

# SKKT 250, SKKH 250



**SEMIPACK<sup>®</sup> 3**

## Thyristor / Diode Modules

**SKKH 250**

**SKKT 250**

### 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

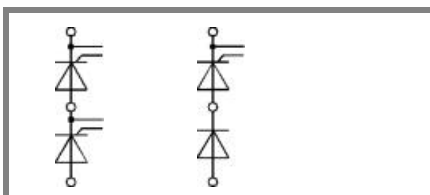
### Typical Applications\*

- 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) See the assembly instructions

$V_{RSM}$ V	$V_{RRM}, V_{DRM}$ V	$I_{TRMS} = 420$ A (maximum value for continuous operation) $I_{TAV} = 250$ A (sin. 180; $T_c = 85$ °C)	
900	800	SKKT 250/08E	SKKH 250/08E
1300	1200	SKKT 250/12E	SKKH 250/12E
1700	1600	SKKT 250/16E	SKKH 250/16E
1900	1800	SKKT 250/18E	SKKH 250/18E

Symbol	Conditions	Values	Units
$I_{TAV}$	sin. 180; $T_c = 85$ (100) °C;	250 (178)	A
$I_D$	P16/200F; $T_a = 35$ °C; B2/B6	450 / 585	A
$I_{RMS}$	P16/200F; $T_a = 35$ °C; W1 / W3	566 / 3 * 471	A
$I_{TSM}$	$T_{vj} = 25$ °C; 10 ms	9000	A
	$T_{vj} = 130$ °C; 10 ms	8000	A
$i^2t$	$T_{vj} = 25$ °C; 8,3 ... 10 ms	405000	A <sup>2</sup> s
	$T_{vj} = 130$ °C; 8,3 ... 10 ms	320000	A <sup>2</sup> s
$V_T$	$T_{vj} = 25$ °C; $I_T = 750$ A	max. 1,4	V
$V_{T(TO)}$	$T_{vj} = 130$ °C	max. 0,925	V
$r_T$	$T_{vj} = 130$ °C	max. 0,45	mΩ
$I_{DD}, I_{RD}$	$T_{vj} = 130$ °C; $V_{RD} = V_{RRM}; V_{DD} = V_{DRM}$	max. 85	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~
$M_s$	to heatsink	5 ± 15 % <sup>1)</sup>	Nm
$M_t$	to terminals	9 ± 15 %	Nm
$a$		5 * 9,81	m/s <sup>2</sup>
$m$	approx.	600	g
Case	SKKT	A 73b	
	SKKH	A 76b	



SKKT

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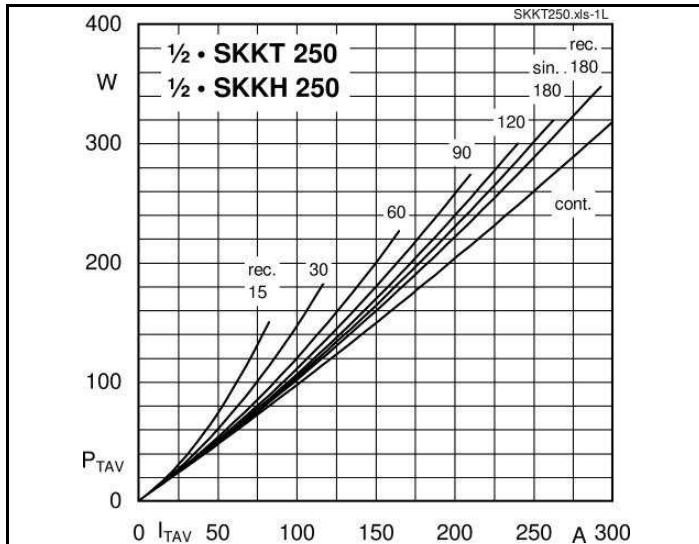


