

# SKNa 402



## Stud Diode

## Avalanche Diode

### SKNa 402

#### Publish Data

#### Features

- Avalanche type reverse characteristic
- Reverse voltages up to 5000 V
- Hermetic metal case with ceramic insulator and extra long creepage distances
- Threaded stud ISO M24 x 1,5
- Cooling via heatsinks
- SKN: Anode to stud

#### Typical Applications

- High voltage rectifier diode for traction and heavy duty applications
- Series connections for high voltage applications
- Non-controllable and half-controllable rectifiers
- Free-wheeling diodes

$V_{(BR)min}$	$I_{FRMS} = 700 A$ (maximum value for continuous operation)	$C_{max}$	$R_{min}$
V	$I_{FAV} = 400 A$ (sin. 180; $T_c = 88 °C$ )	$\mu F$	$\Omega$
3600	SKNa 402/36		
4000	SKNa 402/40		
4200	SKNa 402/42		
4500	SKNa 402/45		
4600	SKNa 402/46		
4800	SKNa 402/48		
5000	SKNa 402/50		

Symbol	Conditions	Values	Units
$I_{FAV}$	sin. 180 ; $T_c = 88 (100) °C$	400 (350)	A
$I_D$	P4/200; $T_a = 45 °C$ ; B2 / B6	455 / 655	A
	K 0,55F; $T_a = 35 °C$ ; B2 / B6	585 / 830	A
$I_{FSM}$	$T_{vj} = 25 °C$ ; 10 ms	7800	A
	$T_{vj} = 160 °C$ ; 10 ms	6600	A
$i^2t$	$T_{vj} = 25 °C$ ; 8,3 ... 10 ms	300000	A <sup>2</sup> s
	$T_{vj} = 160 °C$ ; 8,3 ... 10 ms	140000	A <sup>2</sup> s
$V_F$	$T_{vj} = 25 °C$ ; $I_F = 1200 A$	max. 1,85	V
$V_{(TO)}$	$T_{vj} = 150 °C$	max. 1	V
$r_T$	$T_{vj} = 150 °C$	max. 0,8	m $\Omega$
$I_{RD}$	$T_{vj} = 25 °C$ ; $V_{RD} = V_{(BR)min}$	max. 3000	$\mu A$
	$T_{vj} = 160 °C$ ; $V_{RD} = V_{(BR)min}$	max. 60	mA
$P_{RSM}$	$T_{vj} = 160 °C$ ; $t_p = 10 \mu s$	90	kW
$R_{th(j-c)}$		0,1	K/W
$R_{th(c-s)}$		0,01	K/W
$T_{vj}$		- 40 ... + 160	$°C$
$T_{stg}$		- 40 ... + 160	$°C$
$V_{isol}$		-	V~
$M_s$	to heatsink	60	Nm
		530	lb.in.
a		5 * 9,81	m/s <sup>2</sup>
m	approx.	550	g
Case		E 46	



