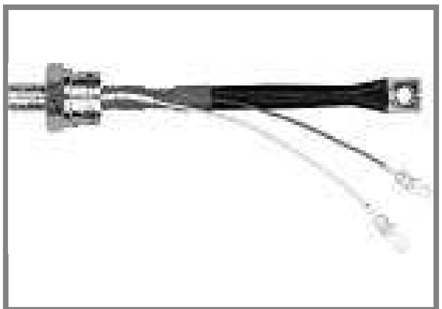




Stud Thyristor

Line Thyristor

SKT 160

V_{RSM} V	V_{RRM}, V_{DRM} V	I_{TRMS} = 280 A (maximum value for continuous operation) I_{TAV} = 160 A (sin. 180; T_c = 84 °C)		
500	400	SKT 160/04D		
700	600	SKT 160/06D		
900	800	SKT 160/08D		
1300	1200	SKT 160/12E[1)]		
1500	1400	SKT 160/14E		
1700	1600	SKT 160/16E[1)]		

Symbol	Conditions	Values	Units
I_{TAV}	sin. 180; T_c = 100 (85) °C;	116 (158)	A
I_D	K1,1; T_a = 45 °C; B2 / B6	110 / 150	A
	K0,55; T_a = 45 °C; B2 / B6	170 /240	A
I_{RMS}	K0,55; T_a = 45 °C; W1C	190	A
I_{TSM}	T_{vj} = 25 °C; 10 ms	4300	A
	T_{vj} = 130 °C; 10 ms	3750	A
i²t	T_{vj} = 25 °C; 8,35 ... 10 ms	92500	A²s
	T_{vj} = 130 °C; 8,35 ... 10 ms	70000	A²s
V_T	T_{vj} = 25 °C; I_T = 500 A	max. 1,75	V
$V_{T(TO)}$	T_{vj} = 130 °C	max. 1	V
r_T	T_{vj} = 130 °C	max. 1,5	mΩ
I_{DD}; I_{RD}	T_{vj} = 130 °C; V_{RD} = V_{RRM}; V_{DD} = V_{DRM}	max. 50	mA
t_{gd}	T_{vj} = 25 °C; I_G = 1 A; di_G/dt = 1 A/µs	1	µs
t_{gr}	V_D = 0,67 * V_{DRM}	2	µs
$(di/dt)_{cr}$	T_{vj} = 130 °C	max. 100	A/µs
$(dv/dt)_{cr}$	T_{vj} = 130 °C ; SKT ...D / SKT ...E	max. 500 / 1000	V/µs
t_q	T_{vj} = 130 °C ,	120	µs
I_H	T_{vj} = 25 °C; typ. / max.	150 / 250	mA
I_L	T_{vj} = 25 °C; R_G = 33 Ω; typ. / max.	300 / 600	mA
V_{GT}	T_{vj} = 25 °C; d.c.	min. 3	V
I_{GT}	T_{vj} = 25 °C; d.c.	min. 200	mA
V_{GD}	T_{vj} = 130 °C; d.c.	max. 0,25	V
I_{GD}	T_{vj} = 130 °C; d.c.	max. 10	mA
$R_{th(j-c)}$	cont.	0,16	K/W
$R_{th(j-c)}$	sin. 180	0,18	K/W
$R_{th(j-c)}$	rec. 120	0,2	K/W
$R_{th(c-s)}$		0,03	K/W
T_{vj}		- 40 ... + 130	°C
T_{stg}		- 55 ... + 150	°C
V_{isol}		-	V~
M_s	to heatsink	30	Nm
a		5 * 9,81	m/s²
m	approx.	250	g
Case		B 6	

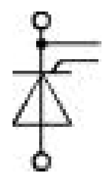
Features

- Hermetic metal case with glass insulator
- Threaded stud ISO M16x1,5 or UNF 3/4-16
- International standard case

Typical Applications*

- DC motor control (e. g. for machine tools)
- Controlled rectifiers (e. g. for battery charging)
- AC controllers (e. g. for temperature control)
- Recommended snubber network e. g. for $V_{VRMS} \leq$ 400 V: R = 33 Ω/13 W, C = 0,47 µF

