

# SKKT 106, SKKT 106B, SKKH 106



SEMIPACK® 1

## Thyristor / Diode Modules

SKKT 106  
SKKT 106B  
SKKH 106

### Features

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

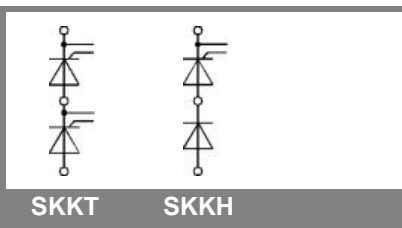
### Typical Applications

- DC motor control (e. g. for machine tools)
- 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	$I_{TRMS} = 180$ A (maximum value for continuous operation)		
		$I_{TAV} = 106$ A (sin. 180; $T_c = 85$ °C)		
900	800	SKKT 106/08E	SKKT 106B08E	SKKH 106/08E
1300	1200	SKKT 106/12E	SKKT 106B12E	SKKH 106/12E
1500	1400	SKKT 106/14E	SKKT 106B14E	SKKH 106/14E
1700	1600	SKKT 106/16E	SKKT 106B16E	SKKH 106/16E
1900	1800	SKKT 106/18E	SKKT 106B18E	SKKH 106/18E

Symbol	Conditions	Values	Units
$I_{TAV}$	sin. 180; $T_c = 85$ (100) °C;	106 (78)	A
$I_D$	P3/180F; $T_a = 35$ °C; B2 / B6	145 / 180	A
	P16/200F; $T_a = 35$ °C; B2 / B6	190 / 260	A
$I_{RMS}$	P3/180F; $T_a = 35$ °C; W1 / W3	200 / 3 * 140	A
$I_{TSM}$	$T_{vj} = 25$ °C; 10 ms	2250	A
	$T_{vj} = 130$ °C; 10 ms	1900	A
$i^2t$	$T_{vj} = 25$ °C; 8,3 ... 10 ms	25000	A <sup>2</sup> s
	$T_{vj} = 130$ °C; 8,3 ... 10 ms	18000	A <sup>2</sup> s
$V_T$	$T_{vj} = 25$ °C; $I_T = 300$ A	max. 1,65	V
$V_{T(TO)}$	$T_{vj} = 130$ °C	max. 0,9	V
$r_T$	$T_{vj} = 130$ °C	max. 2	mΩ
$I_{DD}; I_{RD}$	$T_{vj} = 130$ °C; $V_{RD} = V_{RRM}; V_{DD} = V_{DRM}$	max. 20	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. 150	A/μs
$(dv/dt)_{cr}$	$T_{vj} = 130$ °C	max. 1000	V/μs
$t_q$	$T_{vj} = 130$ °C	100	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
$V_{GD}$	$T_{vj} = 130$ °C; d.c.	max. 0,25	V
$I_{GD}$	$T_{vj} = 130$ °C; d.c.	max. 6	mA
$R_{th(j-c)}$	cont.; per thyristor / per module	0,28 / 0,14	K/W
$R_{th(j-c)}$	sin. 180; per thyristor / per module	0,3 / 0,15	K/W
$R_{th(j-c)}$	rec. 120; per thyristor / per module	0,32 / 0,16	K/W
$R_{th(c-s)}$	per thyristor / per module	0,2 / 0,1	K/W
$T_{vj}$		- 40 ... + 130	°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 % <sup>1)</sup>	Nm
$M_t$	to terminal	3 ± 15 %	Nm
$a$		5 * 9,81	m/s <sup>2</sup>
$m$	approx.	95	g
Case	SKKT	A 46	
	SKKT ...B	A 48	
	SKKH	A 47	