Fig. 1L Power dissipation per thyristor vs. on-state current

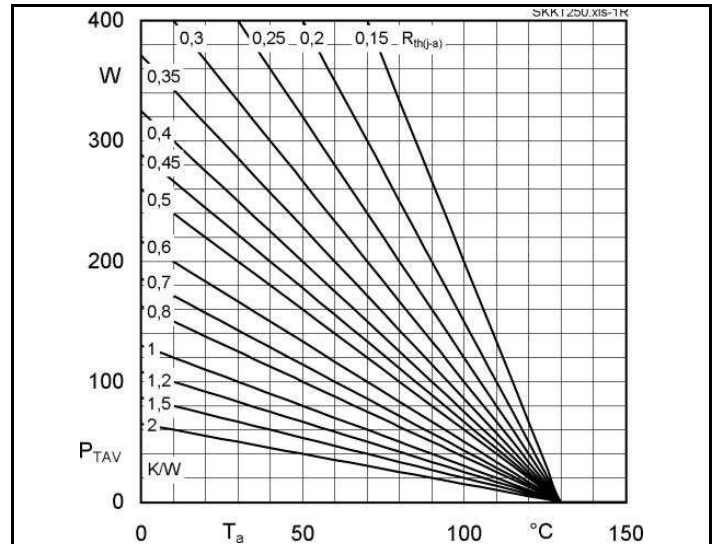


Fig. 1R Power dissipation per thyristor vs. ambient temp.

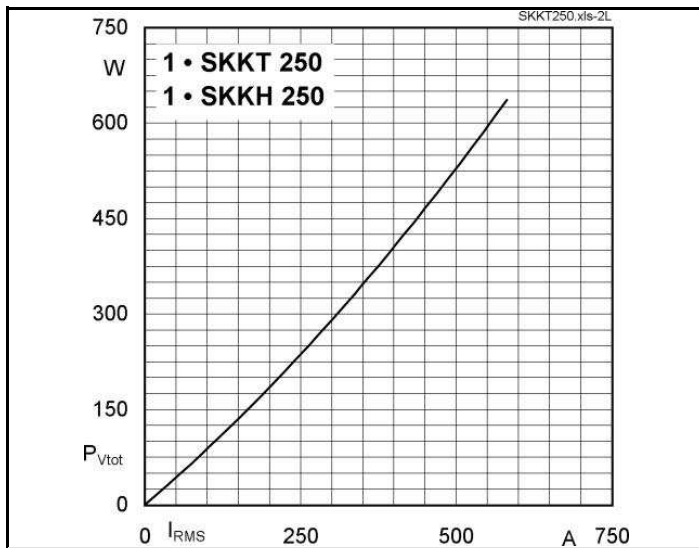


Fig. 2L Power dissipation per module vs. rms current

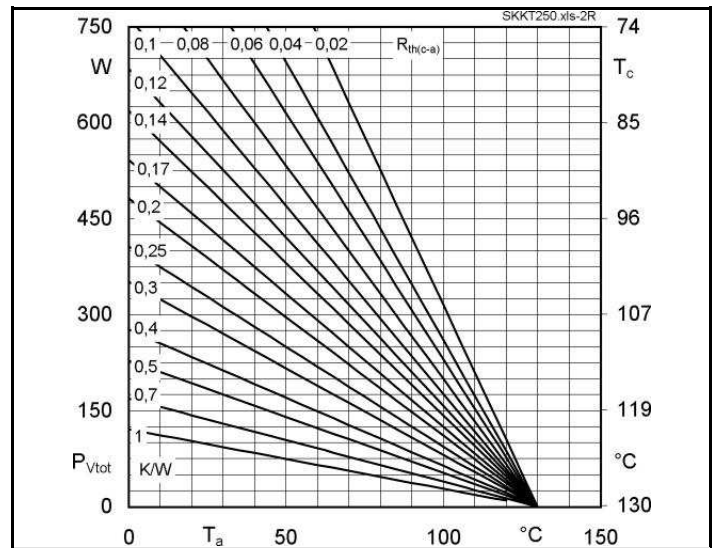


Fig. 2R Power dissipation per module vs. case temp.