1) Available with UNF thread 3/4-16 UNF2A; e. g. SKT 160/12E UNF



SKT

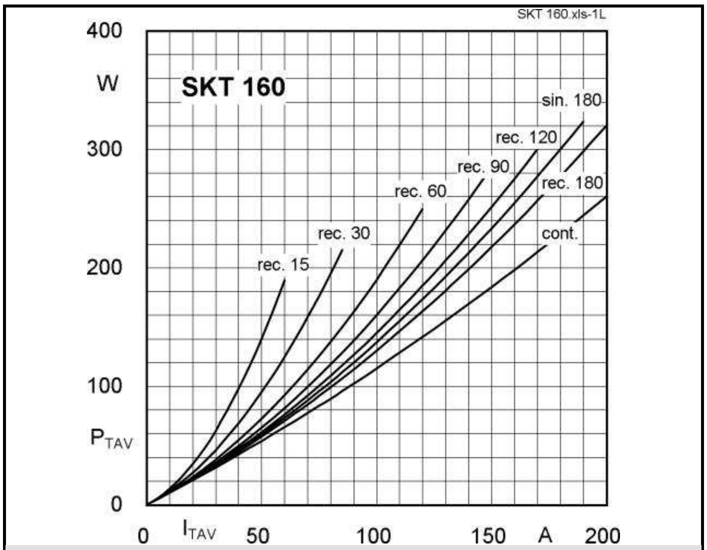


Fig. 1L Power dissipation vs. on-state current

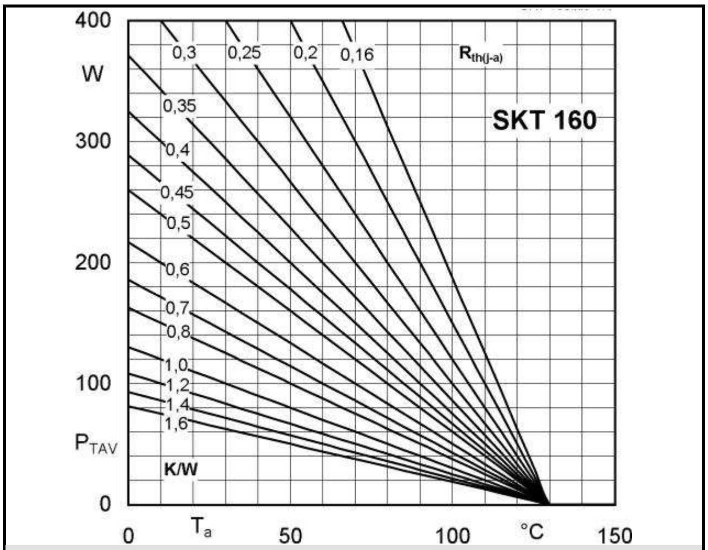


Fig. 1R Power dissipation vs. ambient temperature

