

V _{RSM} V _{RRM} V	I _{FAV} (sin. 180; T _{case} = 85 °C)		
	500 A	720 A	1110 A
400	–	SKN 501/04	SKN 870/04
800	–	SKN 501/08	–
1200	–	SKN 501/12	SKN 870/12
1400	–	SKN 501/14	–
1600	–	SKN 501/16	SKN 870/16
1800	SKN 450/18	SKN 501/18	–
2000	SKN 450/20	–	–
2200	SKN 450/22	–	–
2400	–	–	SKN 870/24

Rectifier Diodes

SKN 450
SKN 501
SKN 870



Symbol	Conditions	SKN 450	SKN 501	SKN 870
I _{FAV}	sin. 180; DSC; (T _{case} = . . .)	450 A (95 °C)	500 A (125 °C)	870 A (105 °C)
I _{FSM}	T _{vj} = 25 °C; 10 ms	6 000 A	7 000 A	13 000 A
i ² _t	T _{vj max.} ; 10 ms	5 000 A	6 000 A	10 500 A
	T _{vj} = 25 °C; 8,3 . . . 10 ms	180 000 A ² s	245 000 A ² s	850 000 A ² s
	T _{vj max.} ; 8,3 . . . 10 ms	125 000 A ² s	180 000 A ² s	550 000 A ² s
Q _{rr}	T _{vj} = 140 °C; I _{FM} = 500 A;	700 μC	600 μC	2000 μC
I _{RM}	– $\frac{di_F}{dt} = 10 \frac{A}{\mu s}$ typ.	60 A	30 A	100 A
I _R	T _{vj} = 25 °C; V _R = V _{RRM}	2 mA	2 mA	4 mA
	T _{vj max.} ; V _R = V _{RRM}	20 mA	50 mA	40 mA
V _F	T _{vj} = 25 °C; (I _F = . . .); max.	1,8 V (1500 A)	1,65 V (1500 A)	1,85 V (3000 A)
V _(TO)	T _{vj max.}	0,85 V	0,80 V	0,85 V
r _T	T _{vj max.}	0,7 mΩ	0,6 mΩ	0,33 mΩ
R _{thjc}	DSC/SSC (Double-sided cooling/single sided cooling)	0,075/0,15 °C/W		0,033/ 0,066 °C/W
R _{thch}		0,02/0,04 °C/W		0,007/ 0,014 °C/W
T _{vj}		– 40 ... + 150 °C		– 40 ... + 150 °C
T _{stg}		– 40 ... + 150 °C		– 40 ... + 150 °C
F	SI units	4 ... 5 kN		13,5 ... 16,5 kN
w	US units	900 ... 1100 lbs.		3000 ... 3500 lbs.
	approx.	51 g		230 g
RC	P _R = 2 W	1 μF + 20 Ω		
R _p	P _R = 20 W	25 kΩ		
Case		E 18		E 19

Features

- Reverse voltages up to 3000 V
- Capsule type metal-ceramic packages with precious metal pressure contacts
- Contact diameters 19 and 32 mm

Typical Applications

- All-purpose high power rectifier diodes
- SKN 870: High voltage grades available for industrial high power drives and medium traction applications
- Cooling via heatsinks (double or single sided)
- Non-controllable and half-controllable rectifiers
- Free-wheeling diodes

