SKKT 210, SKKH 210

SEMIPACK® 3 1)

Thyristor / Diode Modules

SKKT 210

SKKH 210

Features

- Heat transfer through aluminium nitride ceramic isolated metal baseplate
- Precious metal pressure contacts for high reliability
- Thyristor with amplifying gate
- UL recognized, file no. E 63 532

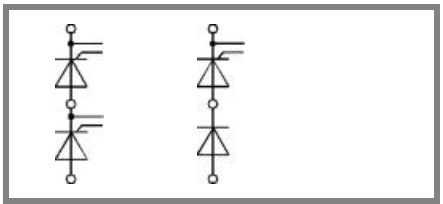
Typical Applications

- DC motor control (e. g. for machine tools)
- AC motor starters
- Temperature control (e. g. for ovens, chemical processes)
- Professional light dimming (studios, theaters)

1) Discontinued version
2) See the assembly instruction
3) The screws must be lubricated

V_{RSM} V	V_{RRM}, V_{DRM} V	I_{TRMS} = 350 A (maximum value for continuous operation) I_{TAV} = 210 A (sin. 180; T_c = 90 °C)	
900	800	SKKT 210/08E	
1300	1200	SKKT 210/12E	SKKH 210/12E
1500	1400	SKKT 210/14E	SKKH 210/14E
1700	1600	SKKT 210/16E	SKKH 210/16E
1900	1800	SKKT 210/18E	SKKH 210/18E
2100	2000	SKKT 210/20E H4	SKKH 210/20E H4
2300	2200	SKKT 210/22E H4	SKKH 210/22E H4

Symbol	Conditions	Values	Units
I_{TAV}	sin. 180; T_c = 85 (100) °C;	230 (167)	A
I_D	P16/200F; T_a = 35 °C; B2 / B6	420 / 550	A
I_{RMS}	P16/200F; T_a = 35 °C; W1 / W3	526 / 3 * 440	A
I_{TSM}	T_{vj} = 25 °C; 10 ms	8500	A
	T_{vj} = 130 °C; 10 ms	7500	A
i²t	T_{vj} = 25 °C; 8,3 ... 10 ms	361000	A²s
	T_{vj} = 130 °C; 8,3 ... 10 ms	281000	A²s
V_T	T_{vj} = 25 °C; I_T = 750 A	max. 1,5	V
$V_{T(TO)}$	T_{vj} = 130 °C	max. 0,95	V
r_T	T_{vj} = 130 °C	max. 0,6	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. 250	A/µs
$(dv/dt)_{cr}$	T_{vj} = 130 °C	max. 1000	V/µs
t_q	T_{vj} = 130 °C ,	50 ... 150	µs
I_H	T_{vj} = 25 °C; typ. / max.	150 / 500	mA
I_L	T_{vj} = 25 °C; R_G = 33 Ω; typ. / max.	300 / 2000	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.; per thyristor / per module	0,14 / 0,07	K/W
$R_{th(j-c)}$	sin. 180; per thyristor / per module	0,15 / 0,075	K/W
$R_{th(j-c)}$	rec. 120; per thyristor / per module	0,165 / 0,083	K/W
$R_{th(c-s)}$	per thyristor / per module	0,04 / 0,02	K/W
T_{vj}		- 40 ... + 130	°C
T_{stg}		- 40 ... + 130	°C
V_{isol}	a. c. 50 Hz; r.m.s.; 1 s / 1 min.	3600 / 3000	V~
V_{isol}	a. c. 50 Hz; r.m.s.; 1 s / 1 min. for SKK ...H4	4800 / 4000	V~
M_s	to heatsink	9 ± 15 %[2)]	Nm
M_t	to terminal	9 ± 15 %[3)]	Nm
a		5 * 9,81	m/s²
m	approx.	750	g
Case	SKKT	A 73 a	
	SKKH	A 76 a	



