

Rectifier Diodes

SKN 320 SKR 320
SKN 400



Features

- Reverse voltages up to 3000 V
- Hermetic metal cases with glass insulators; SKN 400 ceramic insulator with extra long creepage distances
- Threaded studs ISO M24 x 1,5
- **SKN**: anode to stud
- **SKR**: cathode to stud

Typical Applications

- SKN/SKR 320: all-purpose high power rectifier diodes
- SKN 400: high voltage rectifier diode, especially for traction applications
- Cooling via heatsinks
- Non-controllable and half-controllable rectifiers
- Free-wheeling diodes

V _{RSM} V _{RRM} V	I _{FRMS} (maximum values for continuous operations)		
	700 A		
	I _{FAV} (sin. 180; T _{case} = 100 °C)		
	420 A	400 A	
400	SKN 320/04	SKR 320/04	–
800	SKN 320/08	SKR 320/08	–
1200	SKN 320/12	SKR 320/12	–
1400	SKN 320/14	SKR 320/14	–
1600	SKN 320/16	SKR 320/16	–
1800	–	–	SKN 400/18
2400	–	–	SKN 400/24
2700	–	–	SKN 400/27
3000	–	–	SKN 400/30

Symbol	Conditions	SKN 320 SKR 320	SKN 400	Units
I _{FAV}	sin. 180; T _{case} = 87 °C	–	450	A
	= 100 °C	420	400	A
	= 125 °C	320	–	A
I _{FSM}	T _{vj} = 25 °C; 10 ms	9 000	9 000	A
	T _{vj} = T _{vjmax} ; 10 ms	8 000	7 500	A
i ² t	T _{vj} = 25 °C; 8,3 ... 10 ms	400 000	400 000	A ² s
	T _{vj} = T _{vjmax} ; 8,3 ... 10 ms	300 000	280 000	A ² s
Q _{rr}	T _{vj} = 160 °C; – di _F /dt = 10 A/μs	typ. 300	typ. 400	μC
I _R	T _{vj} = 25 °C; V _R = V _{RRM}	3	3	mA
	T _{vj} = T _{vjmax} ; V _R = V _{RRM}	100	60	mA
V _F	T _{vj} = 25 °C; (I _F = ...); max.	1,35 (1000)	1,45 (1200)	V (A)
V _(TO)	T _{vj} = T _{vjmax}	0,8	0,9	V
r _T	T _{vj} = T _{vjmax}	0,45	0,5	mΩ
R _{thjc}		0,16	0,11	°C/W
R _{thch}		0,015	0,01	°C/W
T _{vj}		– 40 ... + 180	– 40 ... + 160	°C
T _{stg}		– 55 ... + 180	– 55 ... + 160	°C
M	SI units	60		Nm
a	US units	530		lb.in.
w	approx.	5 · 9,81		m/s ²
RC	P _R = 2 W	1		μF
R _p	P _R = 20 W	20		Ω
		25		kΩ
Case		E 16	E 17	

This technical information specifies semiconductor devices but promises no characteristics. No warranty or guarantee expressed or implied is made regarding delivery, performance or suitability.