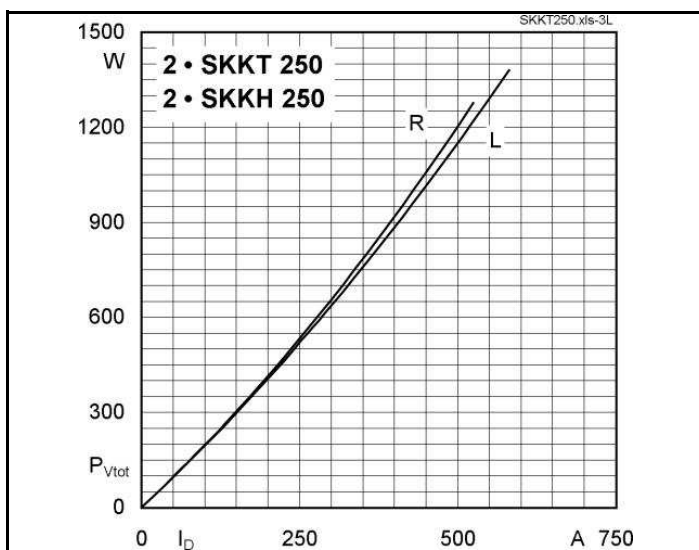


Fig. 3L Power dissipation of two modules vs. direct current

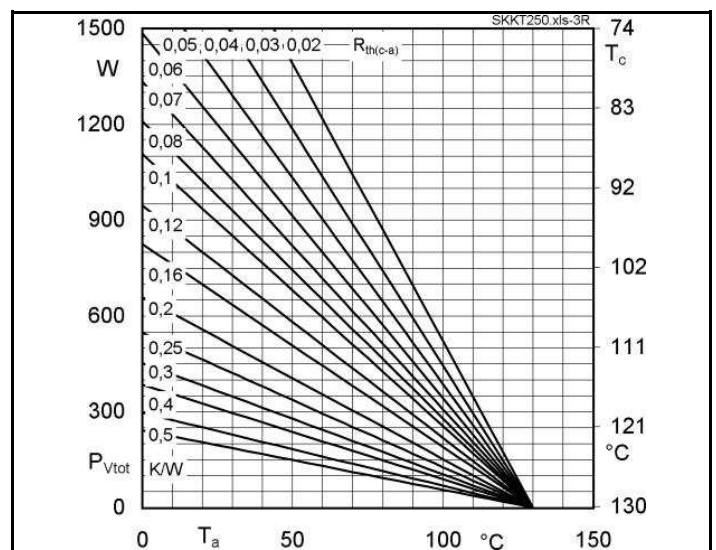
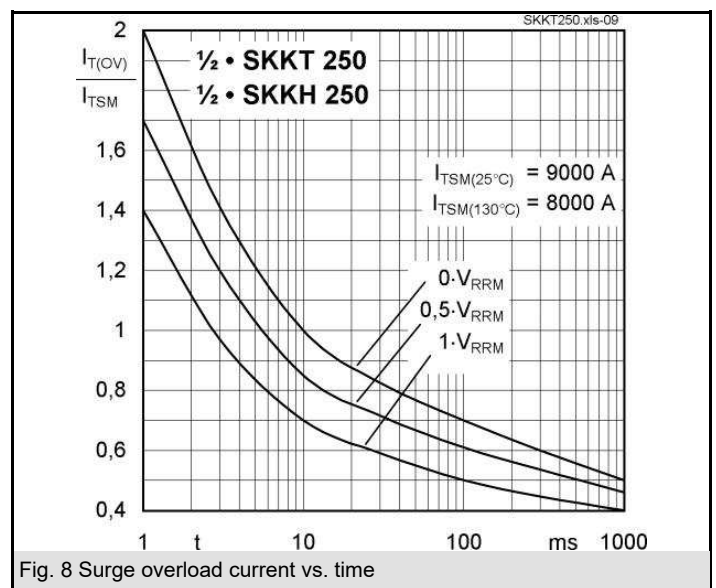