SKKT SKKH

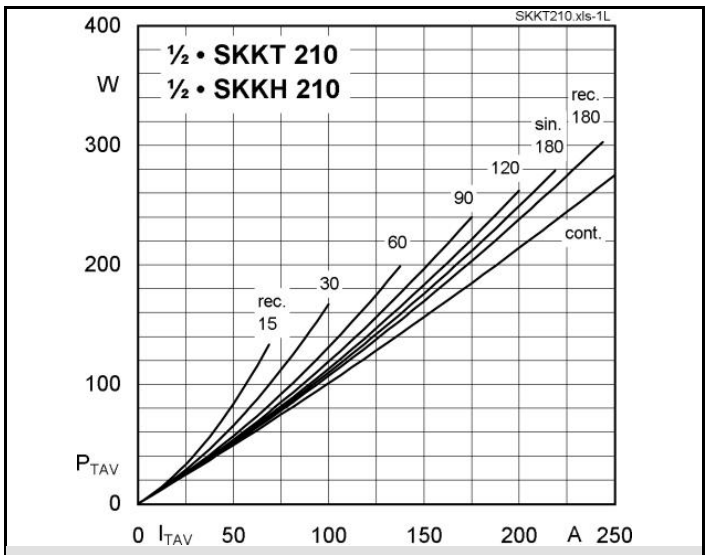


Fig. 1L Power dissipation per thyristor vs. on-state current

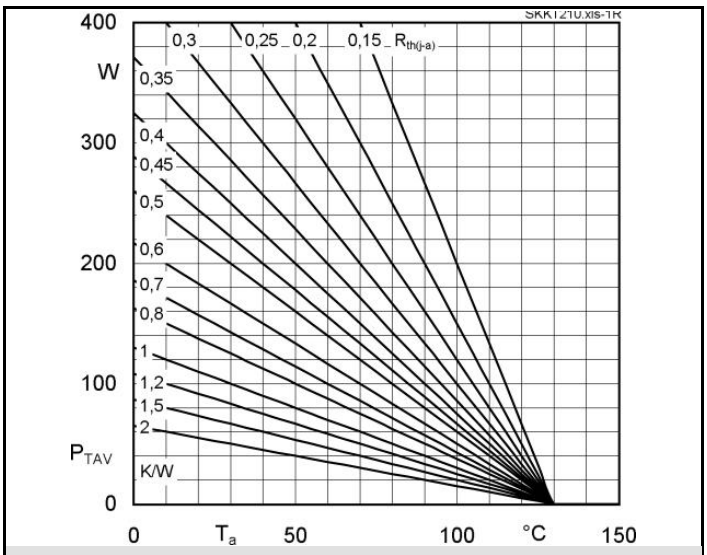


Fig. 1R Power dissipation per thyristor vs. ambient temp.

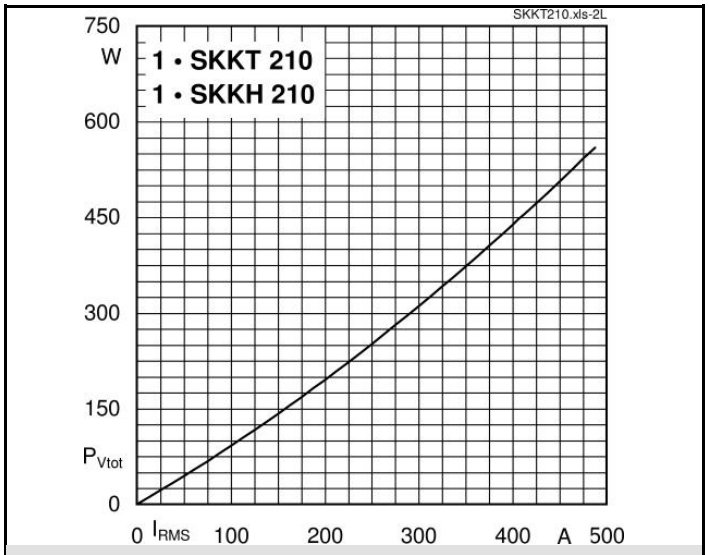


Fig. 2L Power dissipation per module vs. rms current

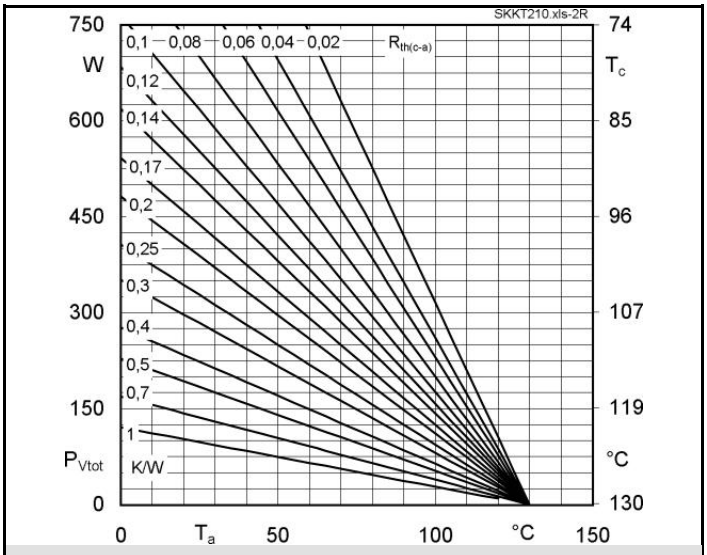


Fig. 2R Power dissipation per module vs. case temp.