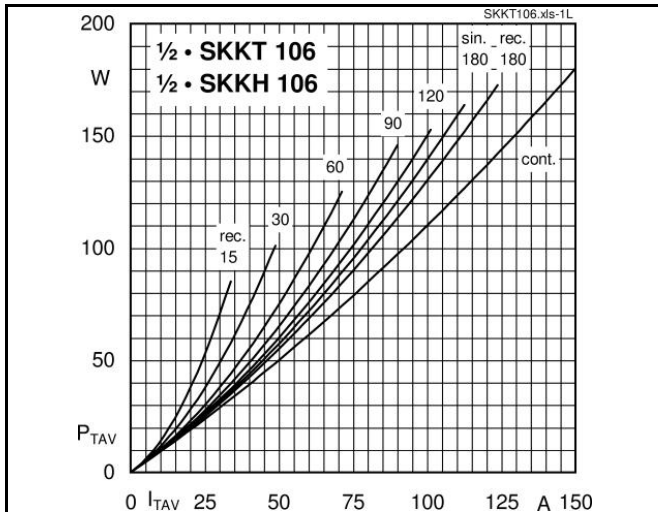


Fig. 1L Power dissipation per thyristor vs. on-state current

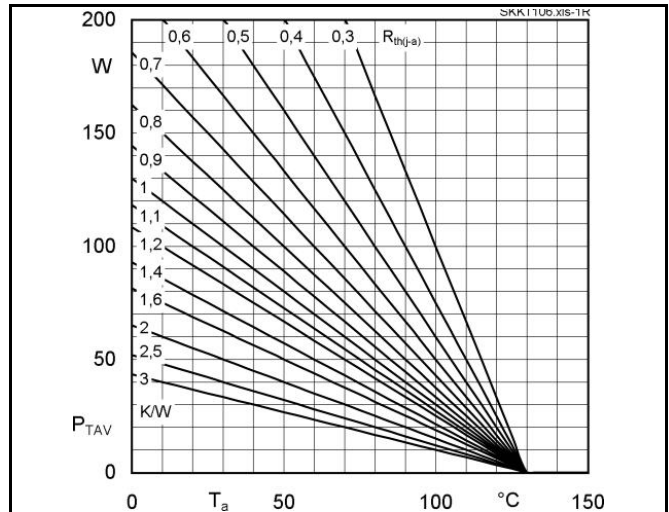


Fig. 1R Power dissipation per thyristor vs. ambient temp.

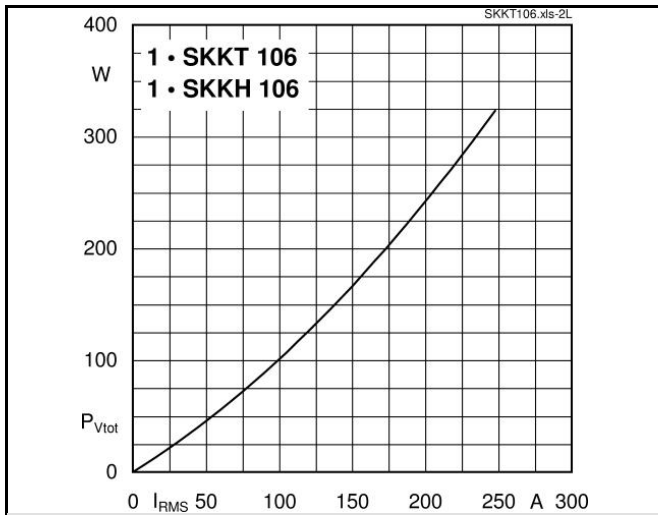


Fig. 2L Power dissipation per module vs. rms current

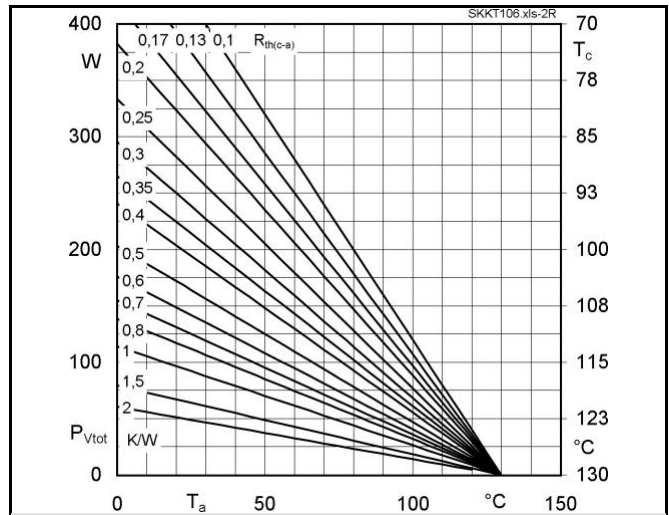


Fig. 2R Power dissipation per module vs. case temp.