SKN

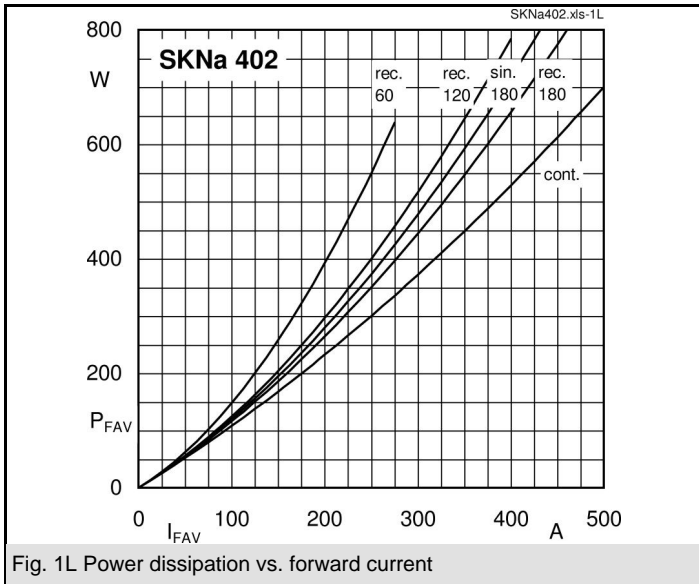


Fig. 1L Power dissipation vs. forward current

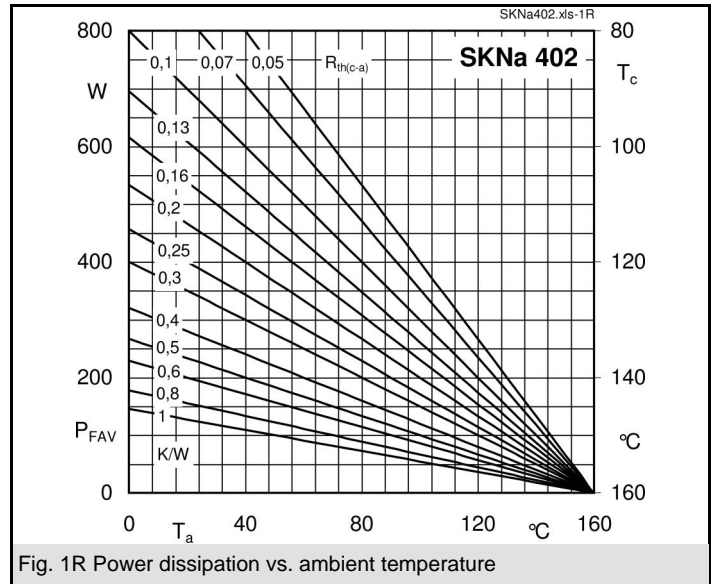


Fig. 1R Power dissipation vs. ambient temperature

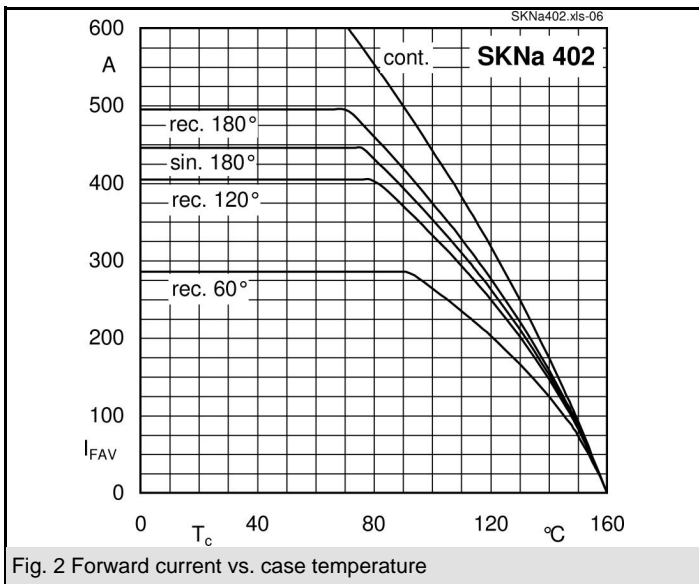


Fig. 2 Forward current vs. case temperature

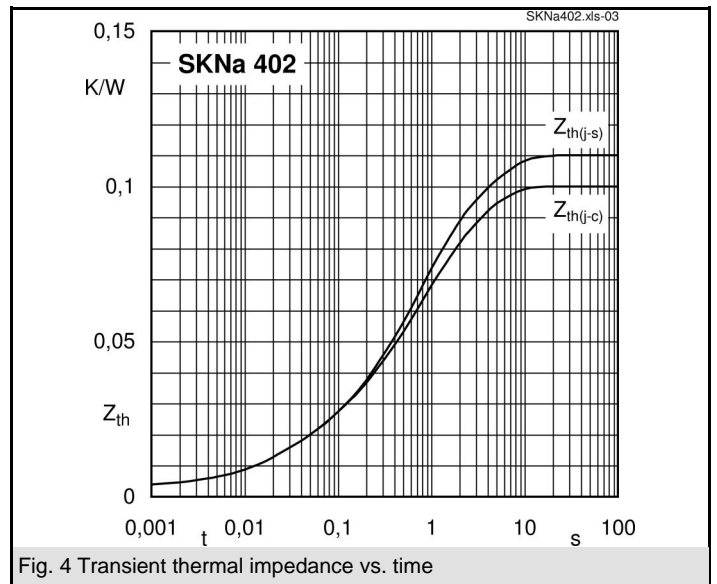