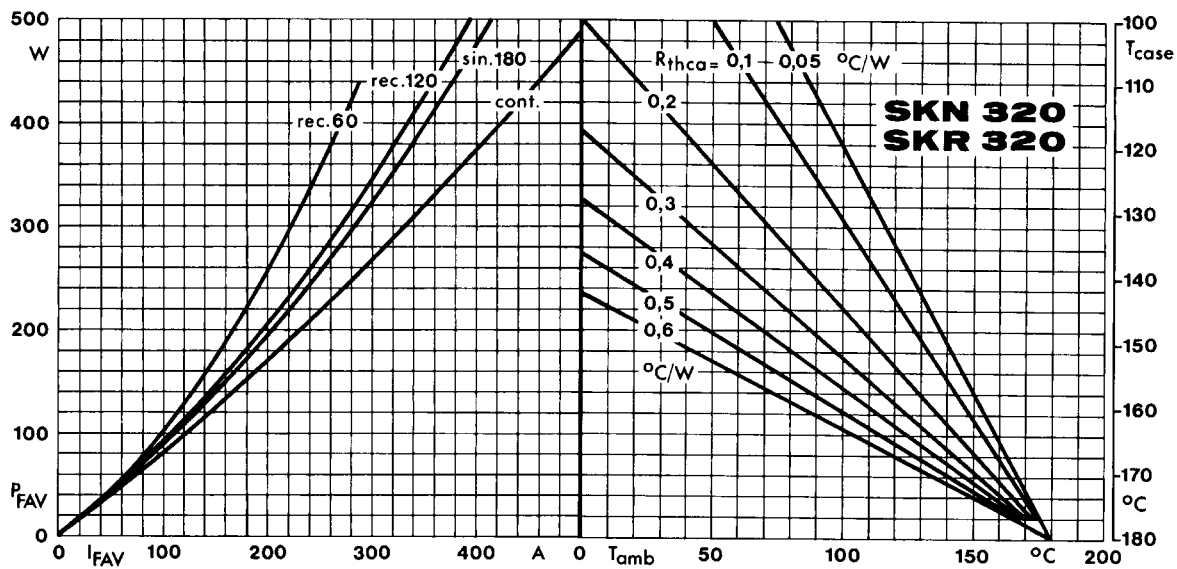


Fig. 1 a Power dissipation vs. forward current and case temperature

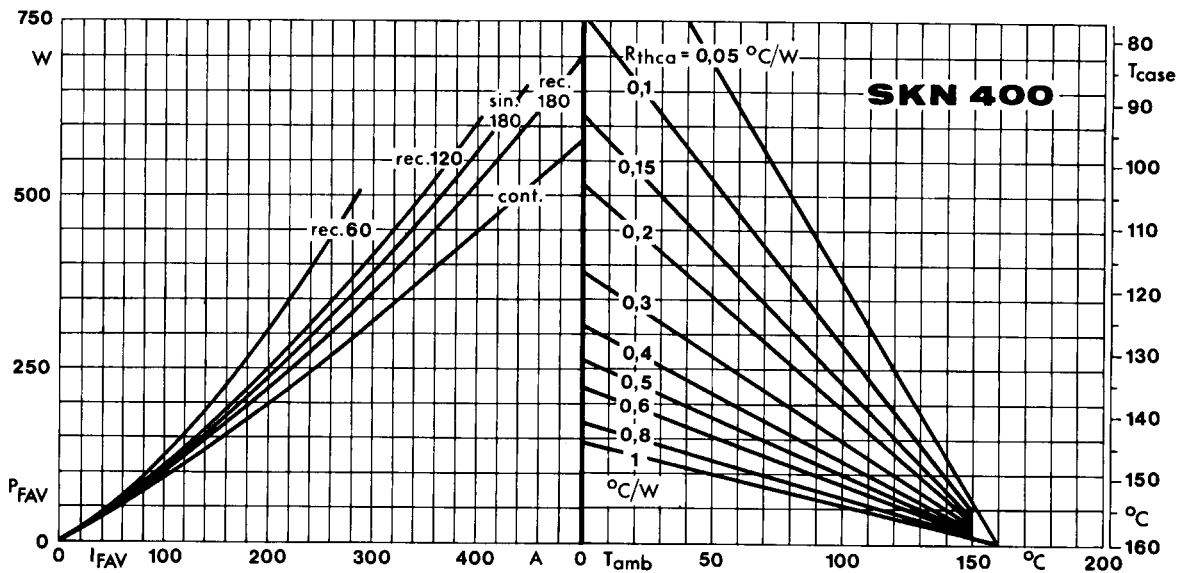


Fig. 1 b Power dissipation vs. forward current and case temperature

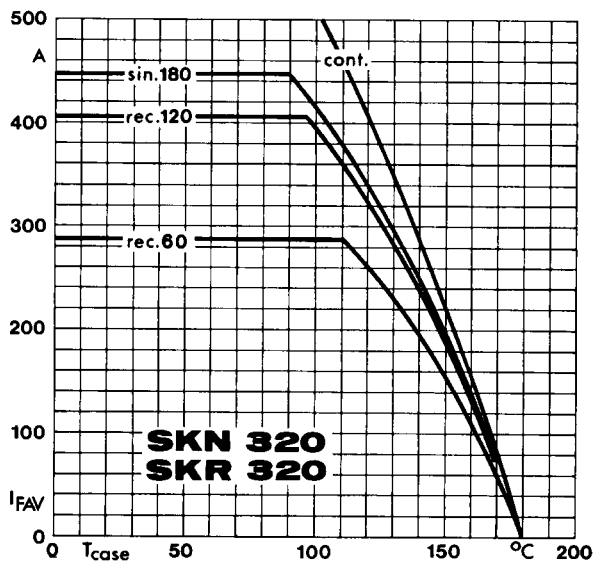


Fig. 3 a Rated forward current vs. case temperature