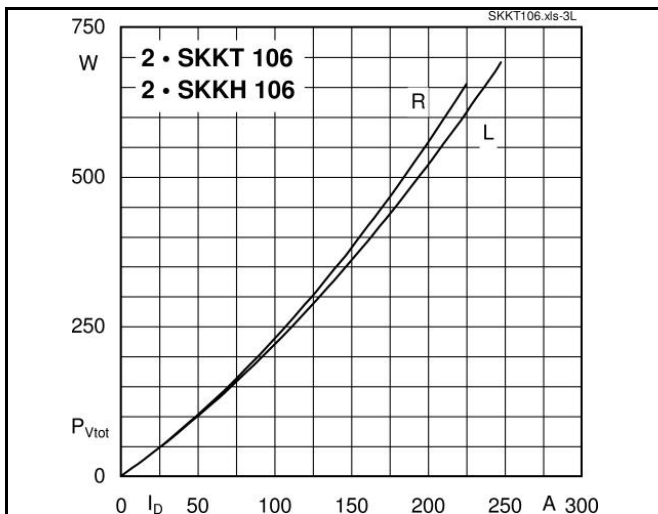


Fig. 3L Power dissipation of two modules vs. direct current

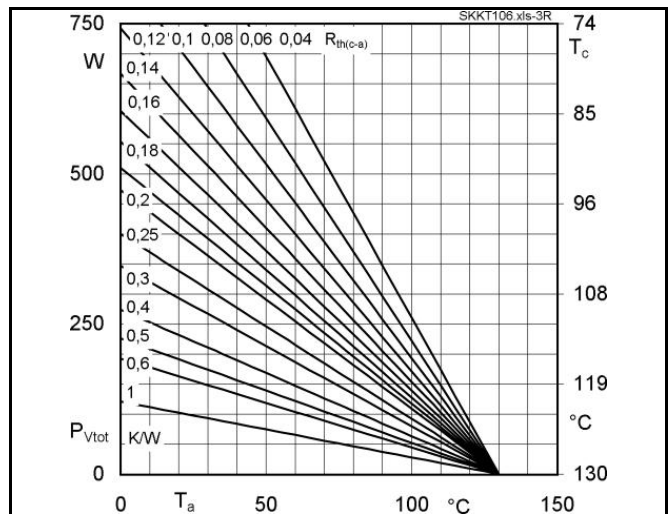


Fig. 3R Power dissipation of two modules vs. case temp.