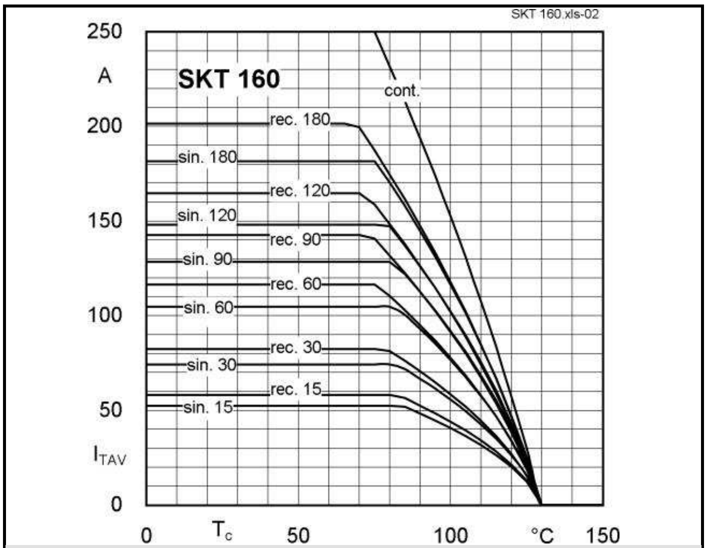


Fig. 2 Rated on-state current vs. case temperature

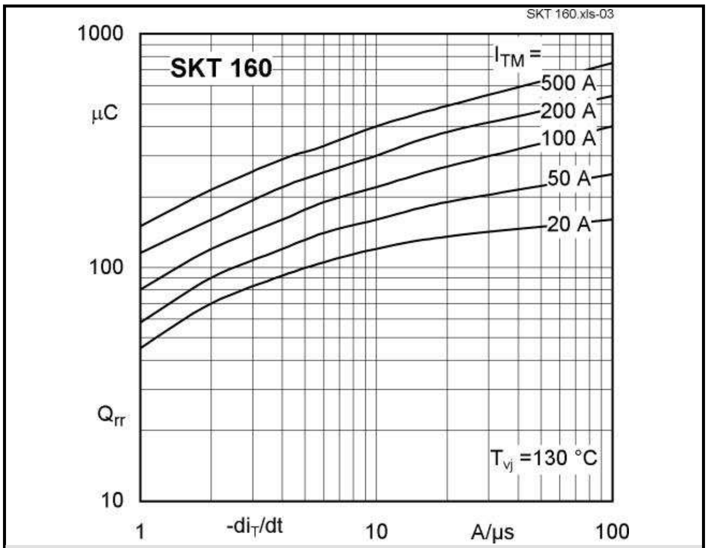


Fig. 3 Recovered charge vs. current decrease

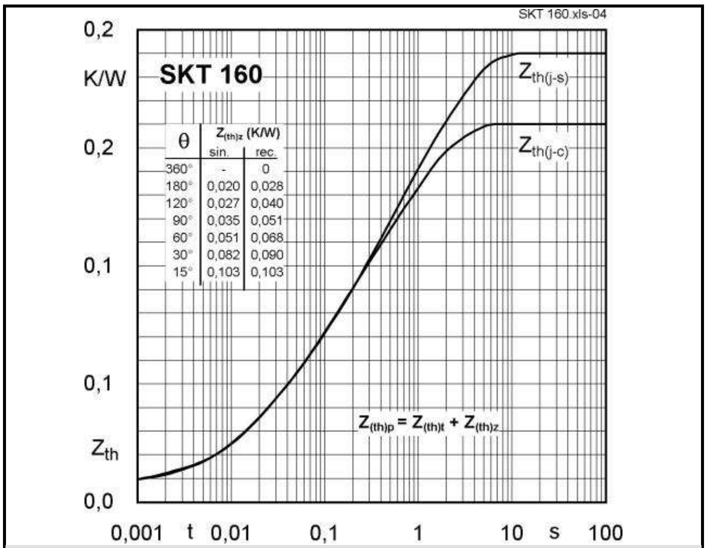


Fig. 4 Transient thermal impedance vs. time

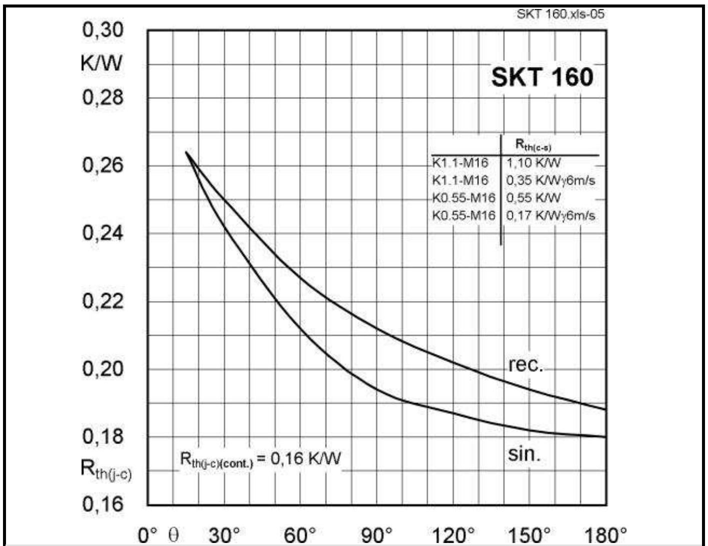


