SKT 160

Download PDF here

Stud Thyristor

V_{RSM}	V_{RRM}, V_{DRM}	I_{TRMS} = 280 A (maximum value for continuous operation)
V	V	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)]

Line Thyristor

SKT 160

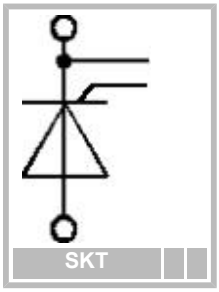
Features

- 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 •/13 W, C = 0,47 •F

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



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
i^2t	T_{vj} = 25 °C; 8,35 ... 10 ms	92500	A^2s
	T_{vj} = 130 °C; 8,35 ... 10 ms	70000	A^2s
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	m•
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 •; 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/s^2
m	approx.	250	g
Case		B 6	

Diagrams

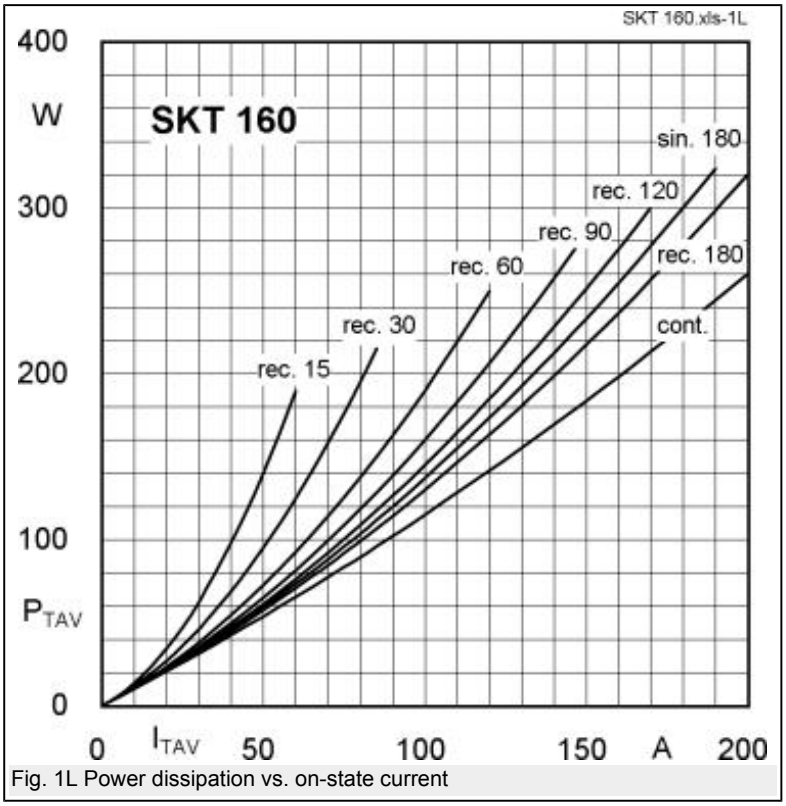


Fig. 1L Power dissipation vs. on-state current

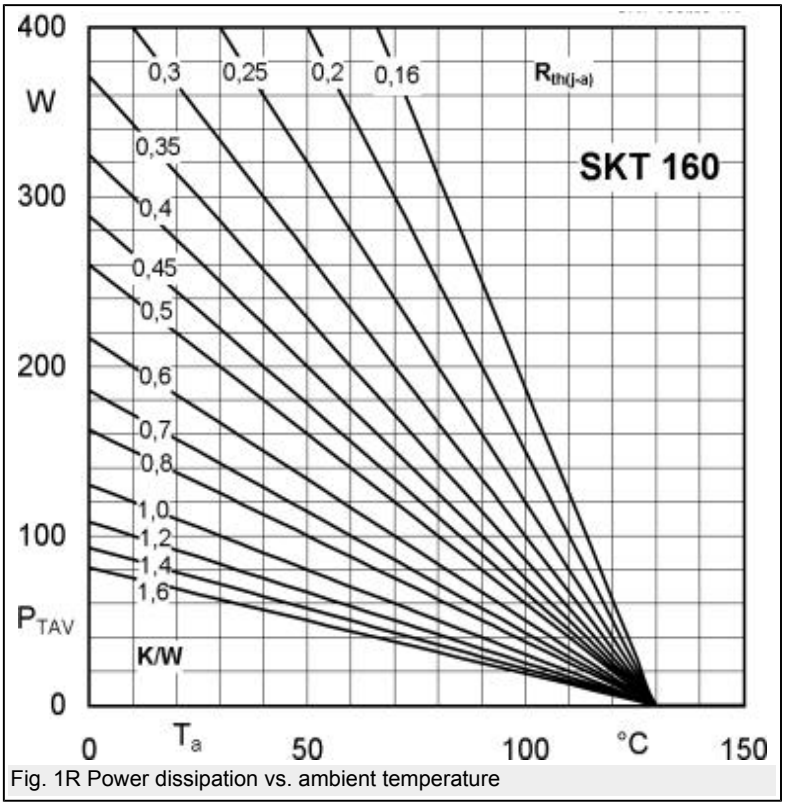