# SKKT 106, SKKT 106B, SKKH 106

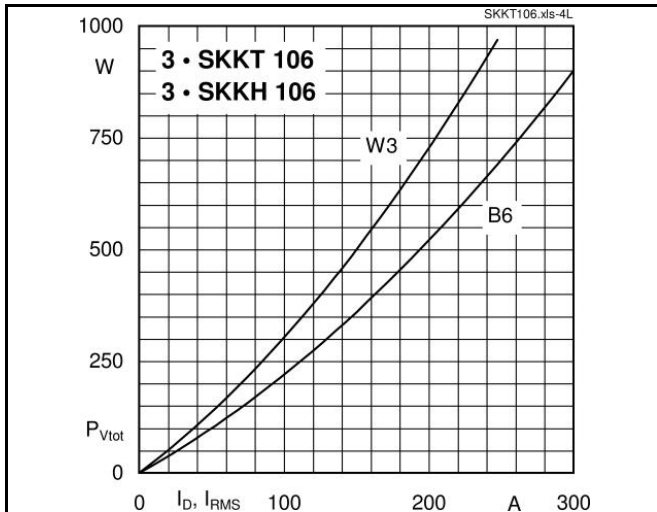


Fig. 4L Power dissipation of three modules vs. direct and rms current

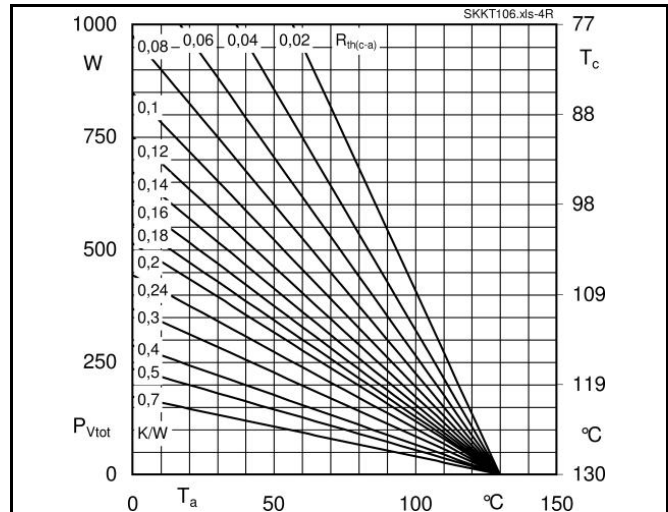


Fig. 4R Power dissipation of three modules vs. case temp.