Fig. 5 Thermal resistance vs. conduction angle

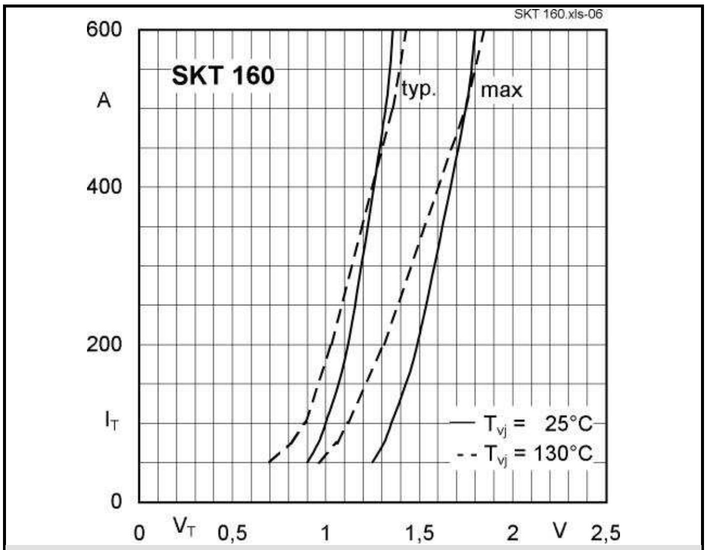


Fig. 6 On-state characteristics

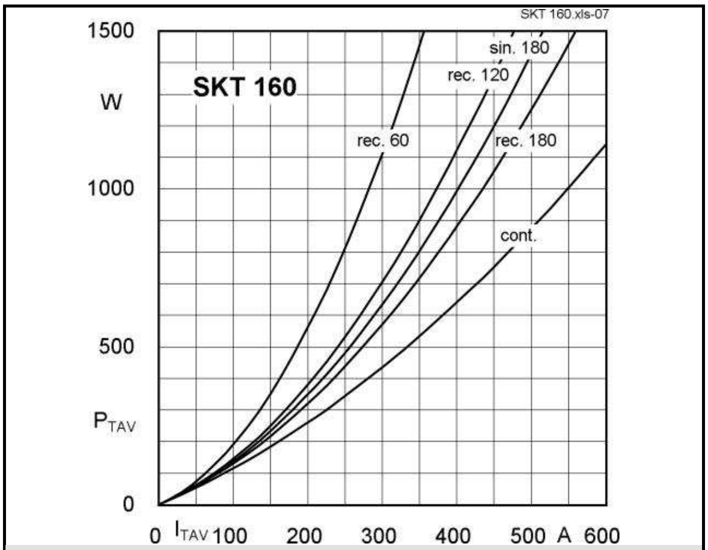


Fig. 7 Power dissipation vs. on-state current

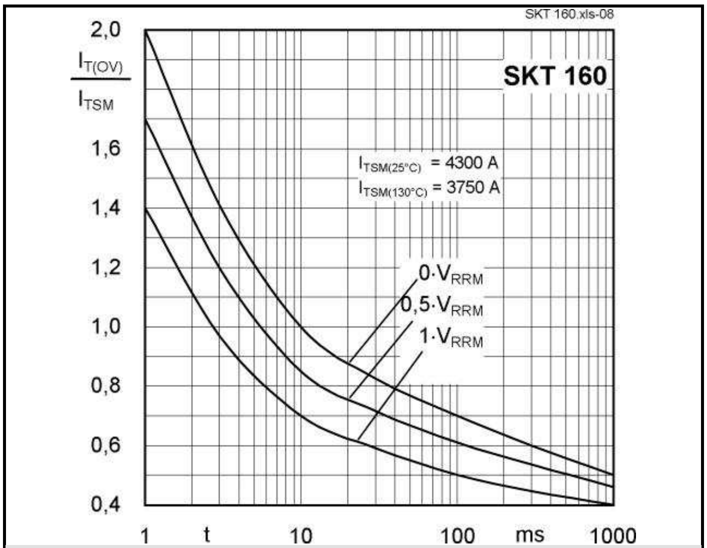