Fig. 1R Power dissipation vs. ambient temperature

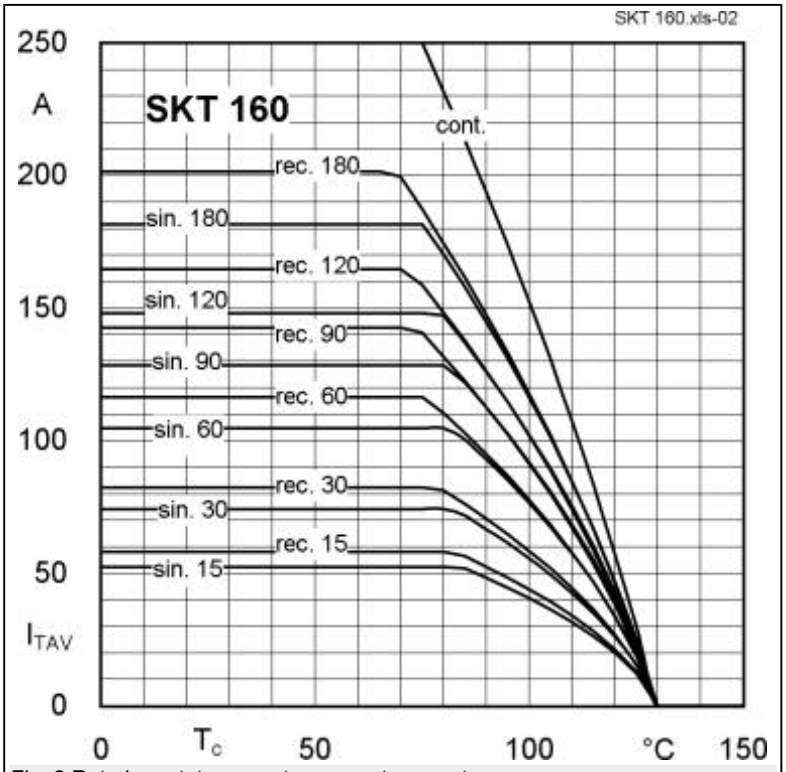


Fig. 2 Rated on-state current vs. case temperature

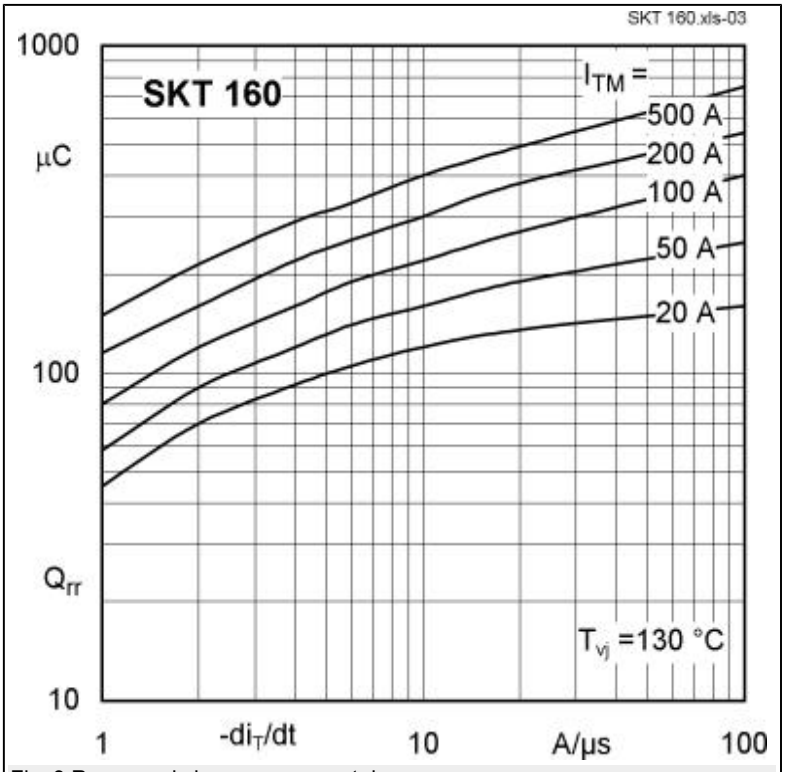


Fig. 3 Recovered charge vs. current decrease

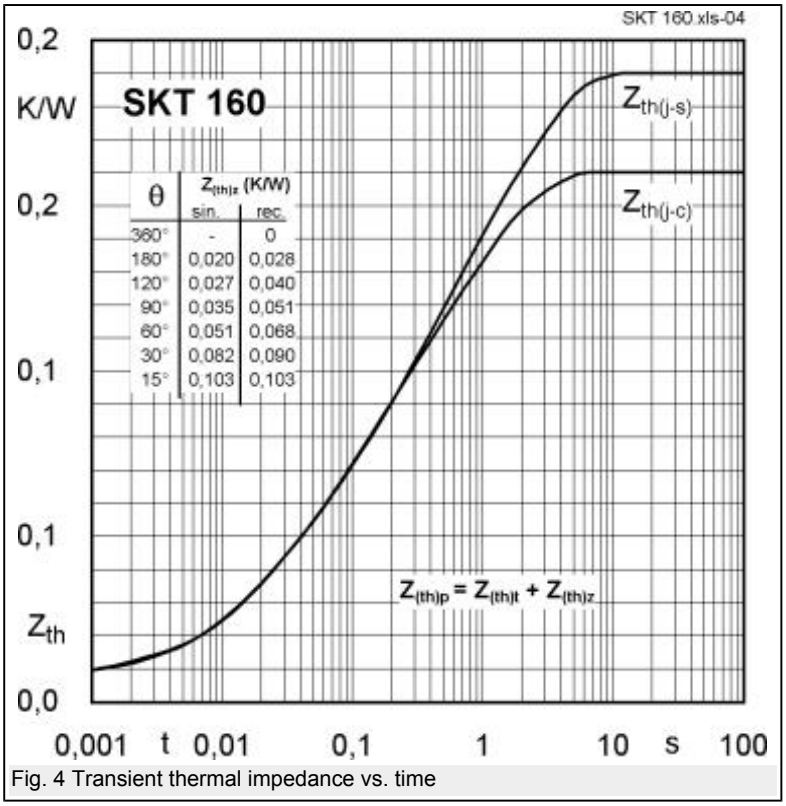