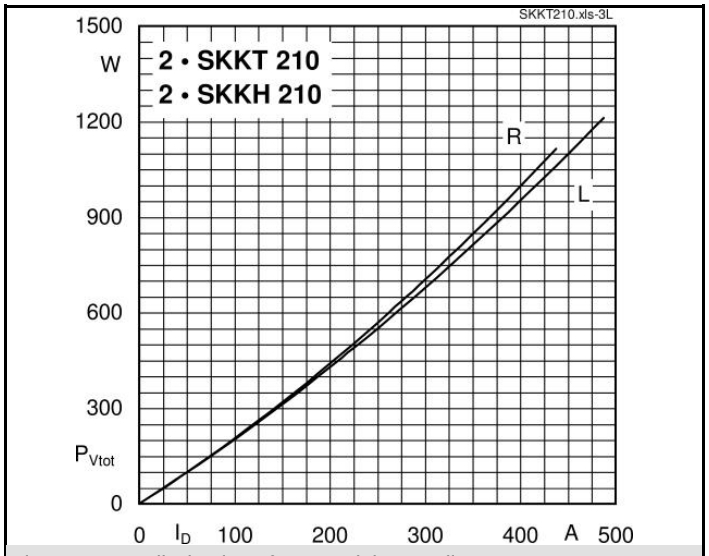


Fig. 3L Power dissipation of two modules vs. direct current

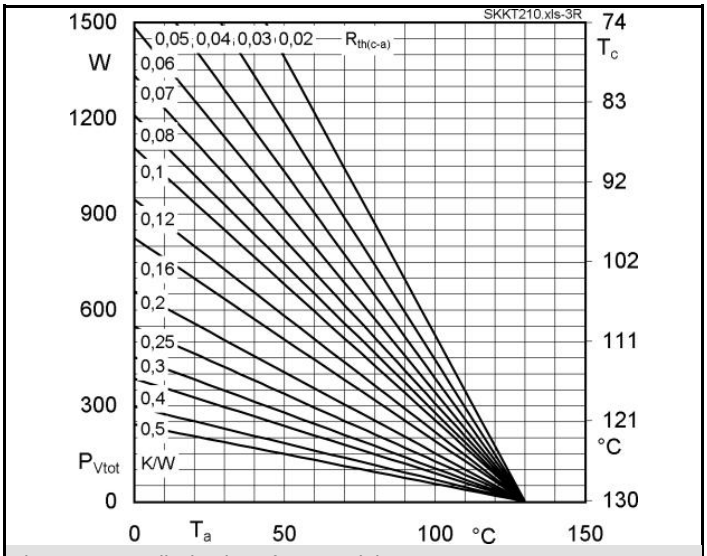


Fig. 3R Power dissipation of two modules vs. case temp.