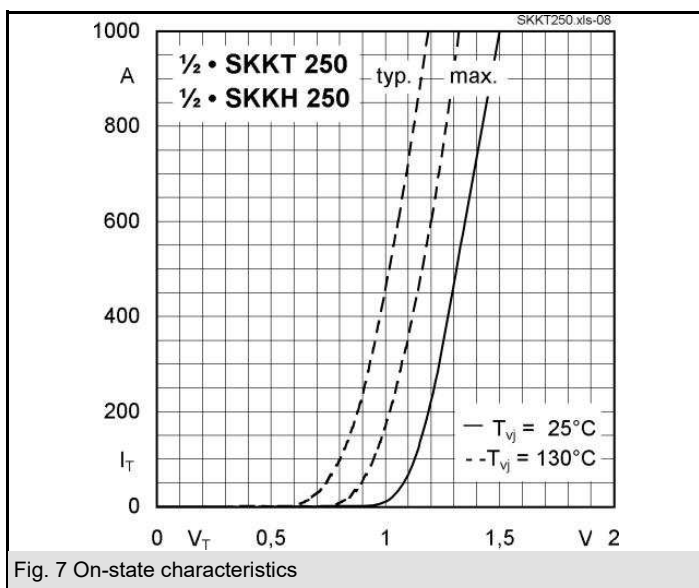
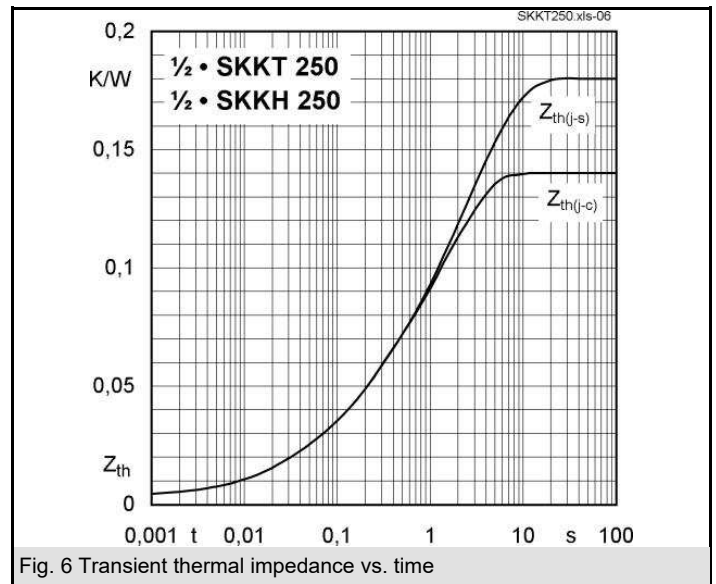
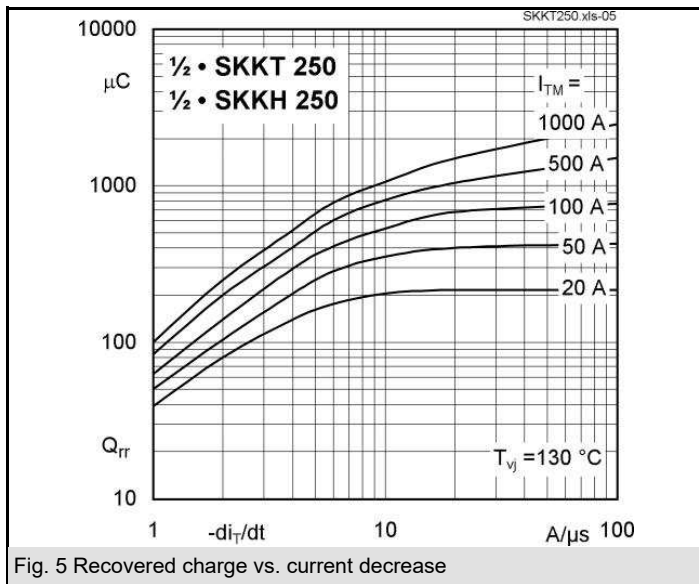
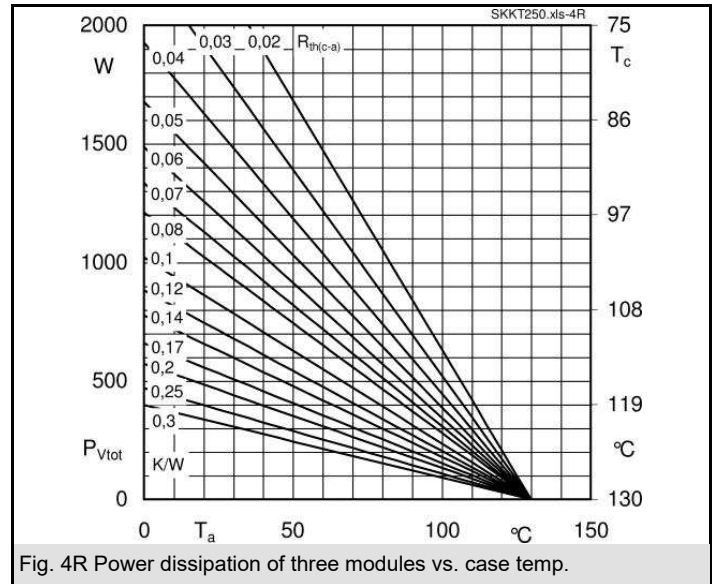
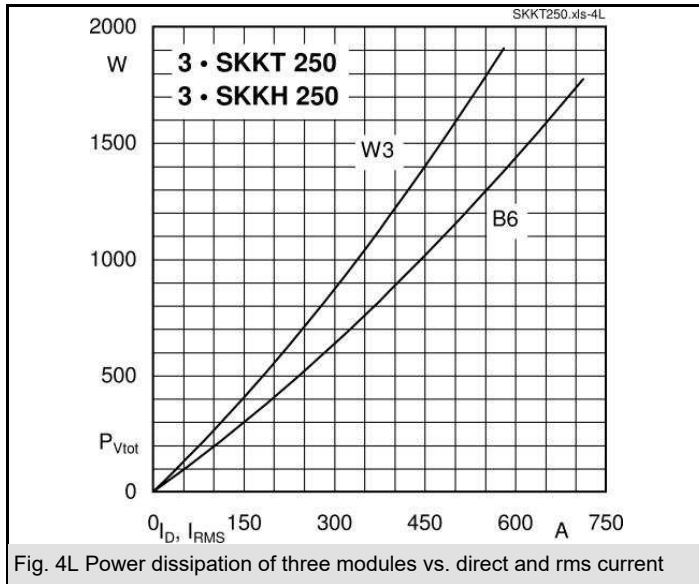


Fig. 3R Power dissipation of two modules vs. case temp.

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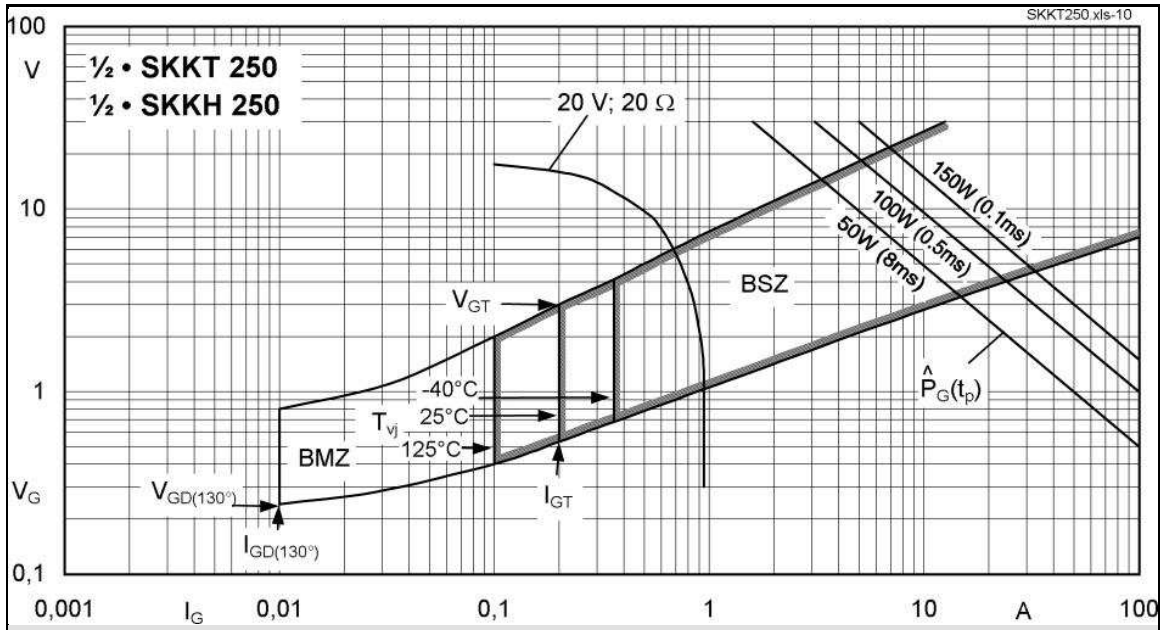
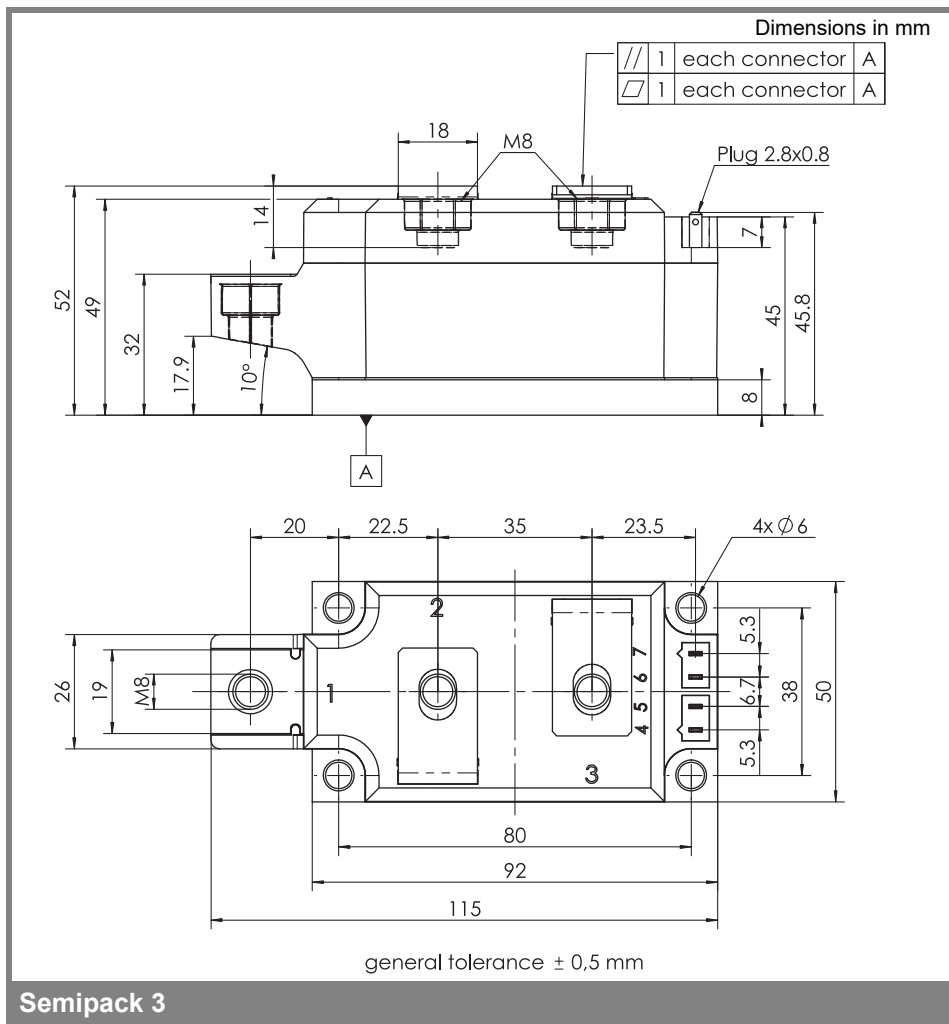
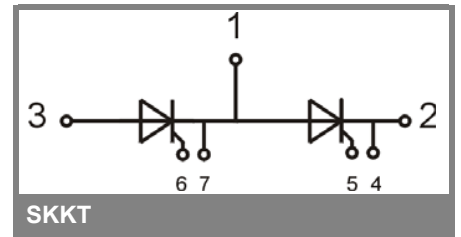


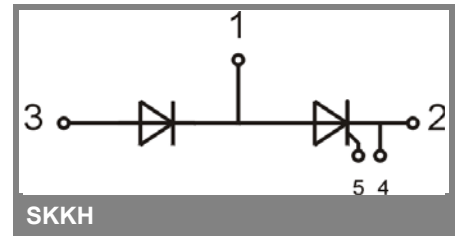
Fig. 9 Gate trigger characteristics



Semipack 3



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This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, chapter IX.

## **\*IMPORTANT INFORMATION AND WARNINGS**

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