Fig. 4 Transient thermal impedance vs. time

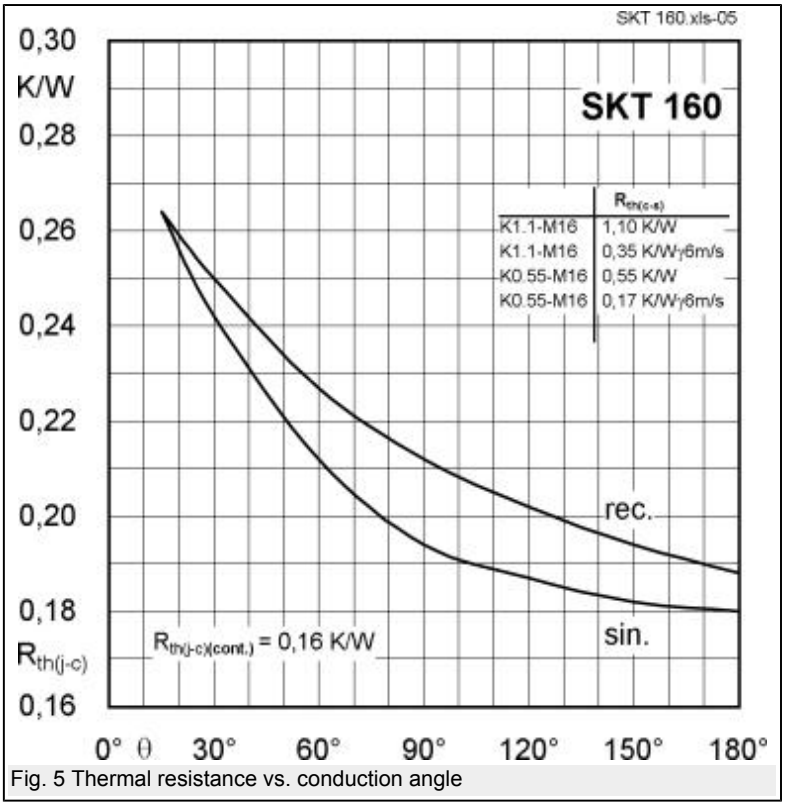


Fig. 5 Thermal resistance vs. conduction angle

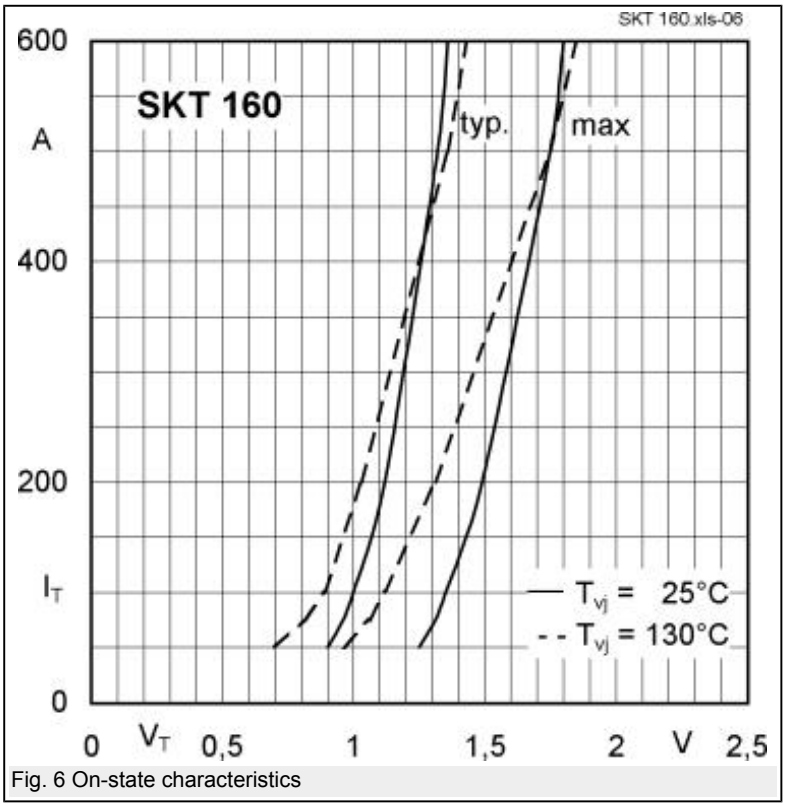


Fig. 6 On-state characteristics

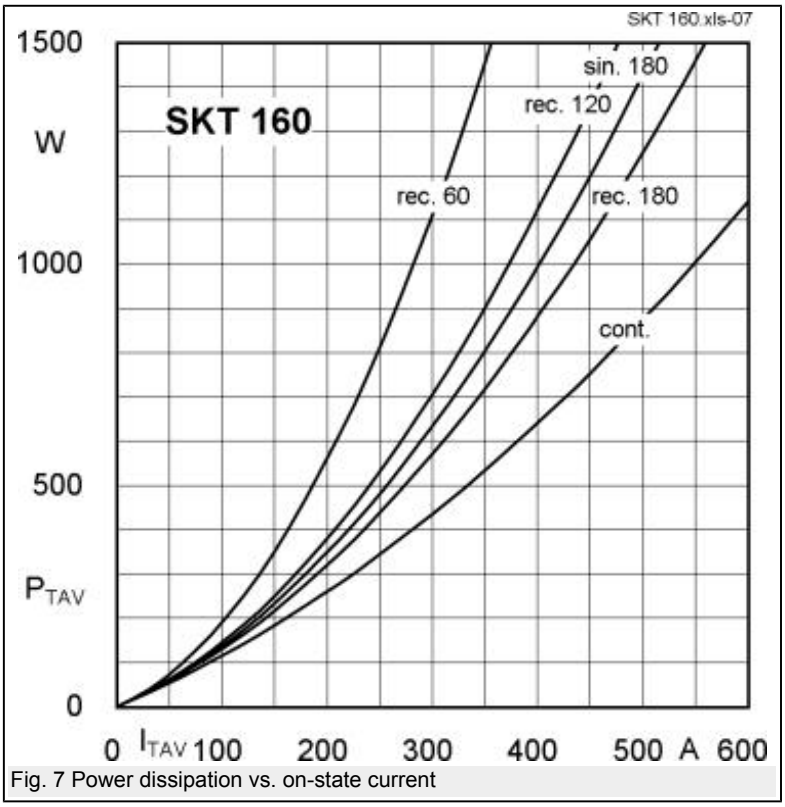


Fig. 7 Power dissipation vs. on-state current