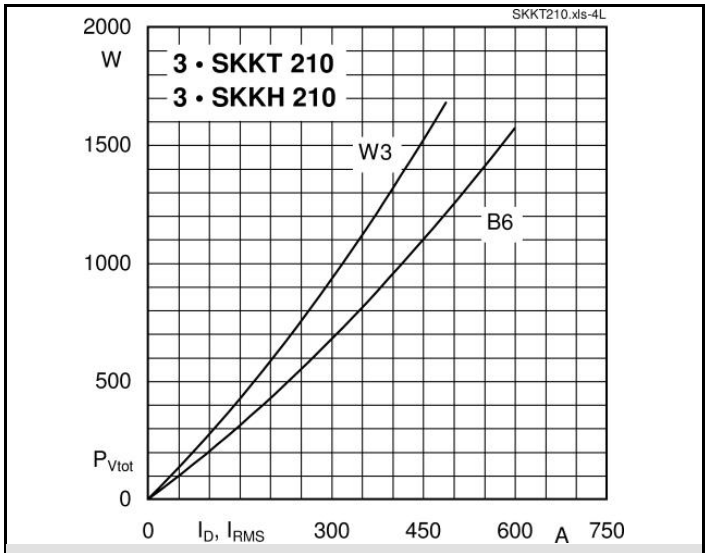


Fig. 4L Power dissipation of three modules vs. direct and rms current

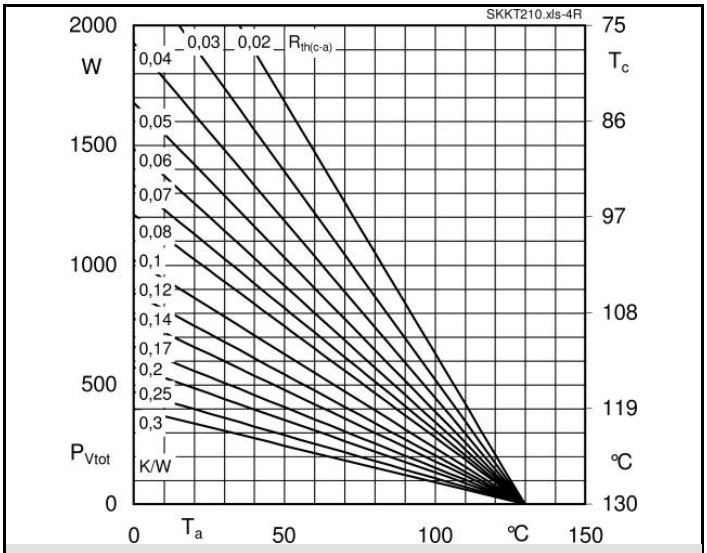


Fig. 4R Power dissipation of three modules vs. case temp.