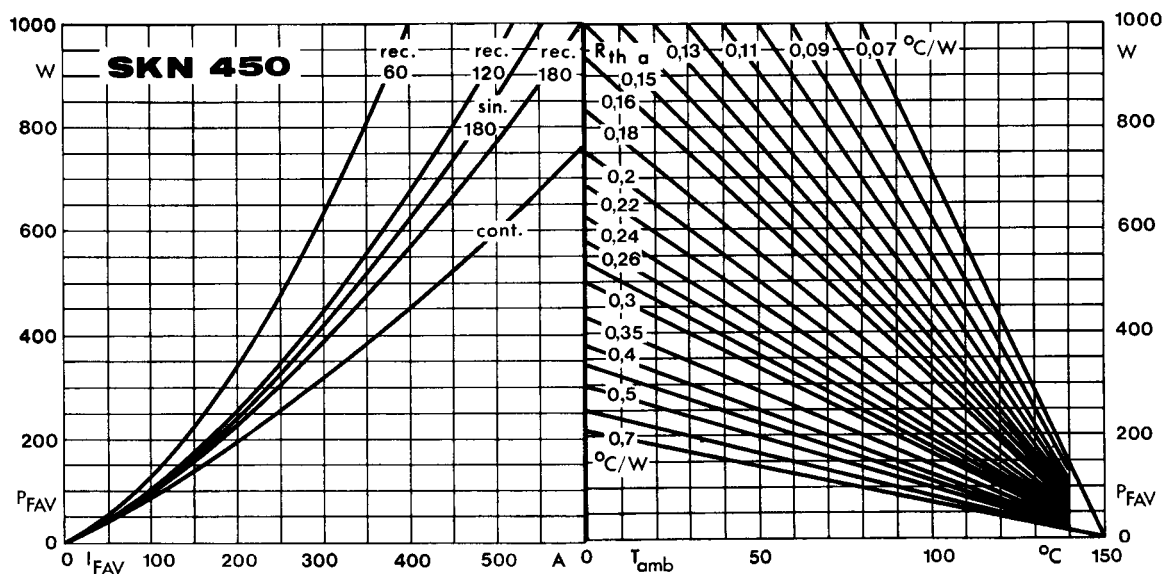


Fig. 2 a Power dissipation vs. forward current and ambient temperature

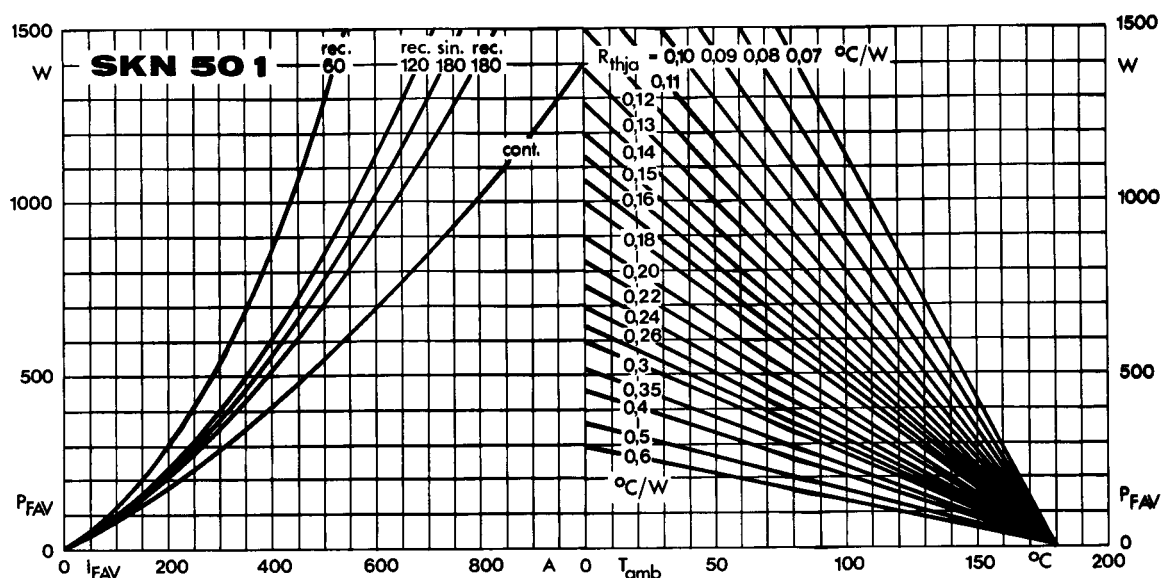


Fig. 2 b Power dissipation vs. forward current and ambient temperature

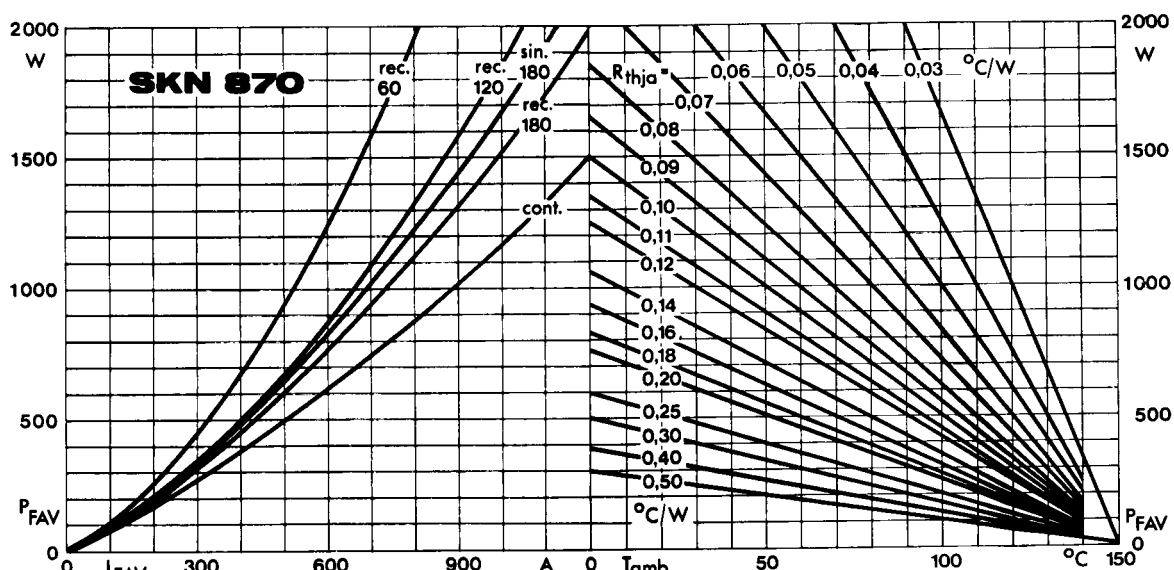