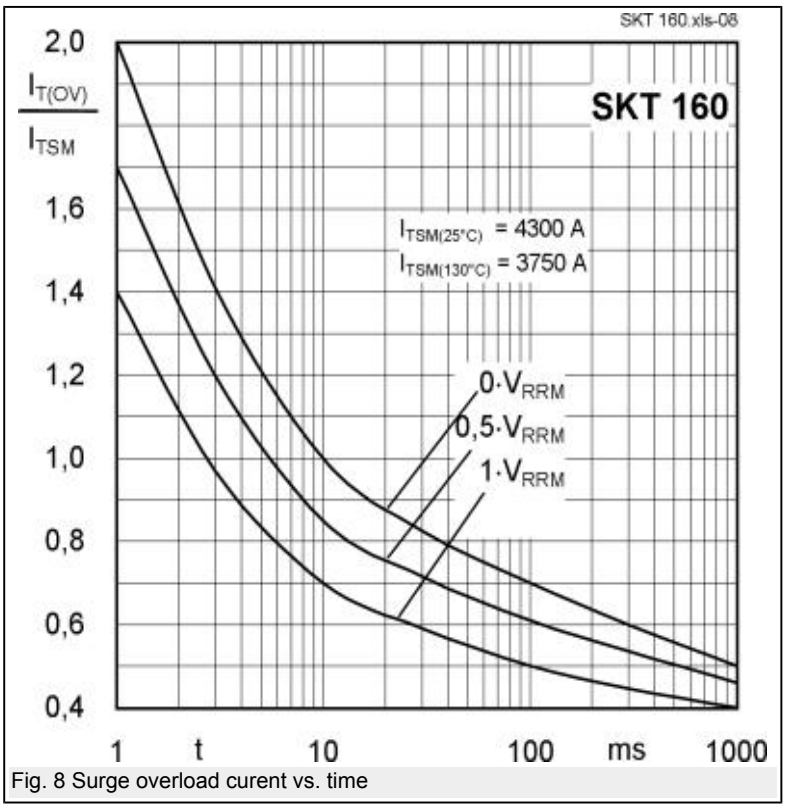


Fig. 8 Surge overload curent vs. time

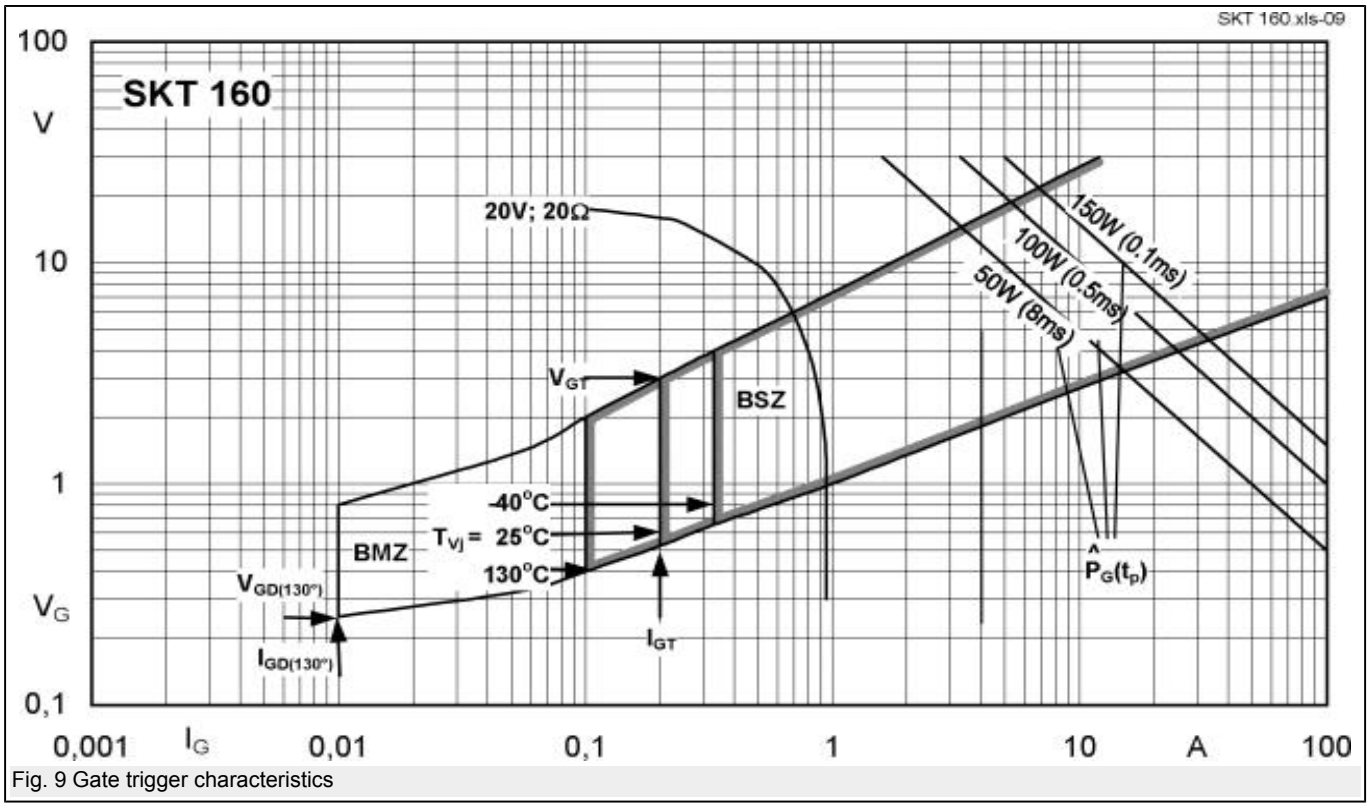
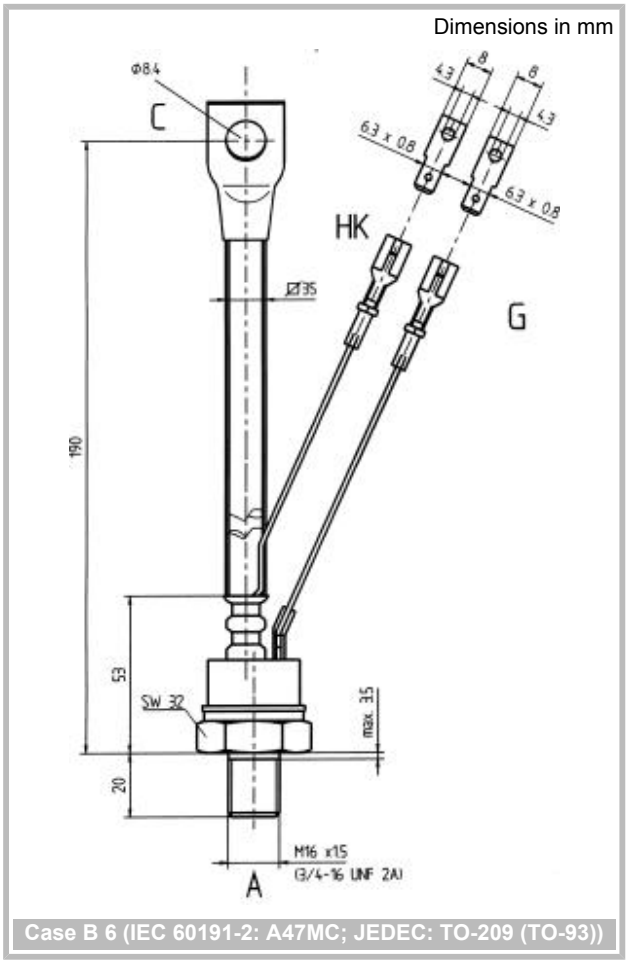


Fig. 9 Gate trigger characteristics

Cases / Circuits



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