SKKT 72 H4, SKKH 72 H4

THYRISTOR BRIDGE,SCR BRIDGE

SEMIPACK® 1

Thyristor / Diode Modules

SKKT 72 H4

SKKH 72 H4

Features

- Heat transfer through aluminium oxide ceramic isolated metal baseplate
- Hard soldered joints for high reliability
- UL recognized, file no. E 63532

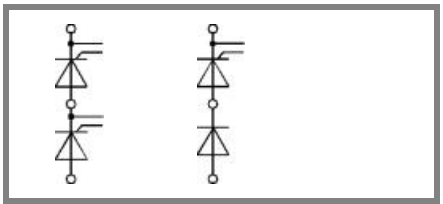
Typical Applications*

- DC motor control (e. g. for machine tools)
- AC motor soft starters
- 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} = 125 A (maximum value for continuous operation) I_{TAV} = 70 A (sin. 180; T_c = 85 °C)		
2100	2000	SKKT 72/20E H4	SKKH 72/20E H4	
2300	2200	SKKT 72/22E H4	SKKH 72/22E H4	

Symbol	Conditions	Values	Units
I_{TAV}	sin. 180; T_c = 85 (100) °C;	70 (50)	A
I_D	P3/180; T_a = 45 °C; B2 / B6	62 / 75	A
	P3/180F; T_a = 35 °C; B2 / B6	115 /145	A
I_{RMS}	P3/180F; T_a = 35 °C; W1 / W3	155 / 3 * 115	A
I_{TSM}	T_{vj} = 25 °C; 10 ms	1600	A
	T_{vj} = 125 °C; 10 ms	1450	A
i²t	T_{vj} = 25 °C; 8,3 ... 10 ms	13000	A²s
	T_{vj} = 125 °C; 8,3 ... 10 ms	10500	A²s
V_T	T_{vj} = 25 °C; I_T = 300 A	max. 1,9	V
$V_{T(TO)}$	T_{vj} = 125 °C	max. 0,9	V
r_T	T_{vj} = 125 °C	max. 3,5	mΩ
I_{DD}; I_{RD}	T_{vj} = 125 °C; V_{RD} = V_{RRM}; V_{DD} = V_{DRM}	max. 30	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}	1	µs
$(di/dt)_{cr}$	T_{vj} = 125 °C	max. 150	A/µs
$(dv/dt)_{cr}$	T_{vj} = 125 °C	max. 1000	V/µs
t_q	T_{vj} = 125 °C ,	80	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. 150	mA
V_{GD}	T_{vj} = 125 °C; d.c.	max. 0,25	V
I_{GD}	T_{vj} = 125 °C; d.c.	max. 6	mA
$R_{th(j-c)}$	cont.; per thyristor / per module	0,35 / 0,18	K/W
$R_{th(j-c)}$	sin. 180; per thyristor / per module	0,37 / 0,19	K/W
$R_{th(j-c)}$	rec. 120; per thyristor / per module	0,39 / 0,2	K/W
$R_{th(c-s)}$	per thyristor / per module	0,2 / 0,1	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.	4800 / 4000	V~
M_s	to heatsink	5 ± 15 %[1)]	Nm
M_t	to terminals	3 ± 15 %	Nm
a		5 * 9,81	m/s²
m	approx.	95	g
Case	SKKT	A 46	
	SKKH	A 47	



SKKT **SKKH**

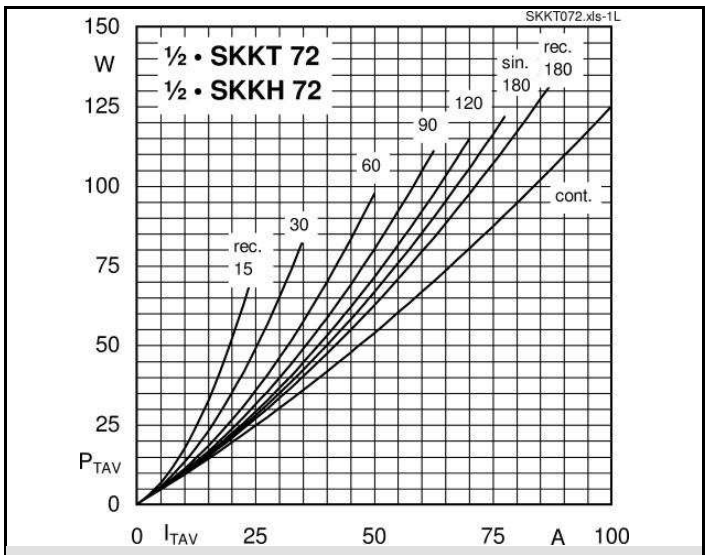


Fig. 1L Power dissipation per thyristor vs. on-state current

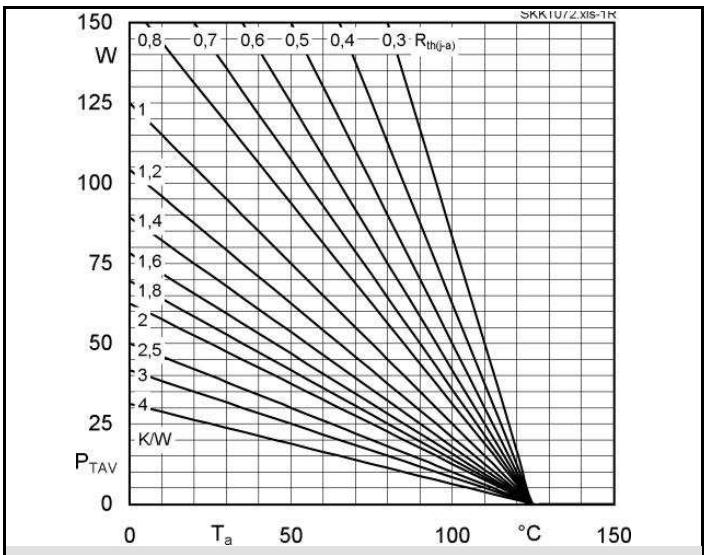


Fig. 1R Power dissipation per thyristor vs. ambient temp.

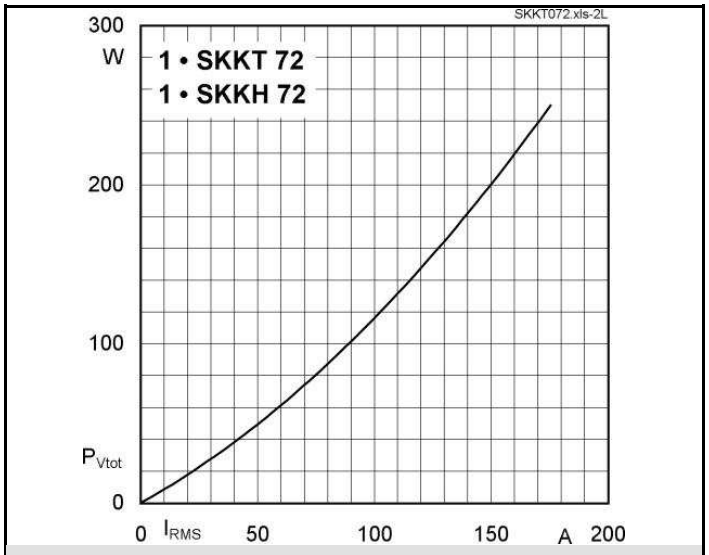


Fig. 2L Power dissipation per module vs. rms current

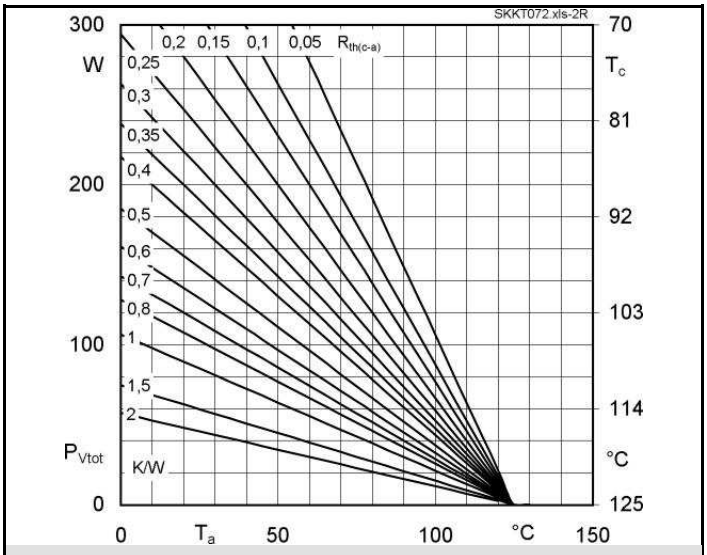


Fig. 2R Power dissipation per module vs. case temp.

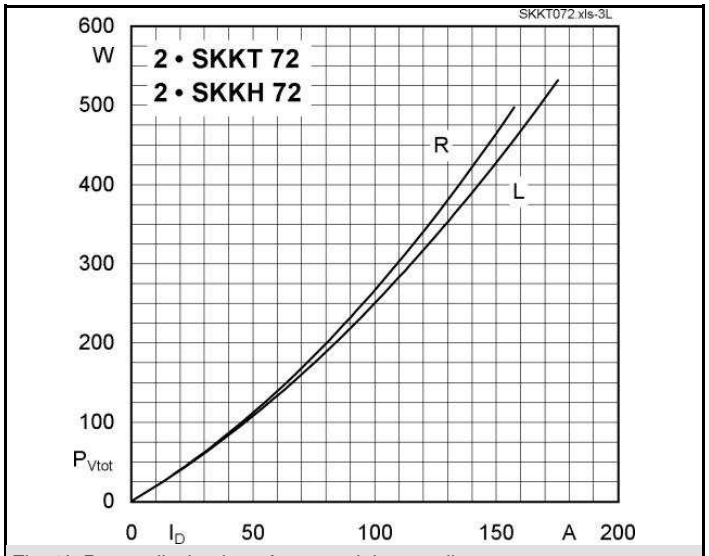


Fig. 3L Power dissipation of two modules vs. direct current

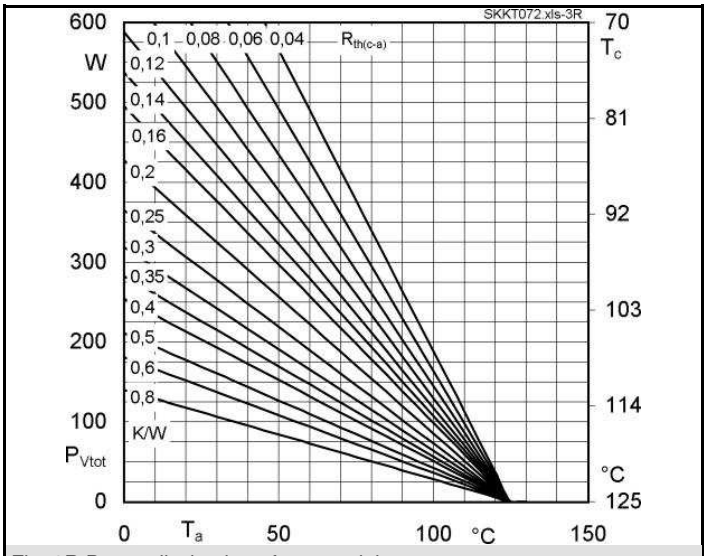


Fig. 3R Power dissipation of two modules vs. case temp.

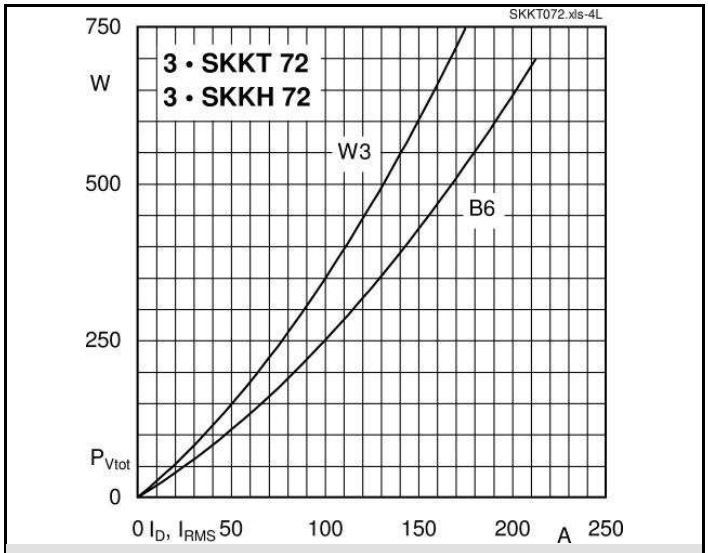


Fig. 4L Power dissipation of three modules vs. direct and rms current

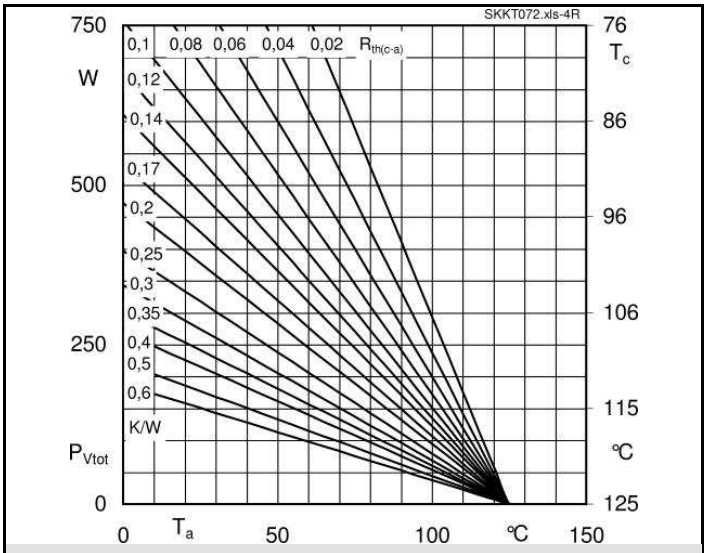


Fig. 4R Power dissipation of three modules vs. case temp.

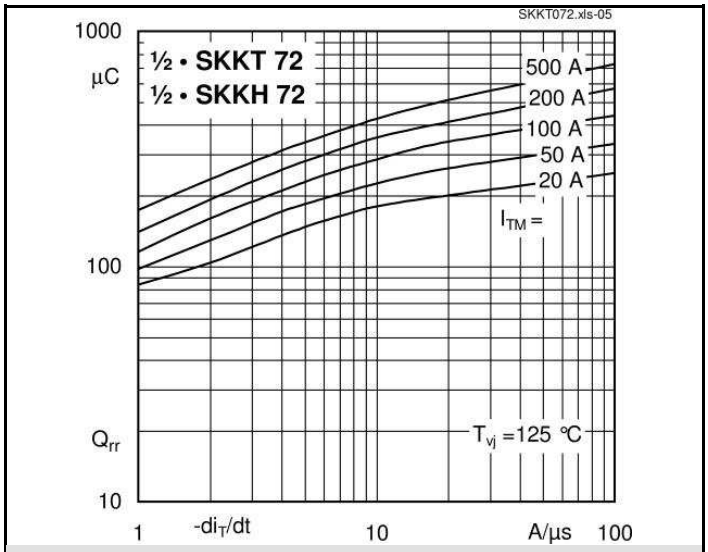


Fig. 5 Recovered charge vs. current decrease

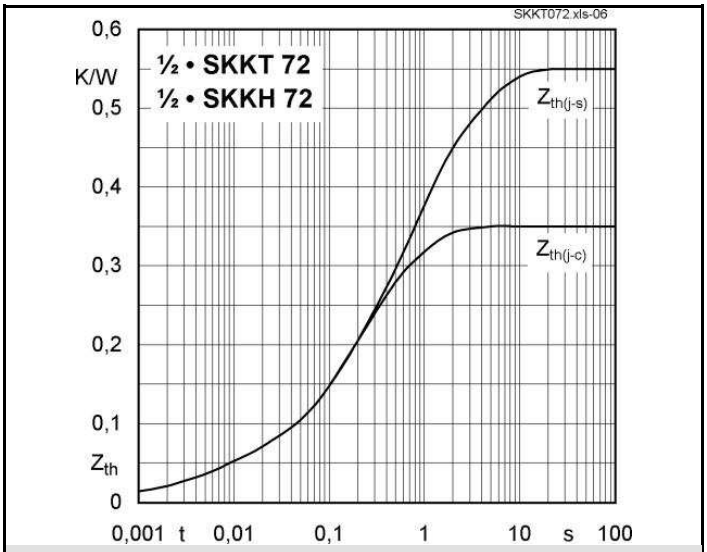


Fig. 6 Transient thermal impedance vs. time

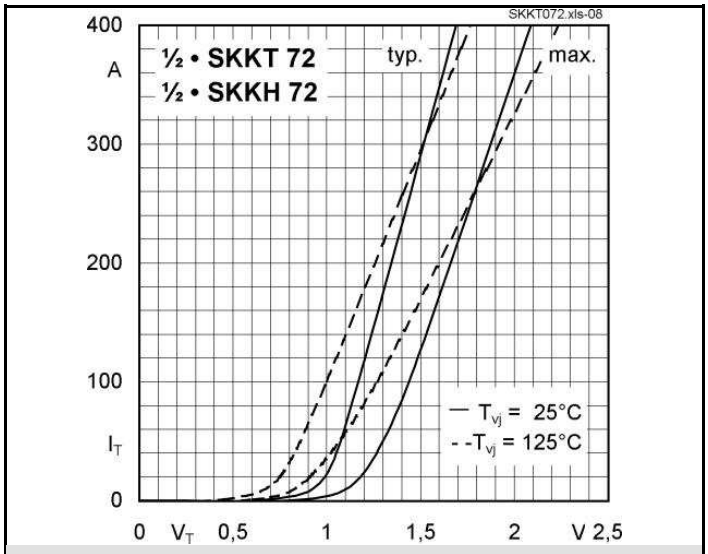


Fig. 7 On-state characteristics

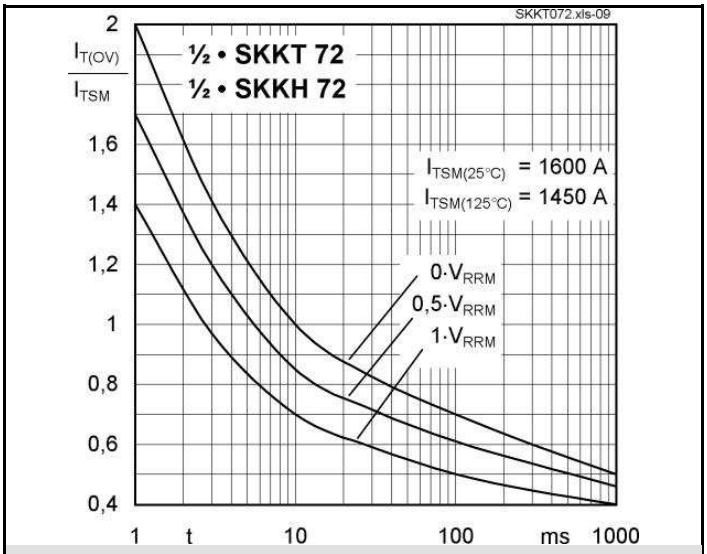


Fig. 8 Surge overload current vs. time

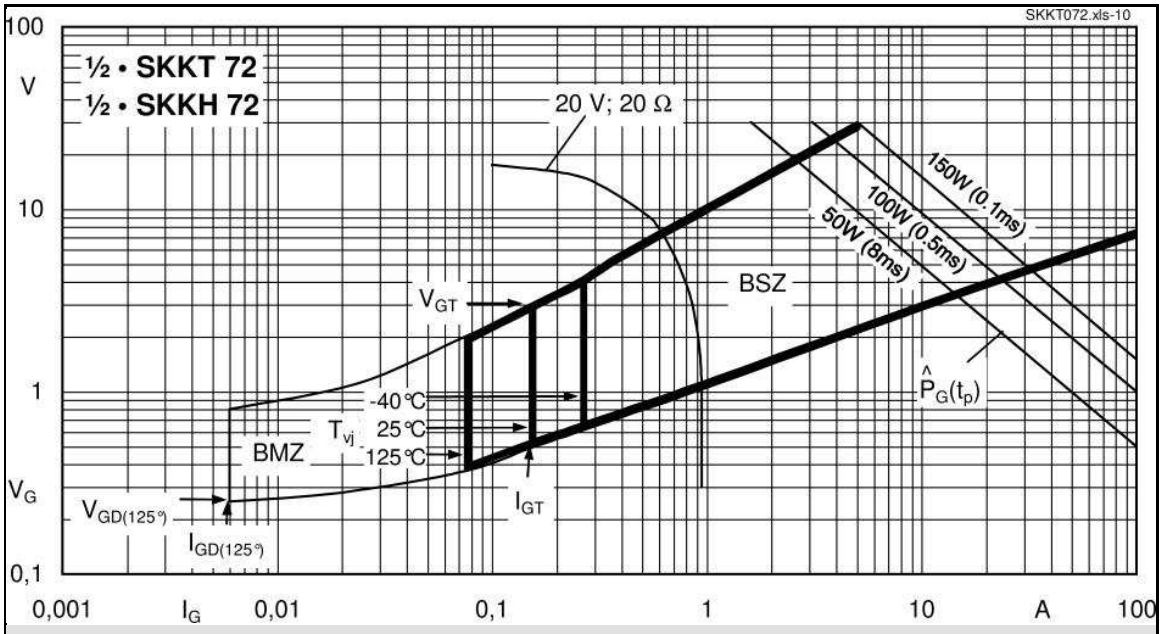
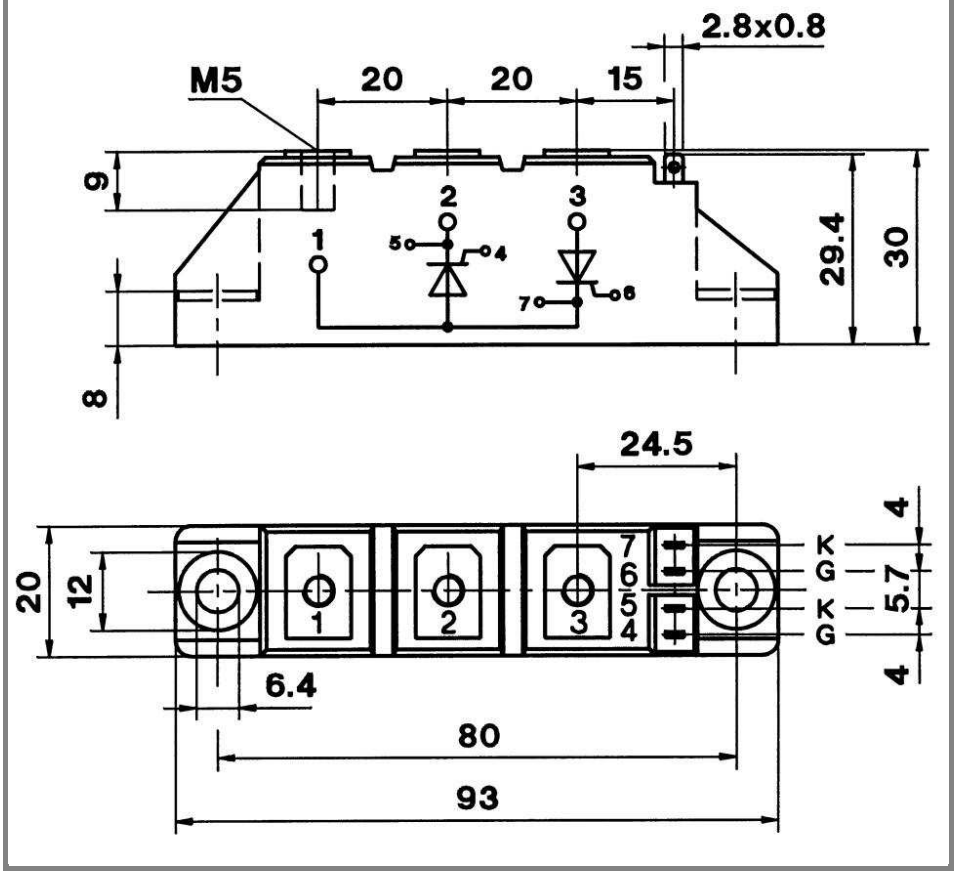
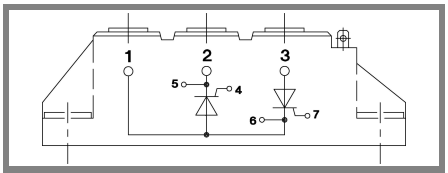


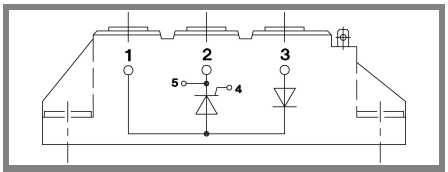
Fig. 9 Gate trigger characteristics

Dimensions in mm



Case A 46 (SKKT)


Case A 48 SKKT ...B


Case A 47 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.