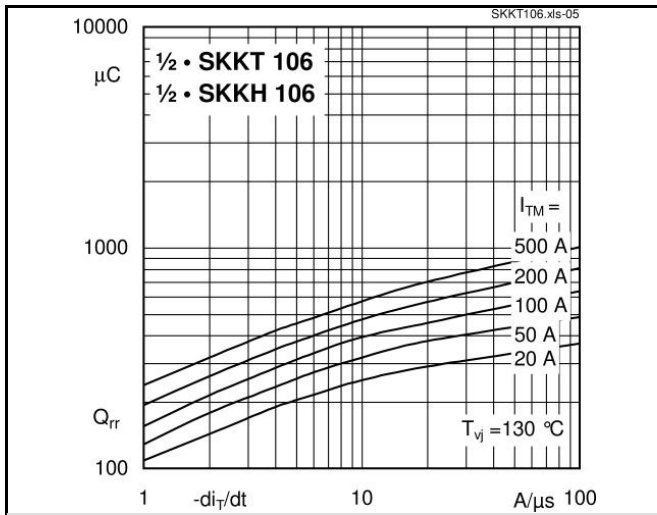


Fig. 5 Recovered charge vs. current decrease

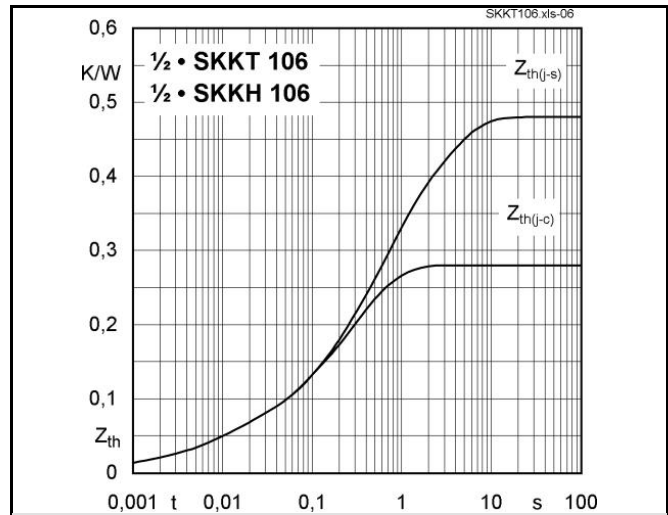


Fig. 6 Transient thermal impedance vs. time

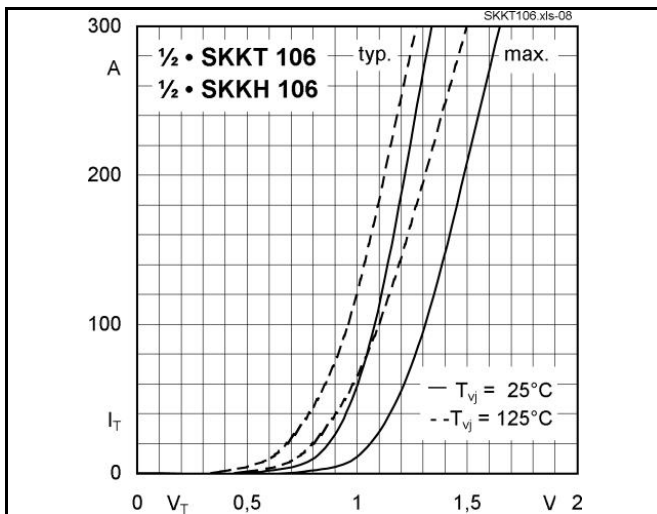


Fig. 7 On-state characteristics

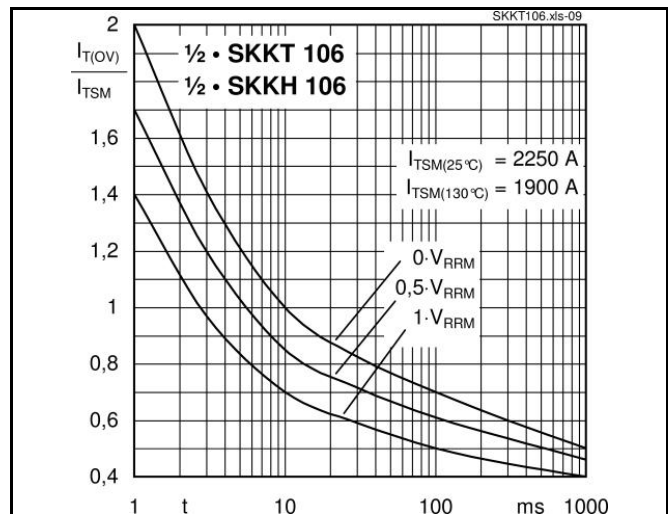