Fig. 2 c Power dissipation vs. forward current and ambient temperature

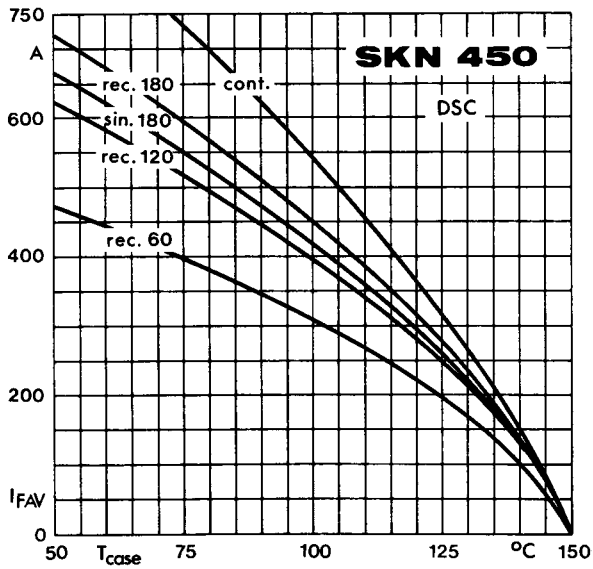


Fig. 3 a Rated forward current vs. case temperature

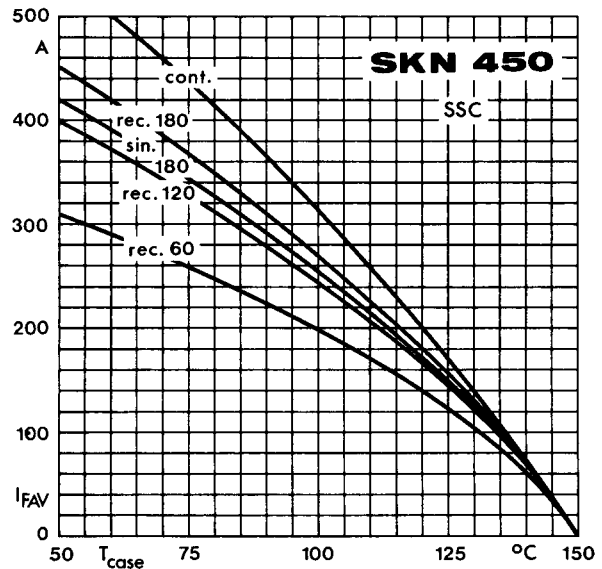


Fig. 3 b Rated forward current vs. case temperature

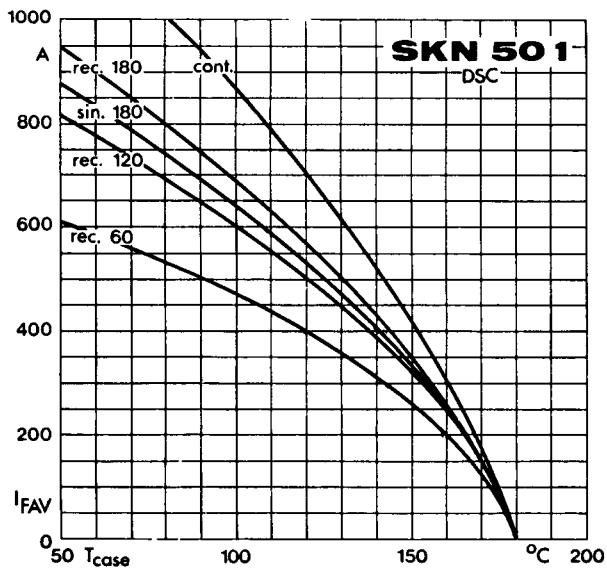


Fig. 3 c Rated forward current vs. case temperature

