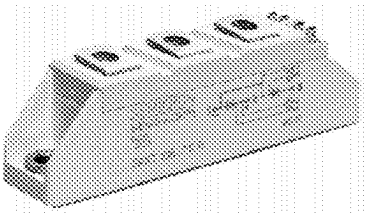
SEMIKRON

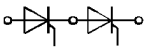
V_{RSM}	V_{RRM} V_{DRM}	$(dv/dt)_{cr}$	I_{TRMS} (maximum value for continuous operation) 180 A			
			I_{TAV} (sin. 180; T_{case} = 80 °C) 115 A			
V	V	V/µs				
500	400	500	–	–	SKKH 105/04 D	–
700	600	500	SKKT 105/06 D	SKKT 106/06 D	–	SKKH 106/06 D
900	800	500	SKKT 105/08 D	SKKT 106/08 D[1)]	SKKH 105/08 D	SKKH 106/08 D
1300	1200	1000	SKKT 105/12 E	SKKT 106/12 E[1)]	SKKH 105/12 E	SKKH 106/12 E
1500	1400	1000	SKKT 105/14 E	SKKT 106/14 E[1)]	SKKH 105/14 E	SKKH 106/14 E
1700	1600	1000	SKKT 105/16 E	SKKT 106/16 E[1)]	SKKH 105/16 E	SKKH 106/16 E
1900	1800	1000	SKKT 105/18 E	SKKT 106/18 E[1)]	SKKH 105/18 E	SKKH 106/18 E

Symbol	Conditions		SKKT 105 SKKH 105	SKKT 106 SKKT 106B SKKH 106	Units
I_{TAV}	sin. 180;	T_{case} = 85 °C	106		A
I_D	B2/B6	T_{amb} = 35 °C; P 3/180 F	145 / 180		A
		P 16/200 F	190 / 260		A
I_{RMS}	W1/W3	T_{amb} = 35 °C; P 3/180 F	200 / 3 x 140		A
I_{TSM}	T_{vj} = 25 °C; 10 ms		2 250		A
	T_{vj} = 130 °C; 10 ms		1 900		A
i^2t	T_{vj} = 25 °C; 8,3 ... 10 ms		25 000		A^2s
	T_{vj} = 130 °C; 8,3 ... 10 ms		18 000		A^2s
t_{gd}	T_{vj} = 25 °C; I_G = 1 A				
	di_G/dt = 1 A/µs		1		µs
t_{gr}	$V_D = 0{,}67 \cdot V_{DRM}$		2		µs
$(di/dt)_{cr}$	T_{vj} = 130 °C		150		A/µs
t_q	T_{vj} = 130 °C		typ. 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_T	T_{vj} = 25 °C; I_T = 300 A		max. 1,65		V
$V_{T(TO)}$	T_{vj} = 130 °C		0,9		V
r_T	T_{vj} = 130 °C		2		mΩ
I_{DD}; I_{RD}	T_{vj} = 130 °C;	$V_{RD} = V_{RRM}$			
		$V_{DD} = V_{DRM}$	max. 20		mA
V_{GT}	T_{vj} = 25 °C; d.c.		3		V
I_{GT}	T_{vj} = 25 °C; d.c.		150		mA
V_{GD}	T_{vj} = 130 °C; d.c.		0,25		V
I_{GD}	T_{vj} = 130 °C; d.c.		6		mA
R_{thjc}	cont.	per thyristor / per module	0,28 / 0,14		°C/W
	sin. 180		0,30 / 0,15		°C/W
	rec. 120		0,32 / 0,16		°C/W
R_{thch}			0,2 / 0,1		°C/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_1	to heatsink	SI (US) units	5 (44 lb. in.) ± 15 %[2)]		Nm
M_2	to terminals		3 (26 lb. in.) ± 15 %[2)]		Nm
a			5 · 9,81		m/s^2
w	approx.		95		g
Case	→ page B 1 – 95	SKKT 105: A 5 SKKH 105: A 6	SKKT 106: A 46 SKKT 106B: A 48 SKKH 106: A 47		