Fig. 8 Surge overload curent vs. time

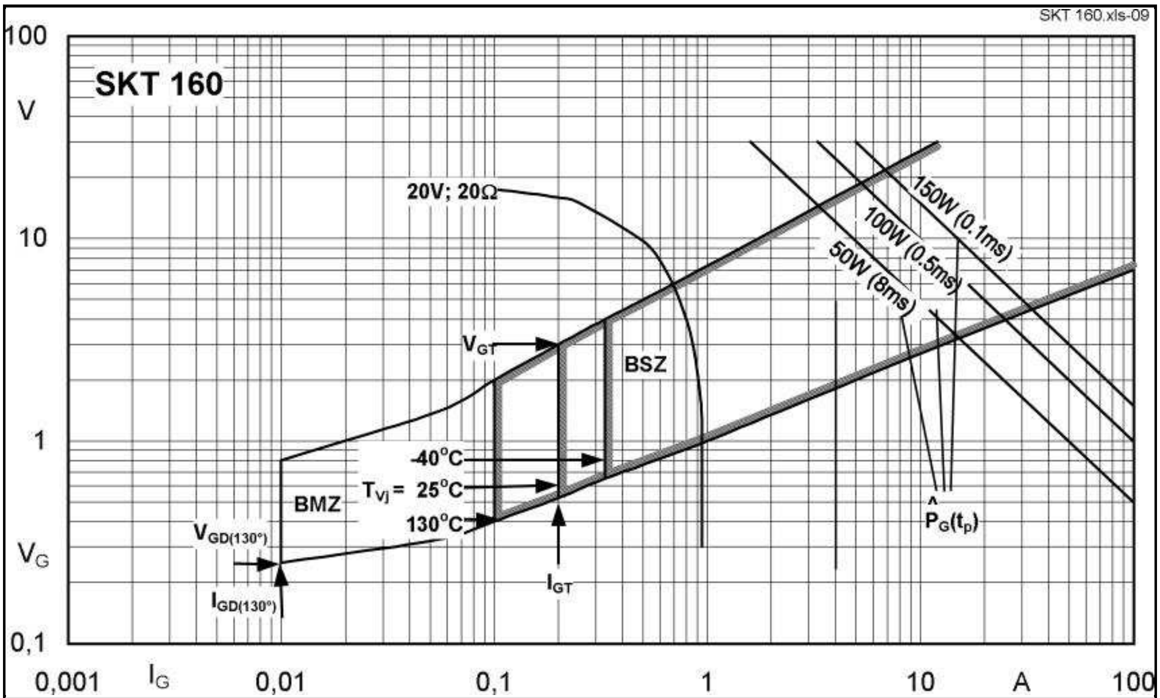
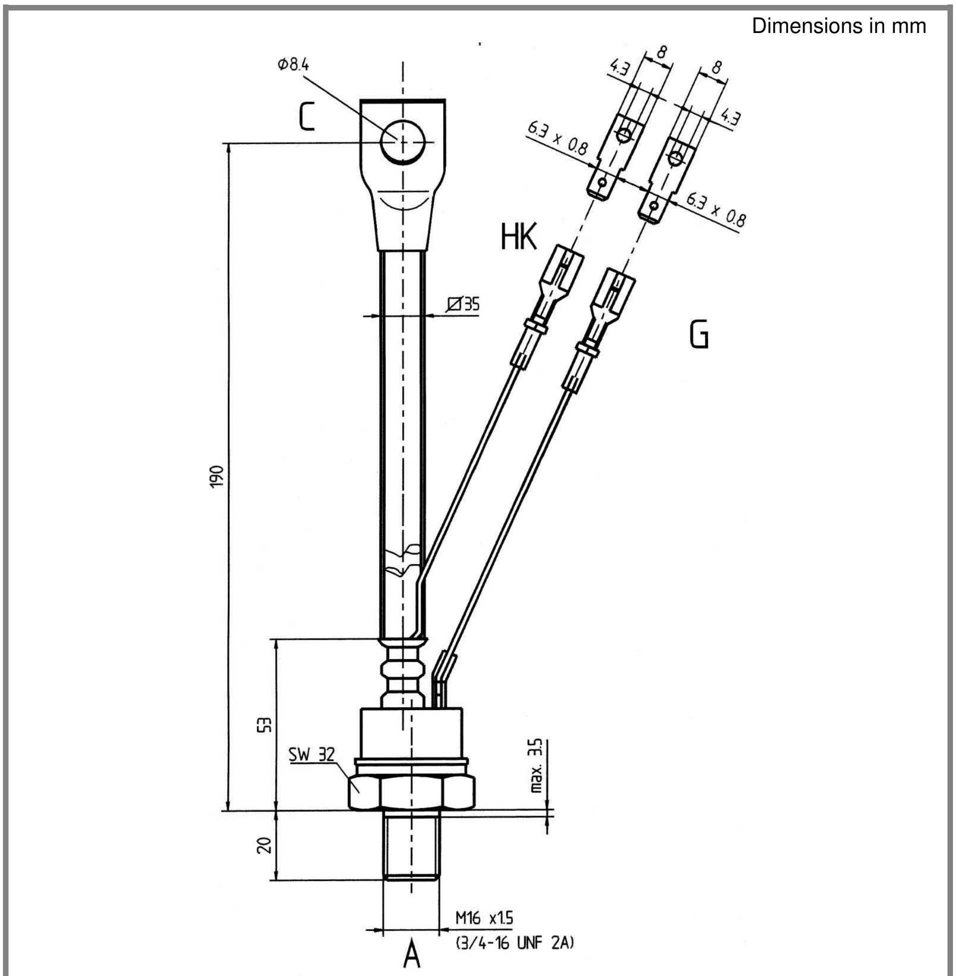


Fig. 9 Gate trigger characteristics



Case B 6 (IEC 60191-2: A47MC; JEDEC: TO-209 (TO-93))

* The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON