SKKT 162, SKKH 162

SEMIPACK® 2

Thyristor / Diode Modules

SKKT 162

SKKH 162

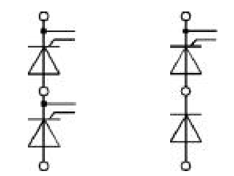
Features

- Heat transfer through aluminium oxide ceramic isolated metal baseplate
- Hard soldered joints for high reliability
- UL recognized, file no. E 63 532

Typical Applications*

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

1) See the assembly instructions



V_{RSM} V	V_{RRM}, V_{DRM} V	I_{TRMS} = 250 A (maximum value for continuous operation) I_{TAV} = 160 A (sin.180; T_c = 83 °C)		
900	800	SKKT 162/08E	SKKH 162/08E	
1300	1200	SKKT 162/12E	SKKH 162/12E	
1500	1400	SKKT 162/14E	SKKH 162/14E	
1700	1600	SKKT 162/16E	SKKH 162/16E	
1900	1800	SKKT 162/18E	SKKH 162/18E	

Symbol	Conditions	Values	Units
I_{TAV}	sin. 180; T_c = 85 (100) °C;	156 (110)	A
I_D	P3/180F; T_a = 35 °C; B2 / B6	190 / 230	A
I_{RMS}	P3/180F; T_a = 35 °C; W1 / W3	265 / 3 * 185	A
I_{TSM}	T_{vj} = 25 °C; 10 ms	5400	A
	T_{vj} = 125 °C; 10 ms	5000	A
i²t	T_{vj} = 25 °C; 8,3 ... 10 ms	145000	A²s
	T_{vj} = 125 °C; 8,3 ... 10 ms	125000	A²s
V_T	T_{vj} = 25 °C; I_T = 500 A	max. 1,6	V
$V_{T(TO)}$	T_{vj} = 125 °C	max. 0,85	V
r_T	T_{vj} = 125 °C	max. 1,5	mΩ
I_{DD}; I_{RD}	T_{vj} = 125 °C; V_{RD} = V_{RRM}; V_{DD} = V_{DRM}	max. 40	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} = 125 °C	max. 200	A/µs
$(dv/dt)_{cr}$	T_{vj} = 125 °C	max. 1000	V/µs
t_q	T_{vj} = 125 °C ,	50 ... 150	µs
I_H	T_{vj} = 25 °C; typ. / max.	150 / 400	mA
I_L	T_{vj} = 25 °C; R_G = 33 Ω; typ. / max.	300 / 1000	mA
V_{GT}	T_{vj} = 25 °C; d.c.	min. 2	V
I_{GT}	T_{vj} = 25 °C; d.c.	min. 150	mA
V_{GD}	T_{vj} = 125 °C; d.c.	max. 0,25	V
I_{GD}	T_{vj} = 125 °C; d.c.	max. 10	mA
$R_{th(j-c)}$	cont.; per thyristor / per module	0,17 / 0,085	K/W
$R_{th(j-c)}$	sin. 180; per thyristor / per module	0,18 / 0,09	K/W
$R_{th(j-c)}$	rec. 120; per thyristor / per module	0,2 / 0,1	K/W
$R_{th(c-s)}$	per thyristor / per module	0,1 / 0,05	K/W
T_{vj}		- 40 ... + 125	°C
T_{stg}		- 40 ... + 125	°C
V_{isol}	a. c. 50 Hz; r.m.s.; 1 s / 1 min.	3600 / 3000	V~
M_s	to heatsink	5 ± 15 %[1)]	Nm
M_t	to terminal	5 ± 15 %	Nm
a		5 * 9,81	m/s²
m	approx.	165	g
Case	SKKT	A 21	
	SKKH	A 22	

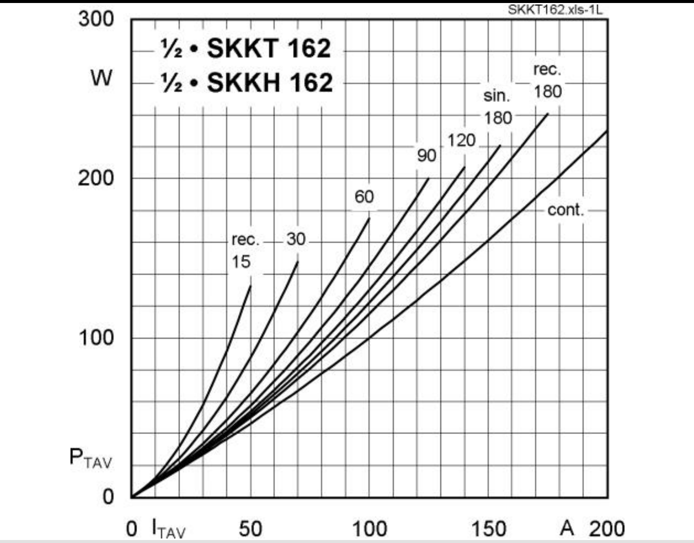


Fig. 1L Power dissipation per thyristor vs. on-state current

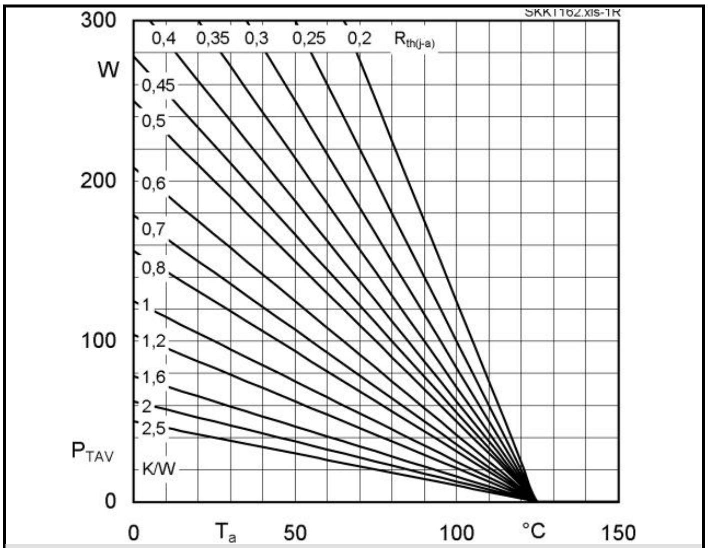


Fig. 1R Power dissipation per thyristor vs. ambient temp.

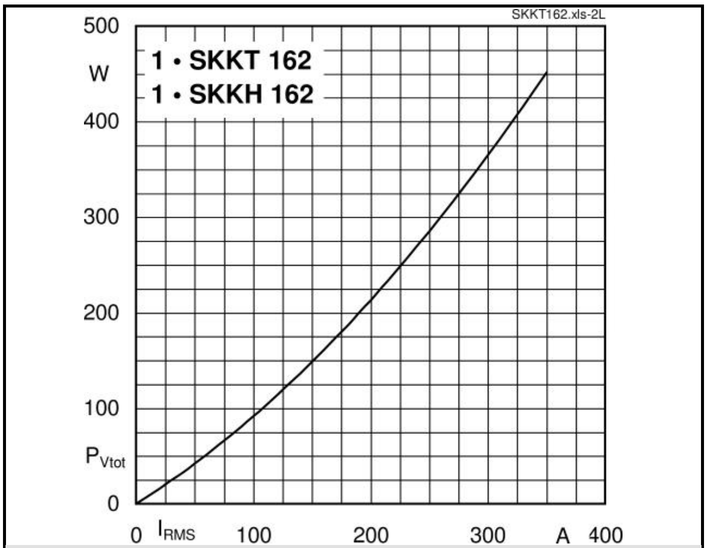


Fig. 2L Power dissipation per module vs. rms current

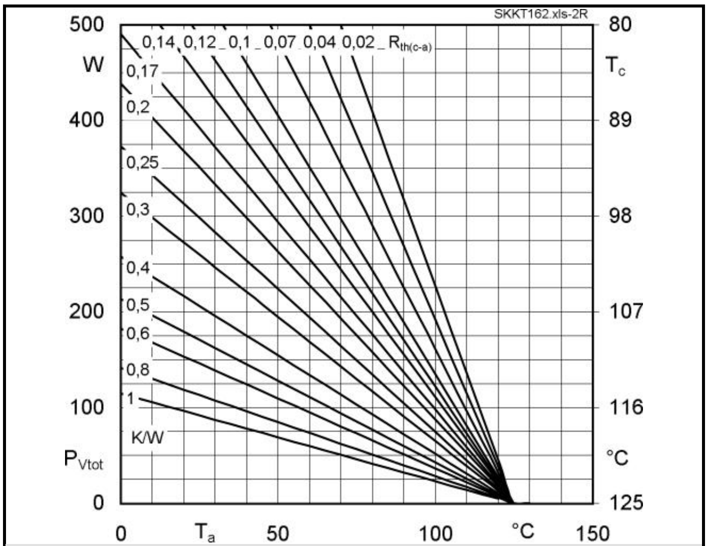


Fig. 2R Power dissipation per module vs. case temp.

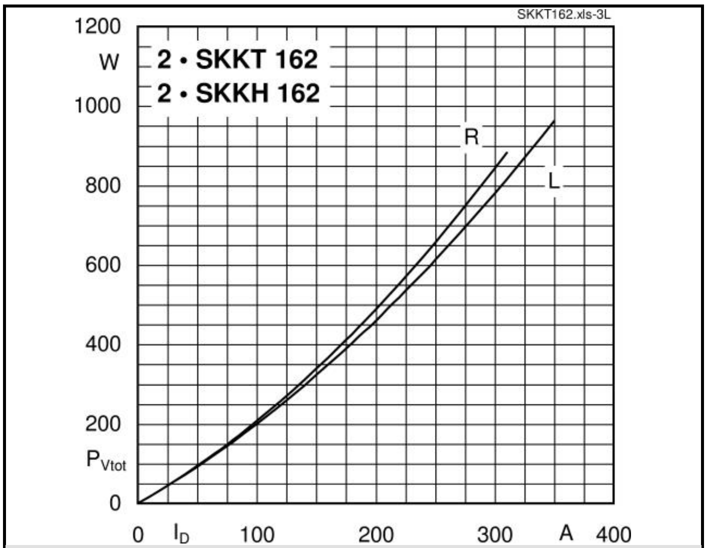


Fig. 3L Power dissipation of two modules vs. direct current

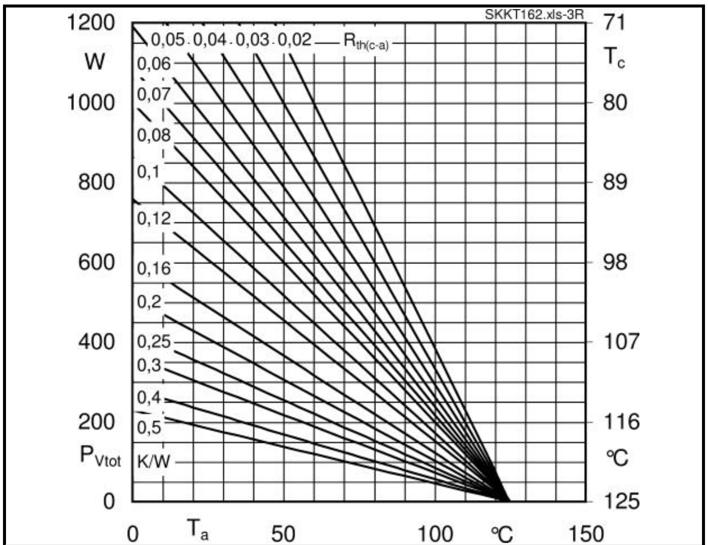


Fig. 3R Power dissipation of two modules vs. case temp.