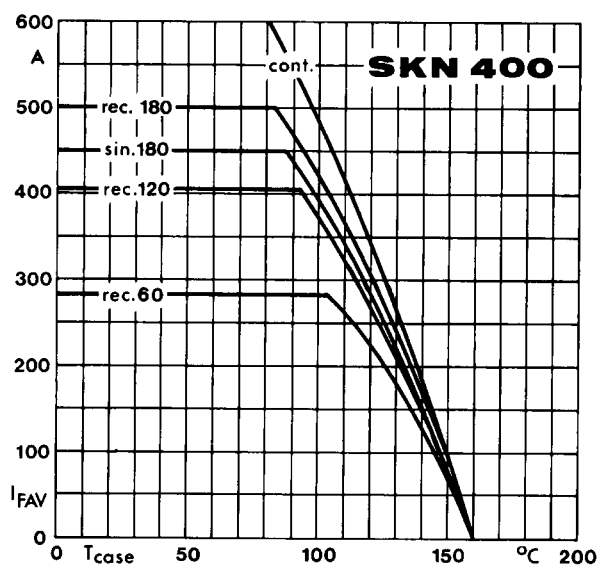


Fig. 3 b Rated forward current vs. case temperature

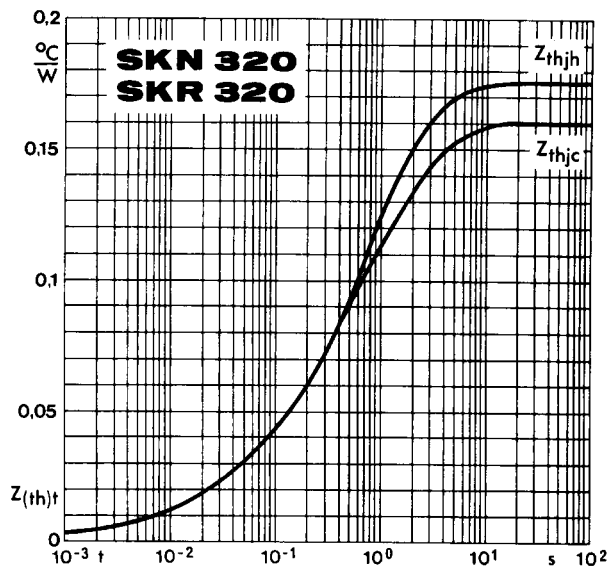


Fig. 5 a Transient thermal impedance vs. time

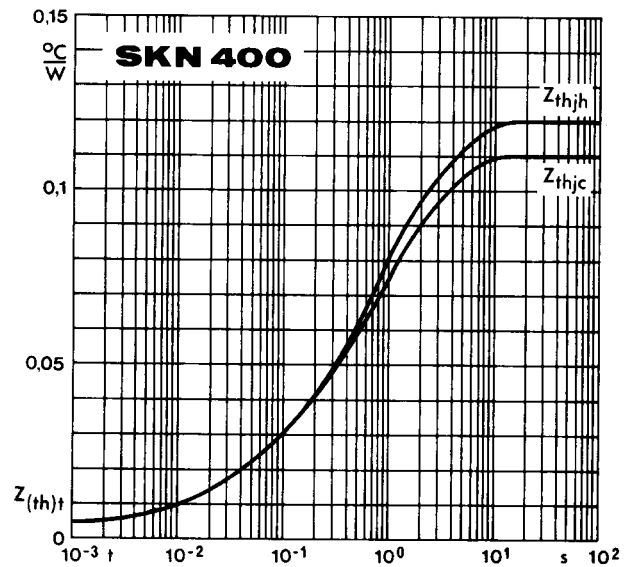


Fig. 5 b Transient thermal impedance vs. time

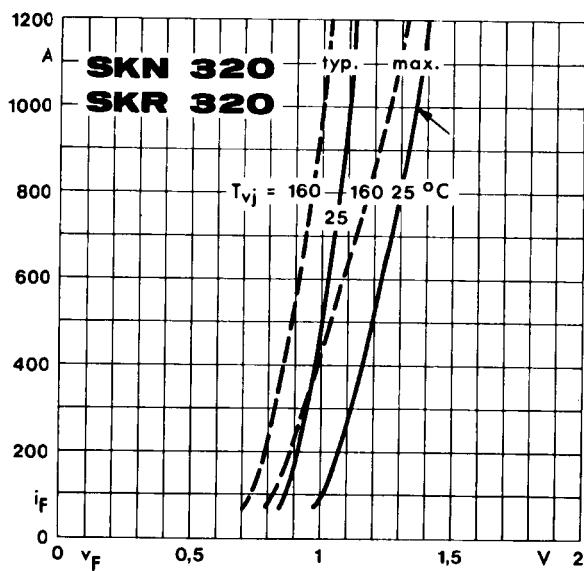