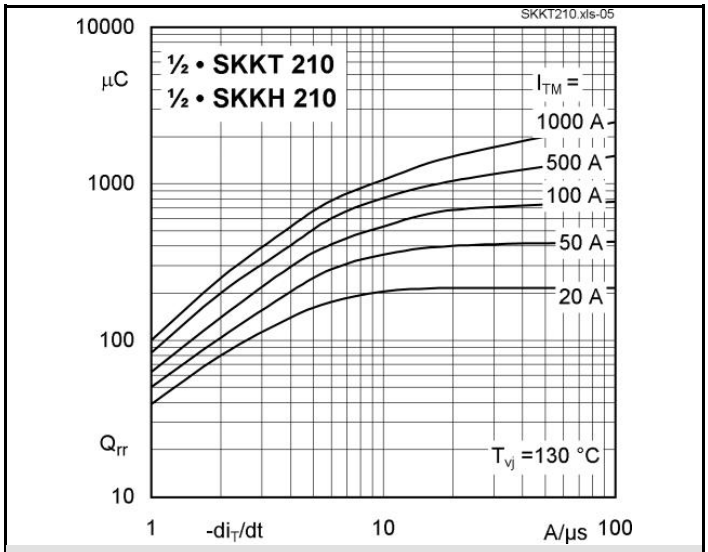


Fig. 5 Recovered charge vs. current decrease

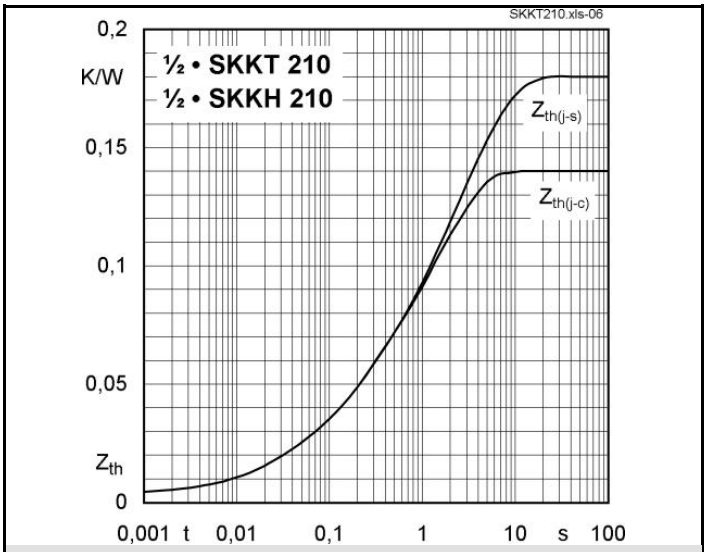


Fig. 6 Transient thermal impedance vs. time

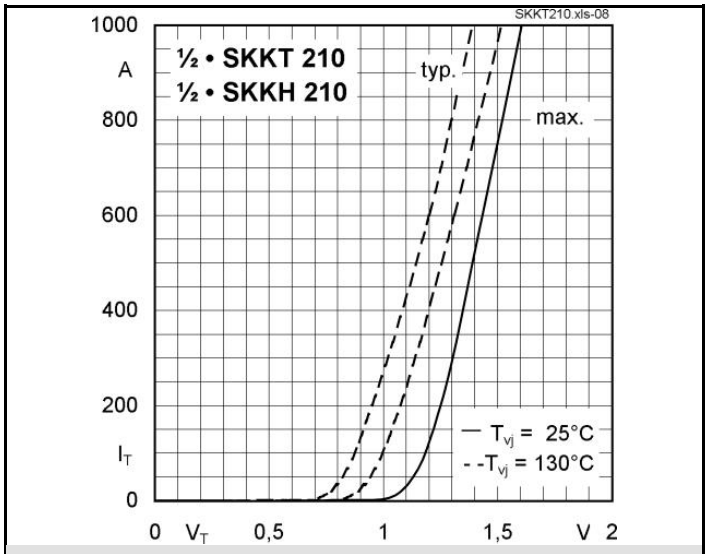


Fig. 7 On-state characteristics

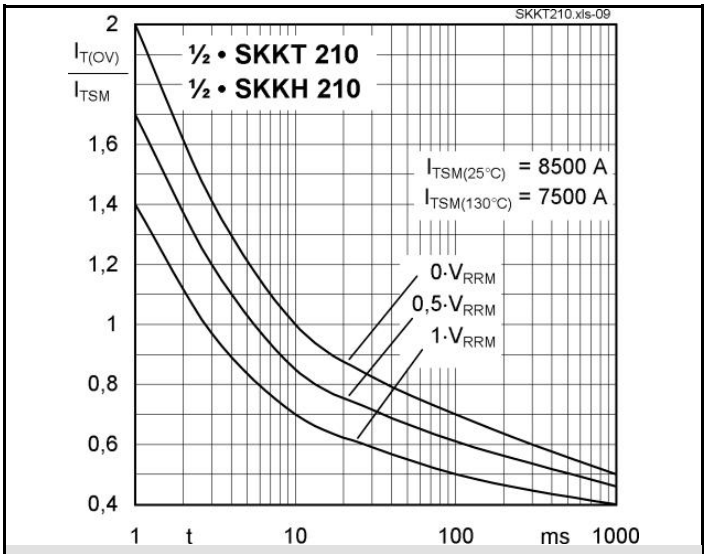