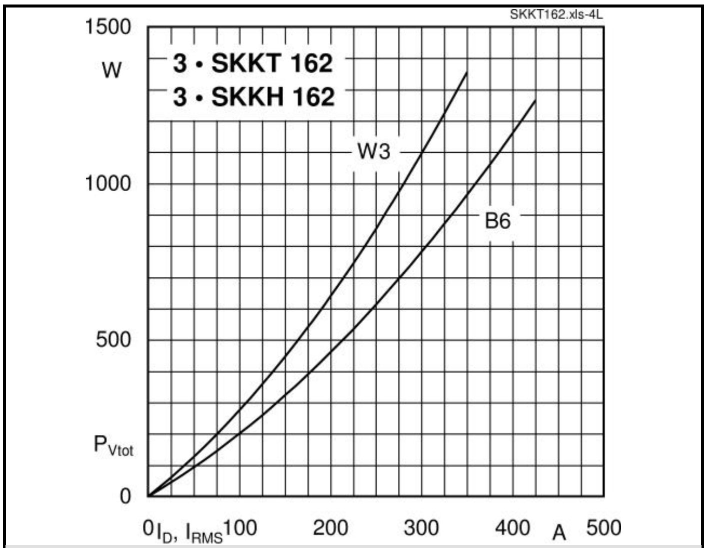


Fig. 4L Power dissipation of three modules vs. direct and rms current

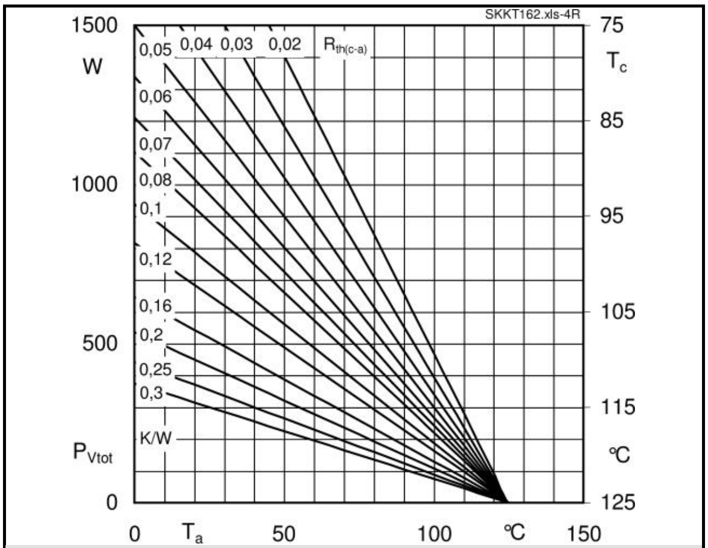


Fig. 4R Power dissipation of three modules vs. case temp.