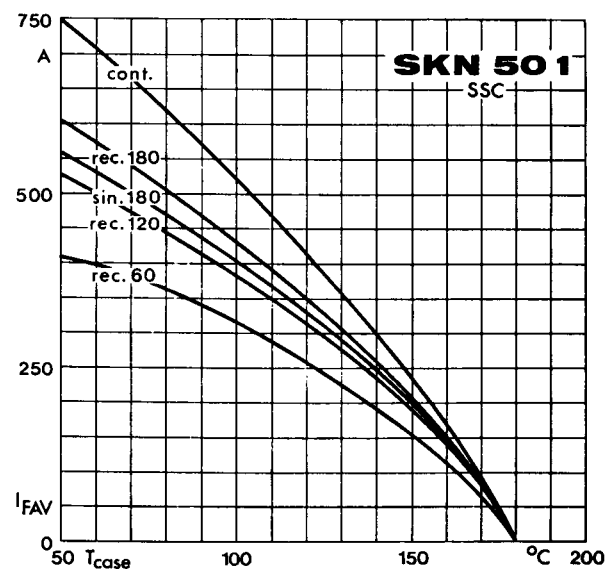


Fig. 3 d Rated forward current vs. case temperature

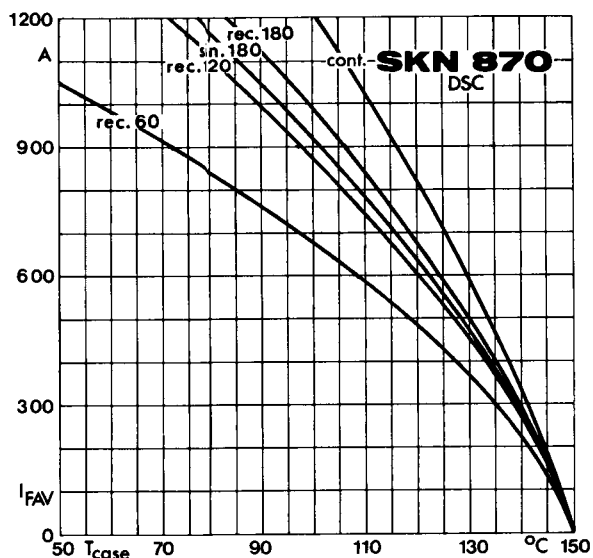


Fig. 3 e Rated forward current vs. case temperature

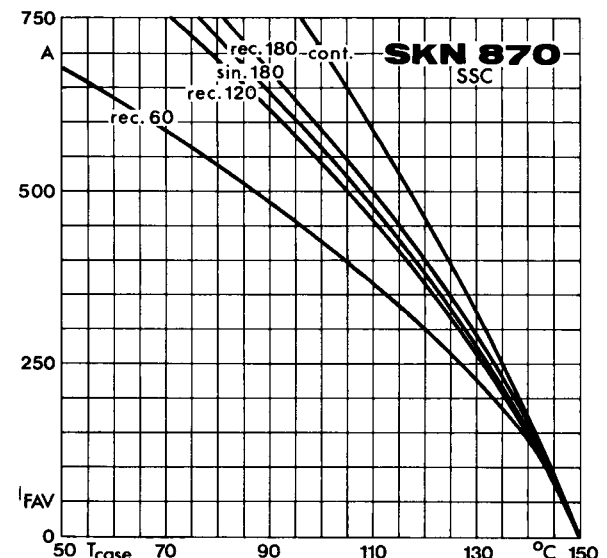


Fig. 3 f Rated forward current vs. case temperature