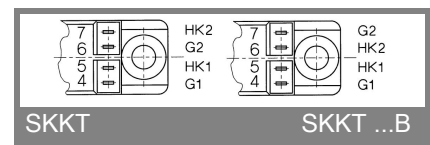
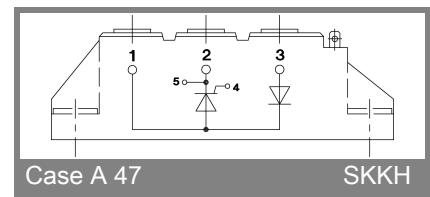
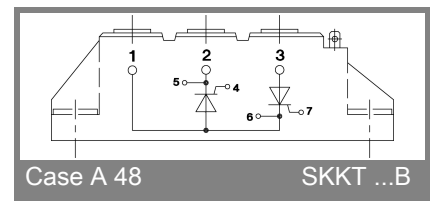
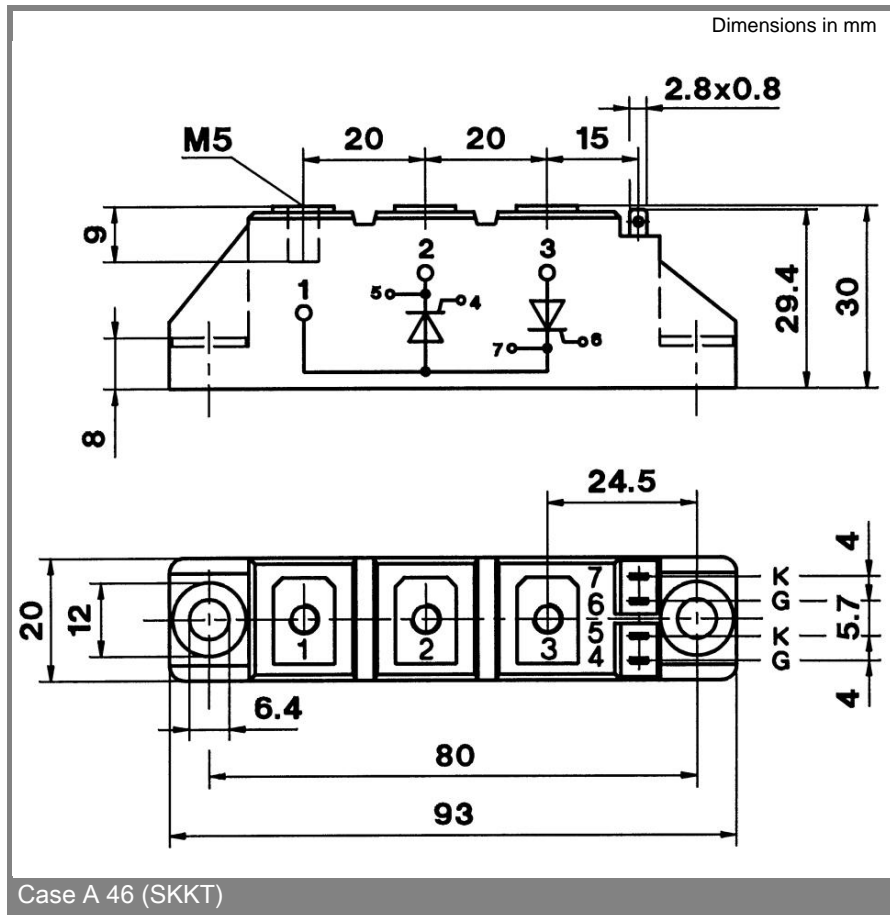
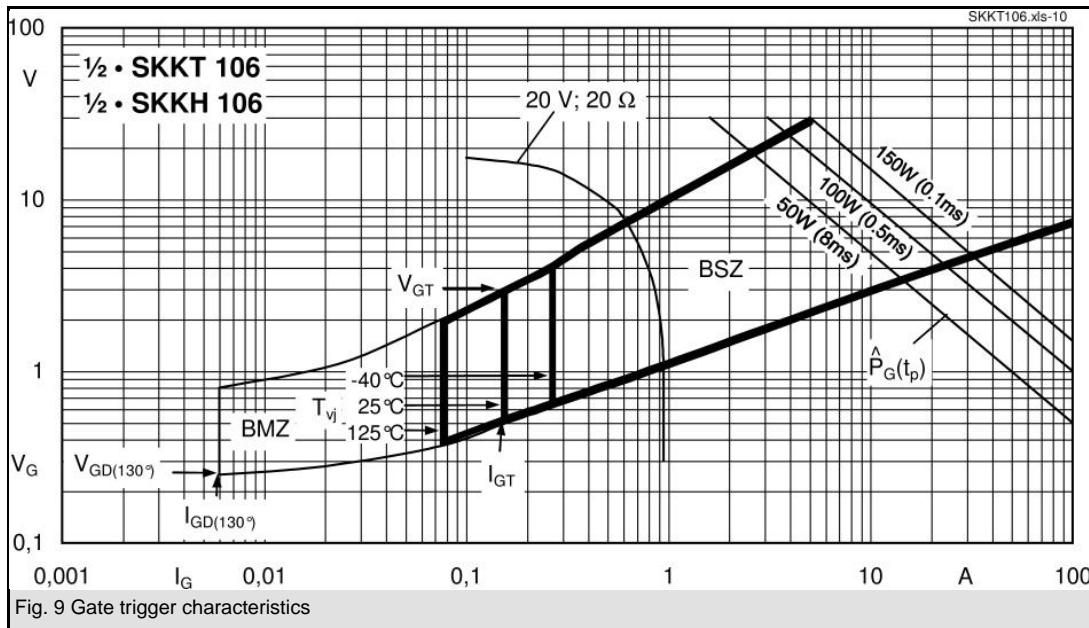


Fig. 8 Surge overload current vs. time



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