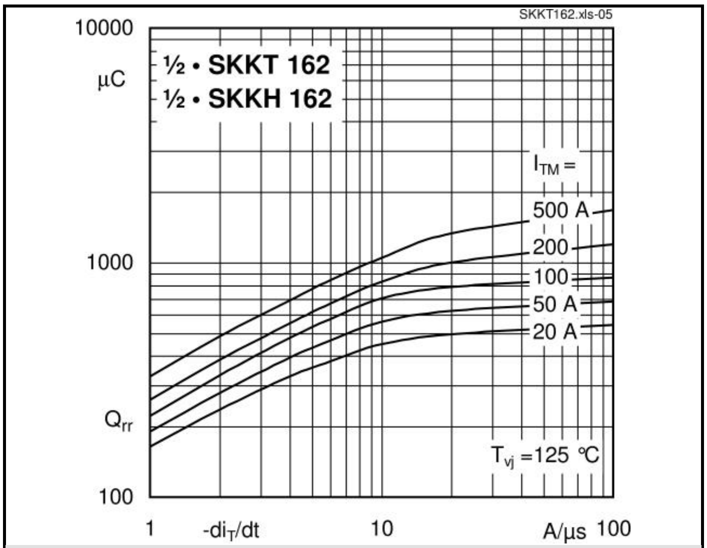


Fig. 5 Recovered charge vs. current decrease

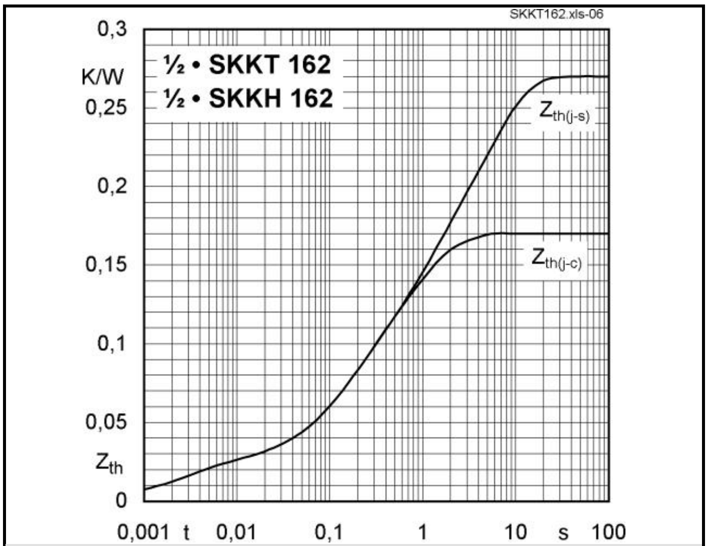


Fig. 6 Transient thermal impedance vs. time

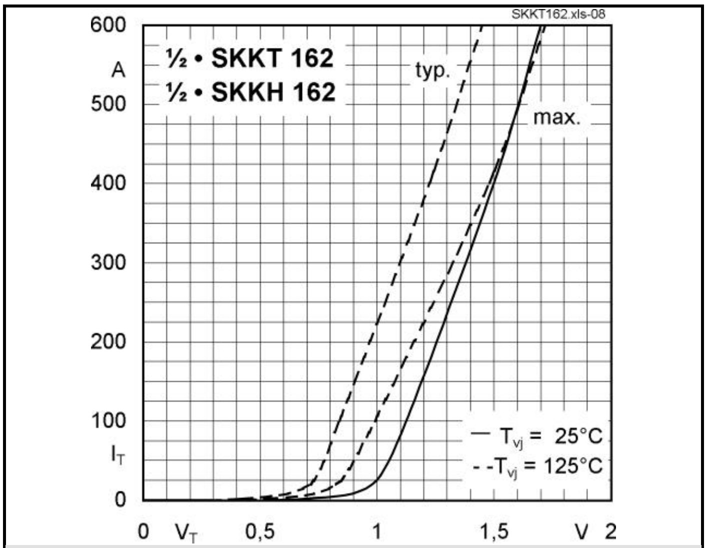


Fig. 7 On-state characteristics

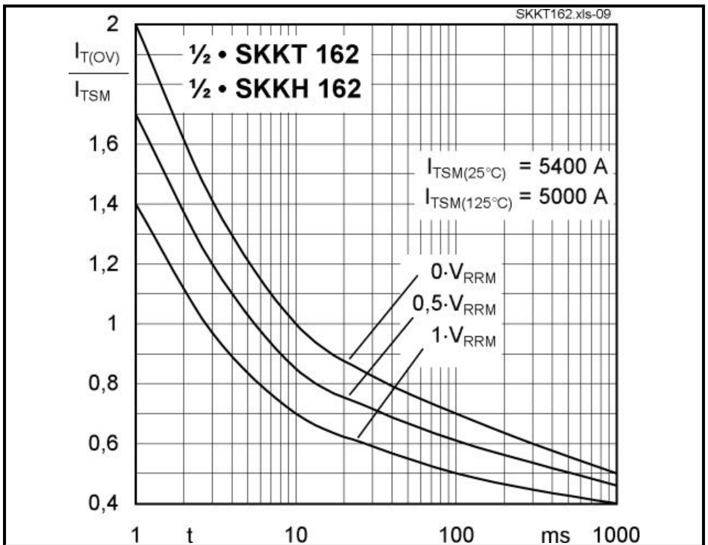


Fig. 8 Surge overload current vs. time

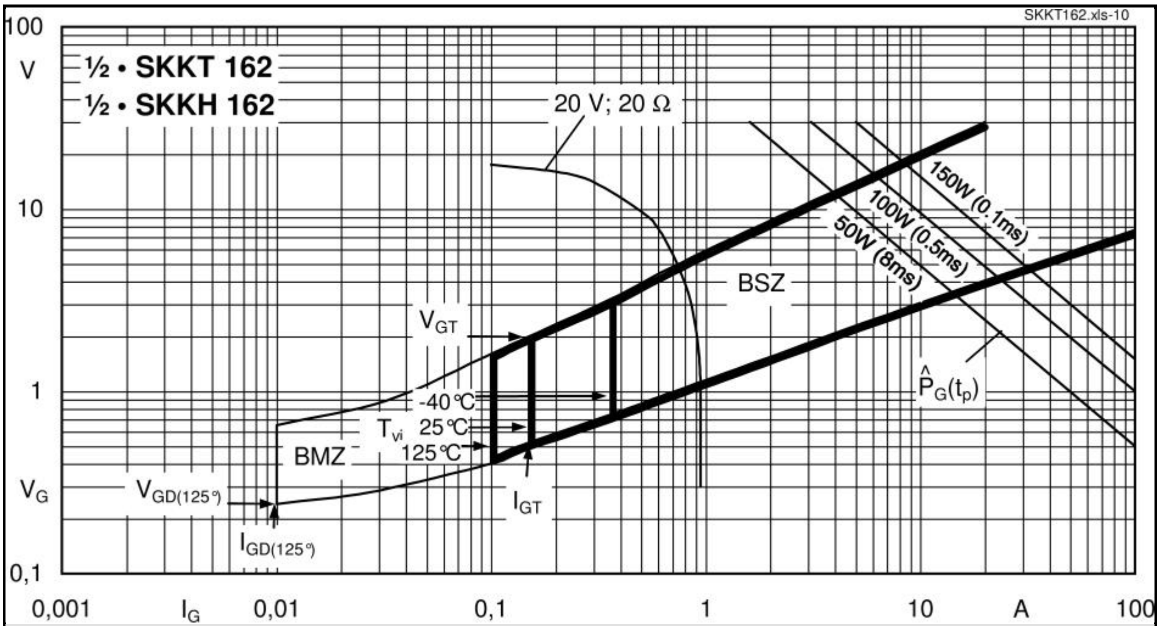