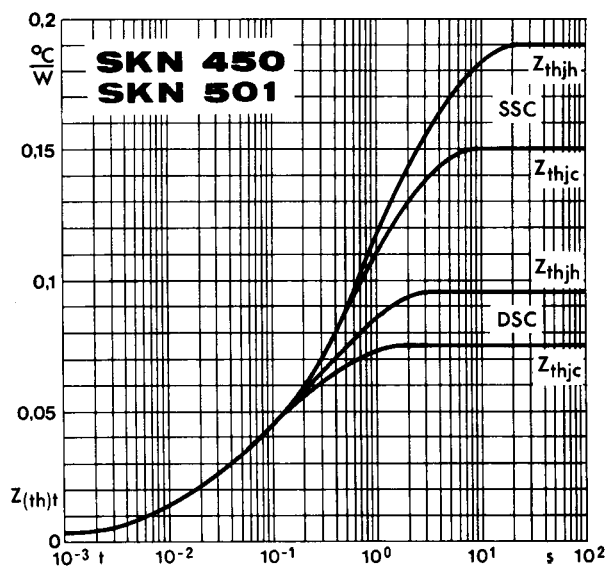


Fig. 5 a Transient thermal impedance vs. time

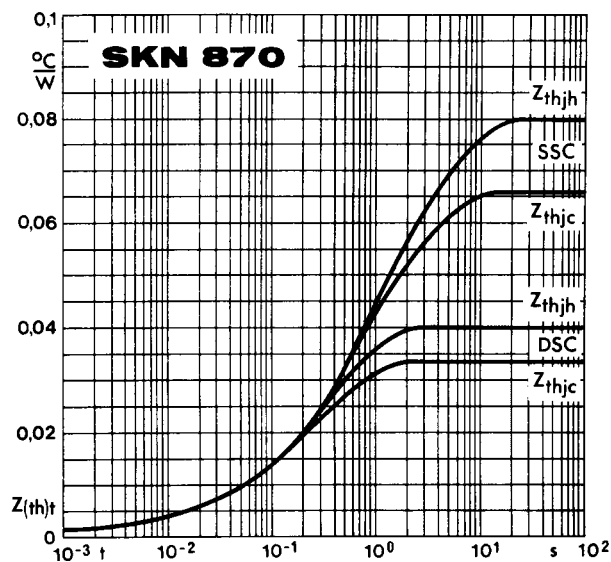


Fig. 5 b Transient thermal impedance vs. time

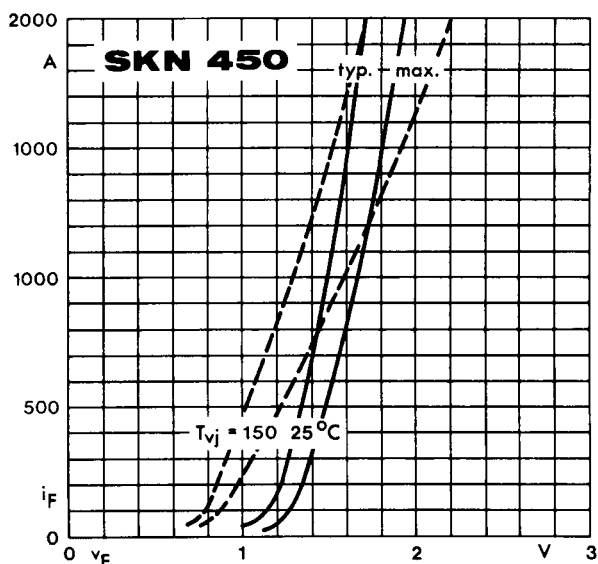


Fig. 6 a Forward characteristics

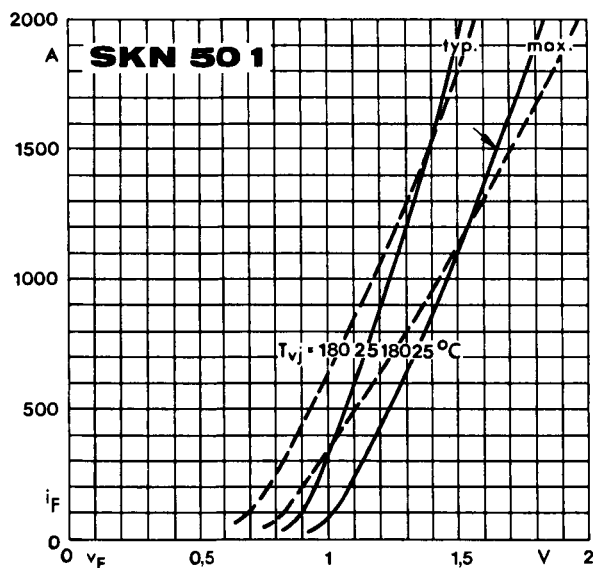