Fig. 6 a Forward characteristics

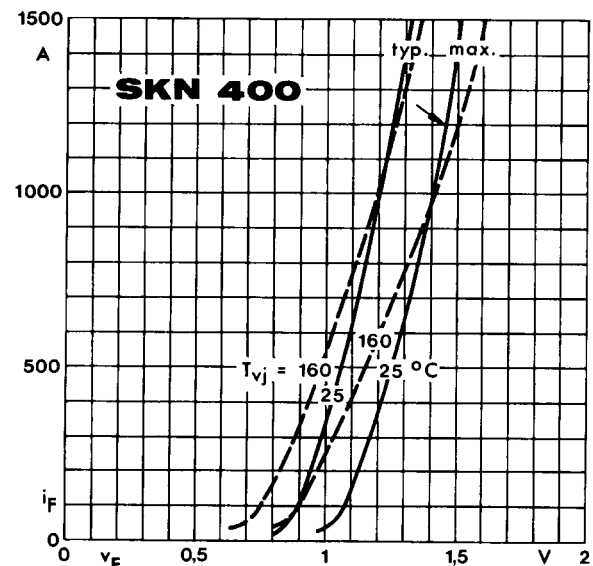


Fig. 6 b Forward characteristics

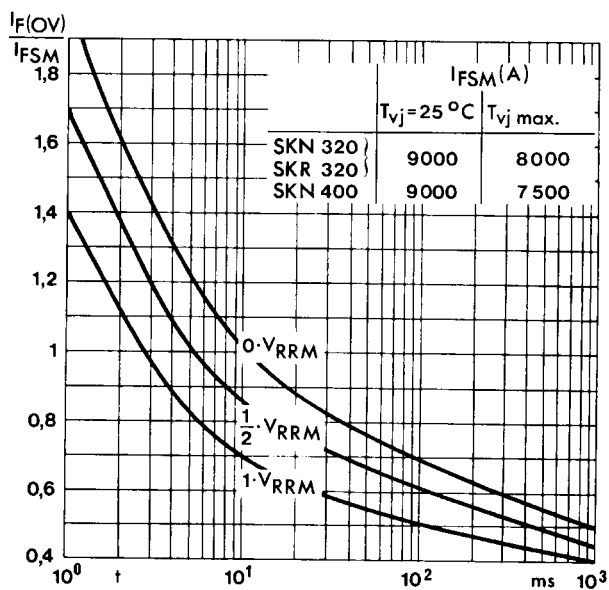


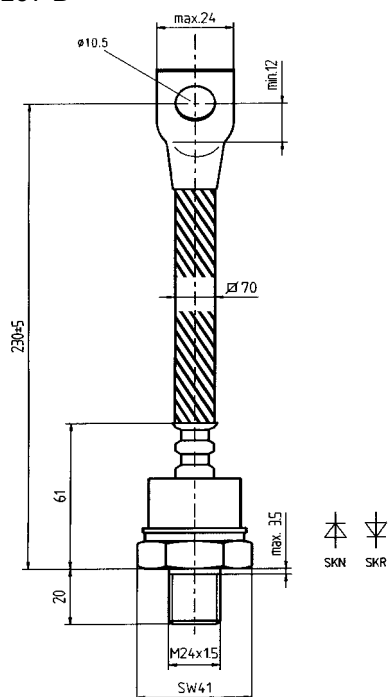
Fig. 7 Surge overload current vs. time

SKN 320
SKR 320

Case E 16

IEC: A 22 B

DIN 41 888: 107 B