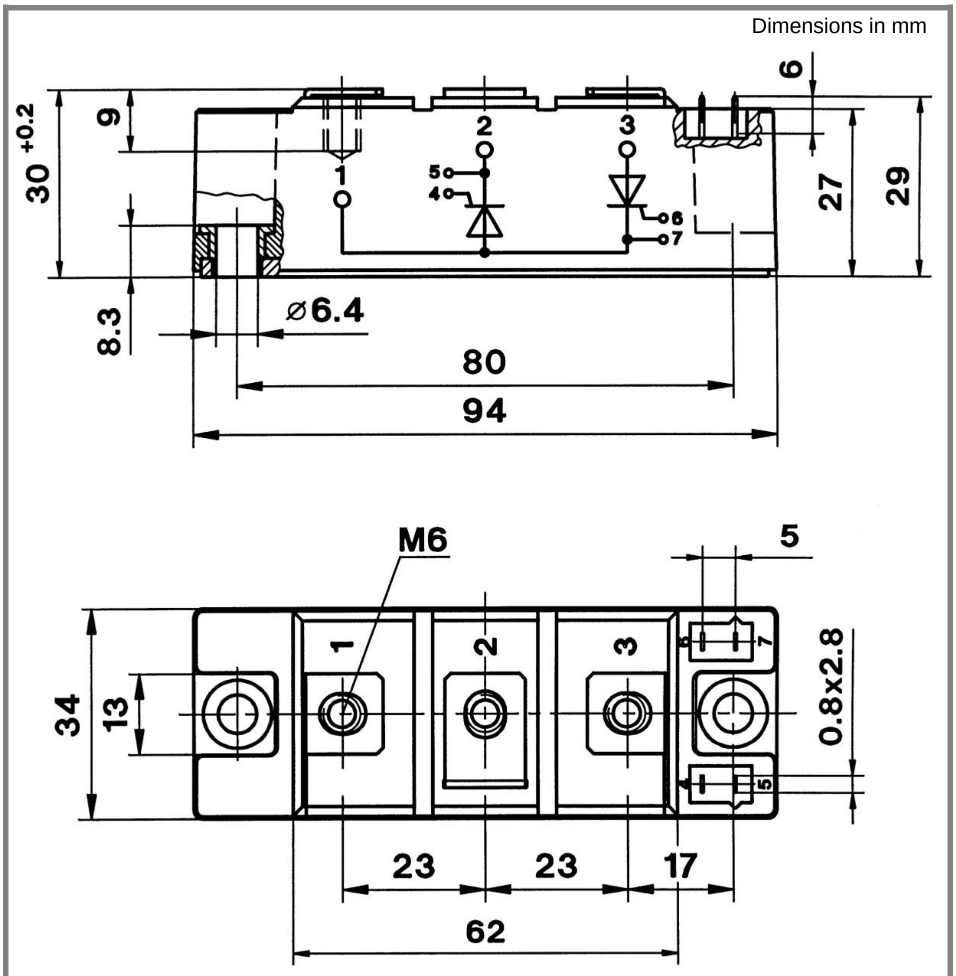
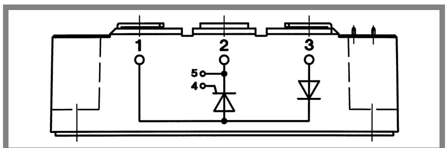


Fig. 9 Gate trigger characteristics



Case A 21 (SKKT)



Case A 22 SKKH

* 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

products in life support appliances and systems is subject to prior specification and written approval by SEMIKRON. We therefore strongly recommend prior consultation of our personal.