Fig. 6 b Forward characteristics

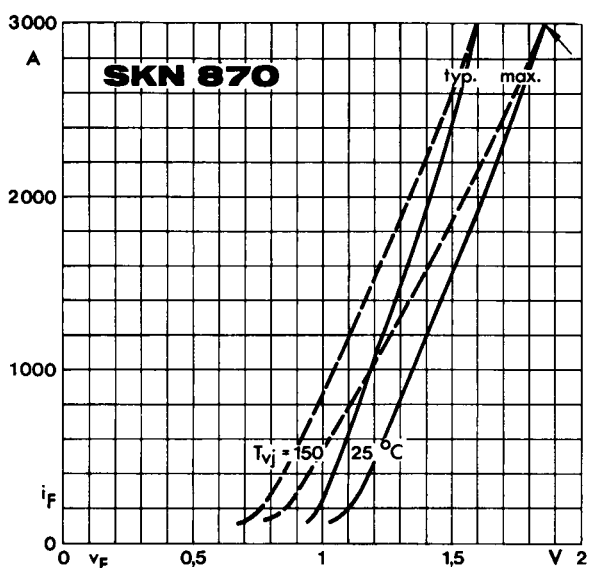


Fig. 6 c Forward characteristics

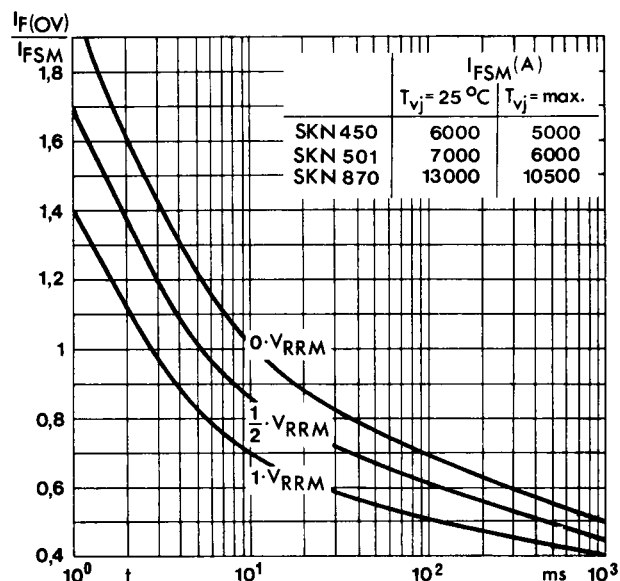


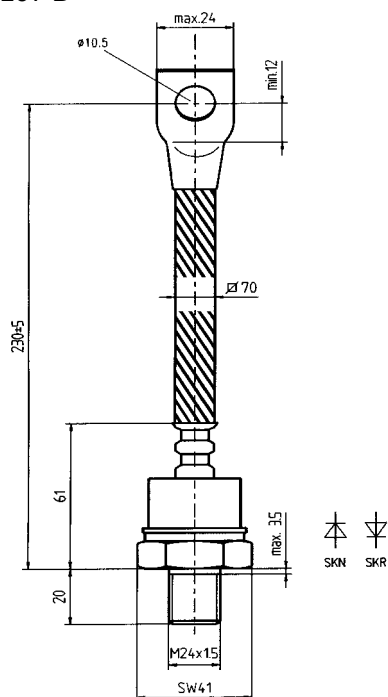
Fig. 7 Surge overload current vs. time

SKN 320
SKR 320

Case E 16

IEC: A 22 B

DIN 41 888: 107 B