Fig. 4 Transient thermal impedance vs. time

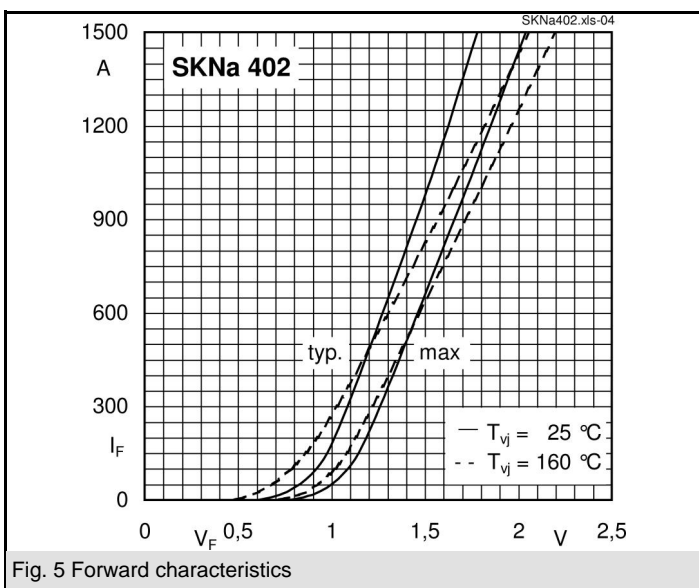


Fig. 5 Forward characteristics

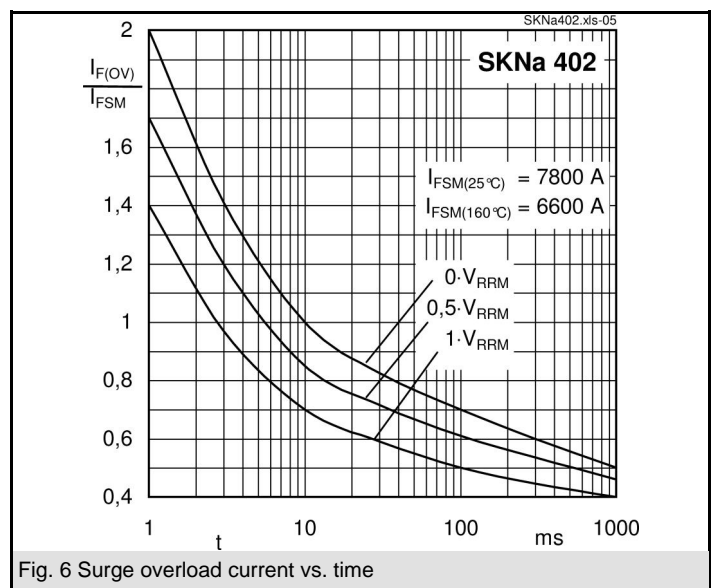
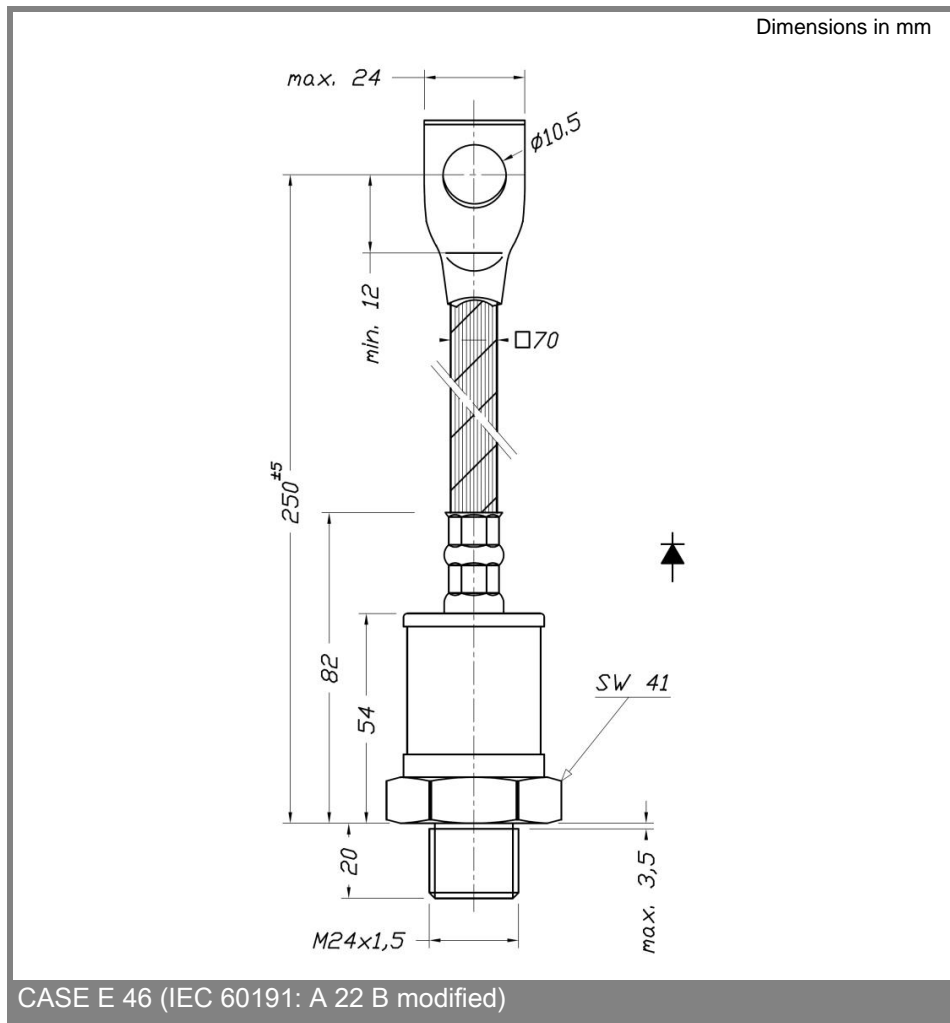


Fig. 6 Surge overload current vs. time



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