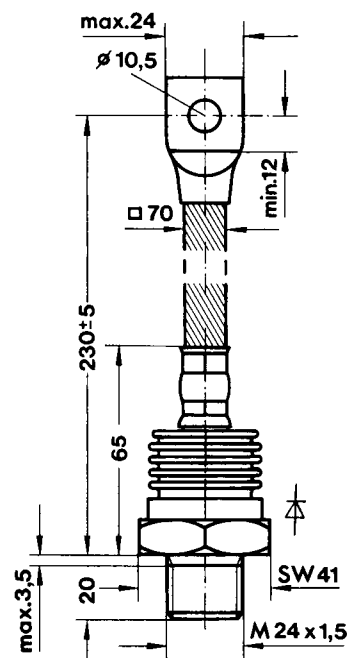


SKN 400

Case E 17

IEC: A 22 B

DIN 41 888: 107 B 2

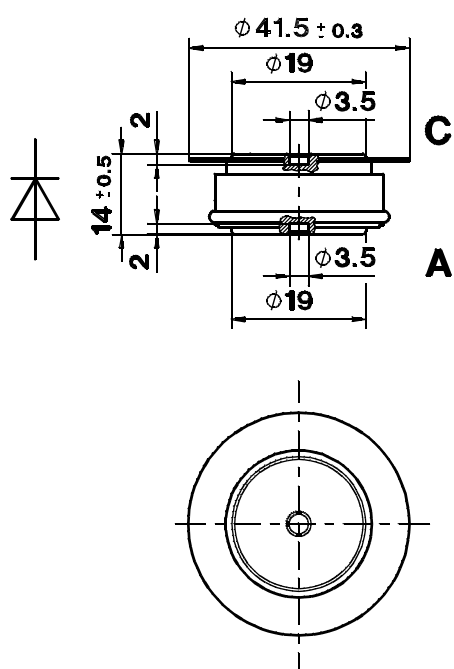


SKN 450
SKN 501

Case E 18

DIN 41 814: 151 A 2

JEDEC: DO-200 AA

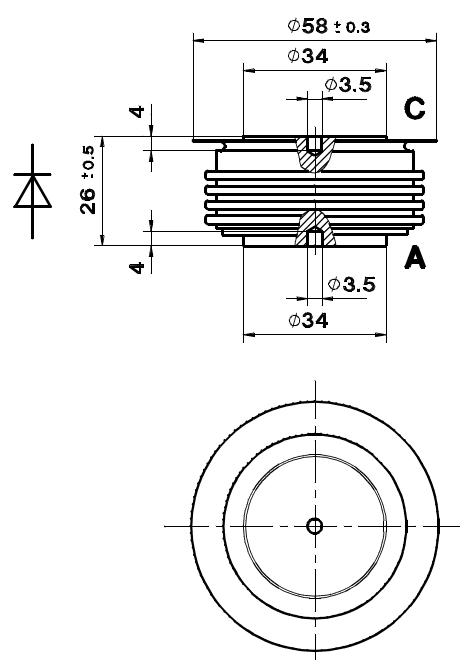


SKN 870

Case E 19

DIN 41 814: 153 C 2

JEDEC: DO-200 AB



Dimensions in mm