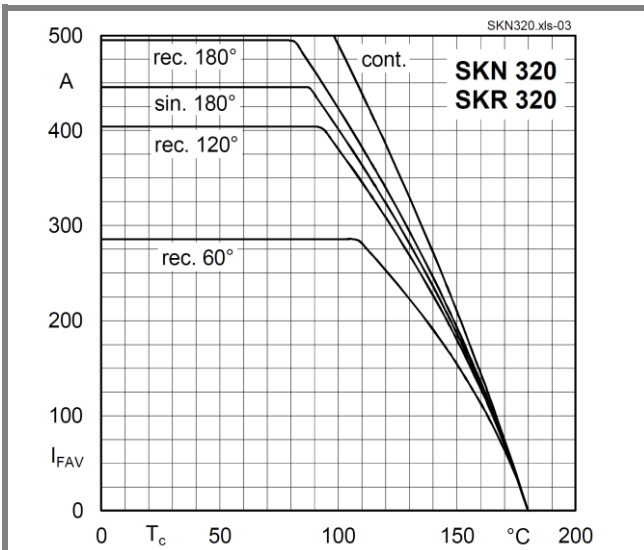


Fig. 3 Forward current vs. case temperature

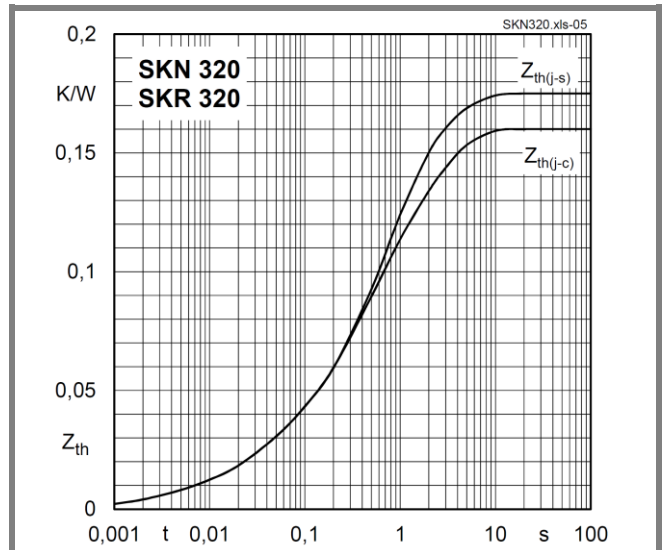


Fig. 5 Transient thermal impedance vs. time

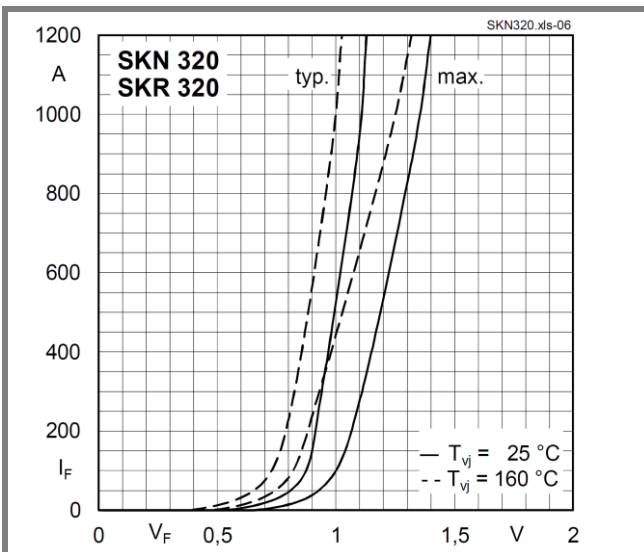


Fig. 6 Forward characteristics

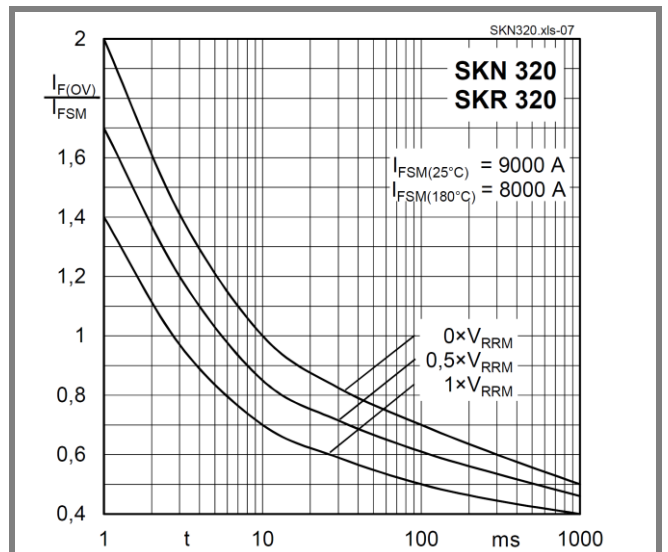
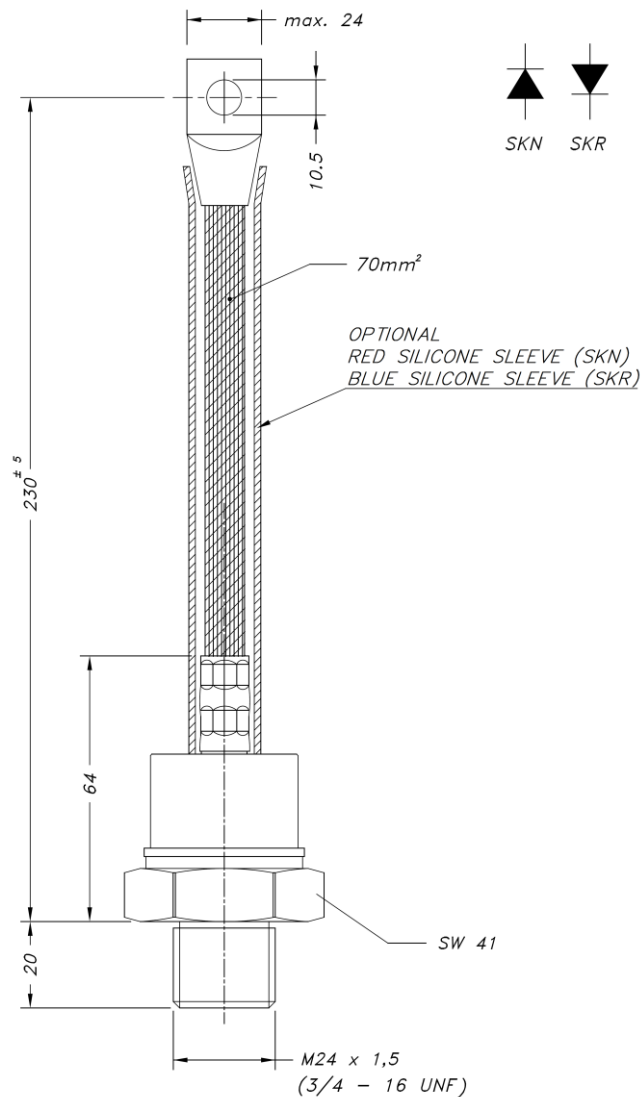


Fig. 7 Surge overload current vs. time



## Case E16 (IEC 60191: A 22 B)

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