Fig. 8 Surge overload current vs. time

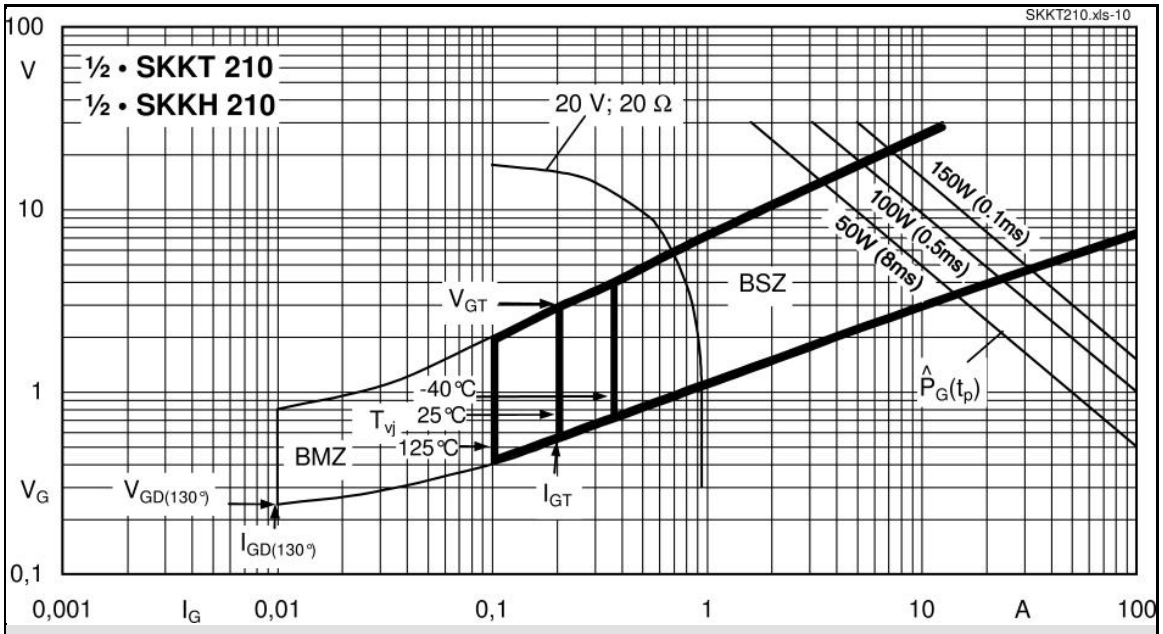
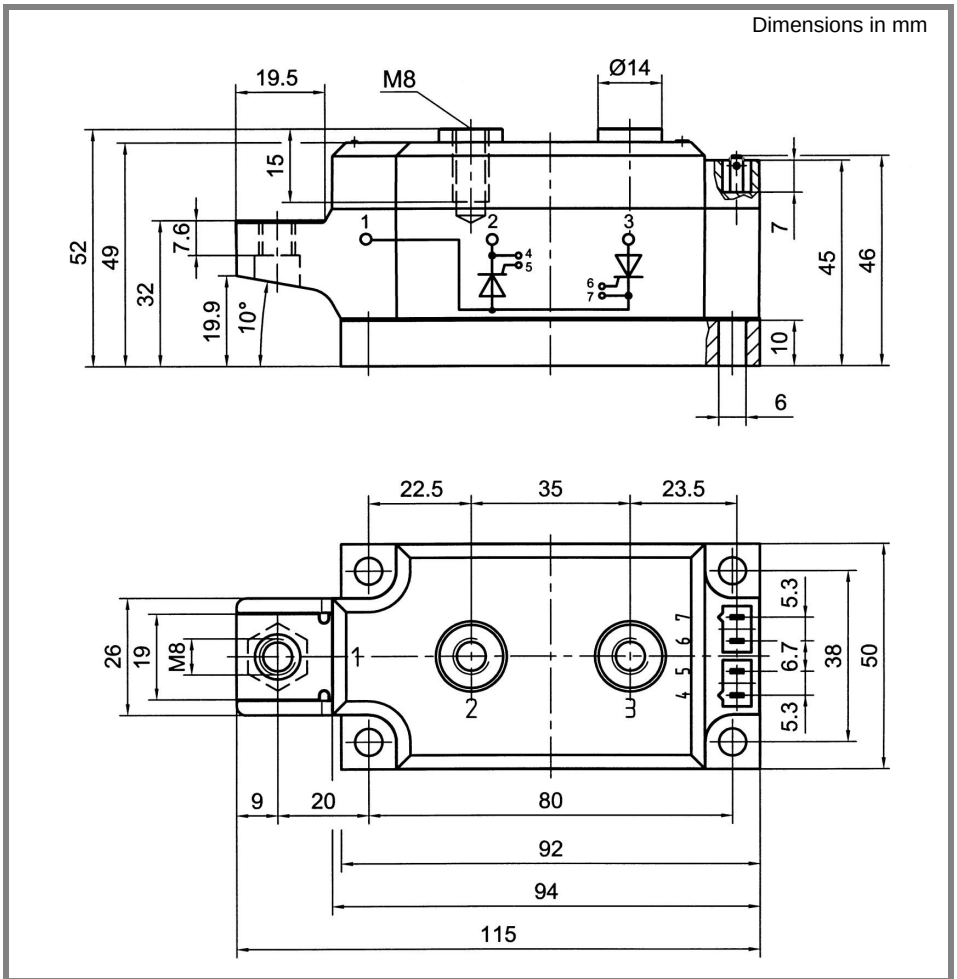
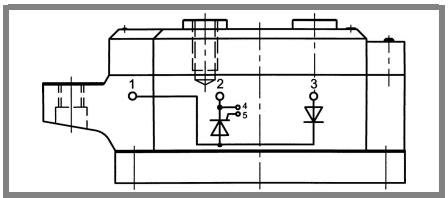


Fig. 9 Gate trigger characteristics



Case A 73a (SKKT)



Case A 76a SKKH

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