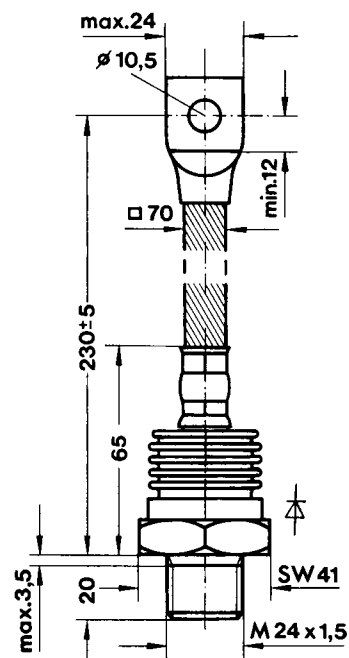


SKN 400

Case E 17

IEC: A 22 B

DIN 41 888: 107 B 2

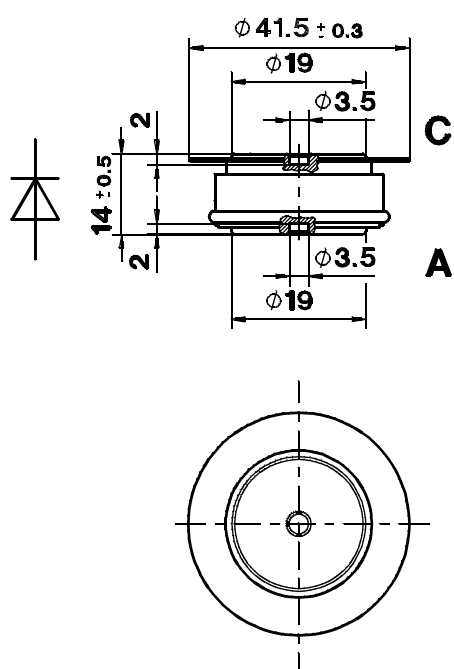


SKN 450
SKN 501

Case E 18

DIN 41 814: 151 A 2

JEDEC: DO-200 AA

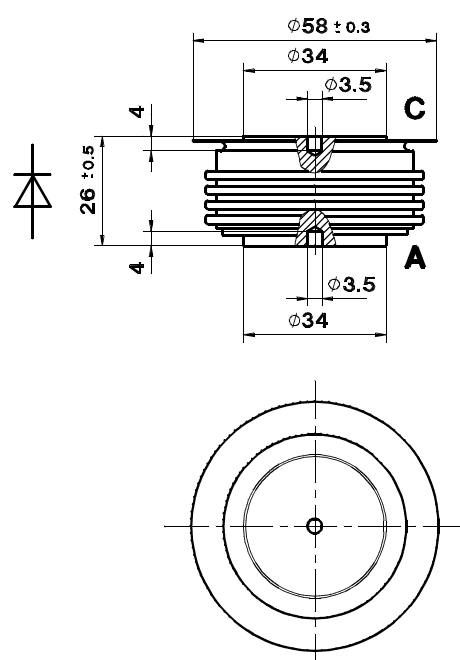


SKN 870

Case E 19

DIN 41 814: 153 C 2

JEDEC: DO-200 AB



Dimensions in mm