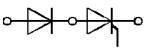
SEMIPACK® 1
Thyristor / Diode Modules

SKKT 105 SKKH 105
SKKT 106 SKKH 106
SKKT 106B

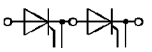




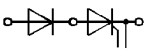
SKKT 105



SKKH 105



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)] Also available in SKKT 106 B configuration (case A 48)
[2)] See the assembly instructions

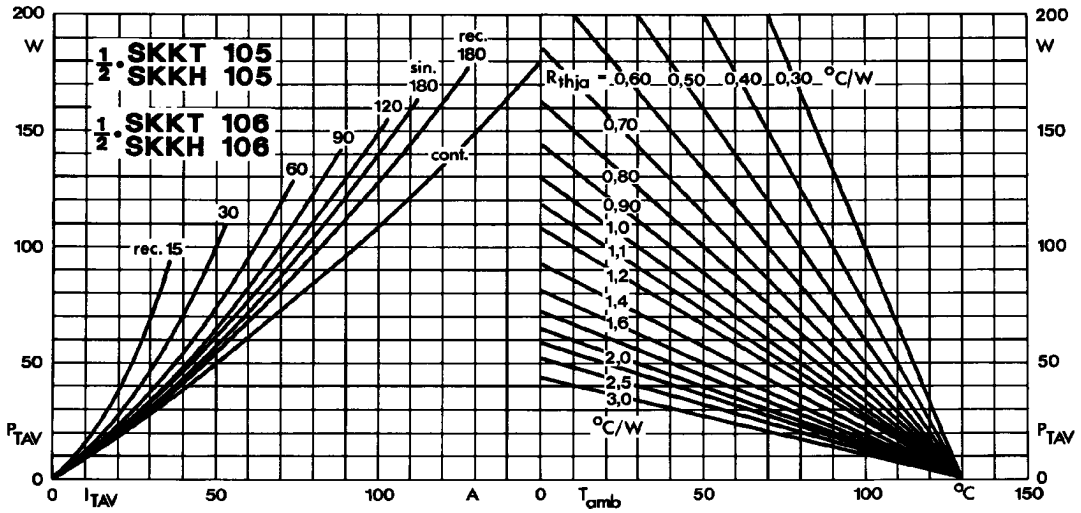


Fig. 1 Power dissipation per thyristor vs. on-state current and ambient temperature

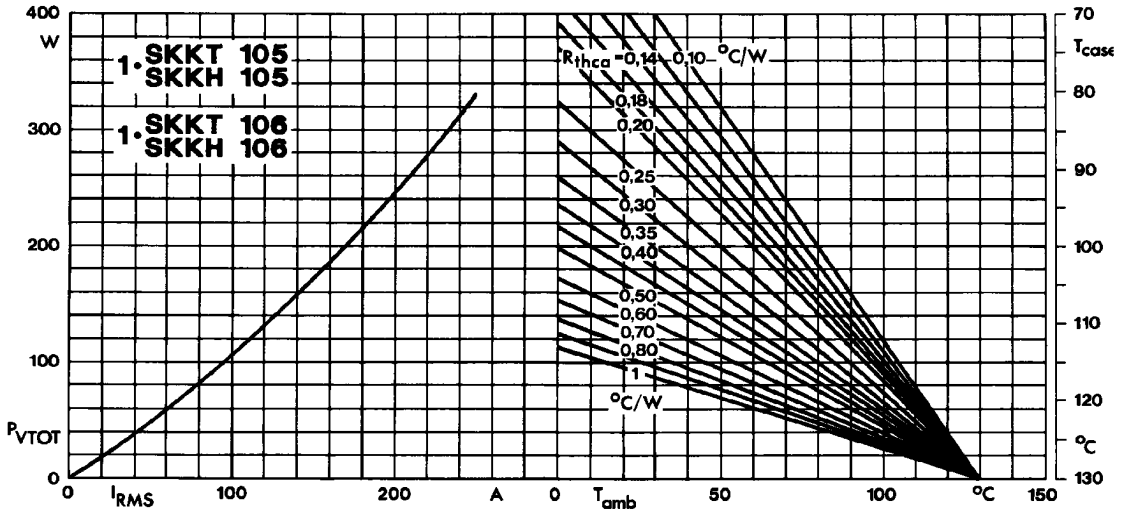


Fig. 2 Power dissipation per module vs. rms current and case temperature

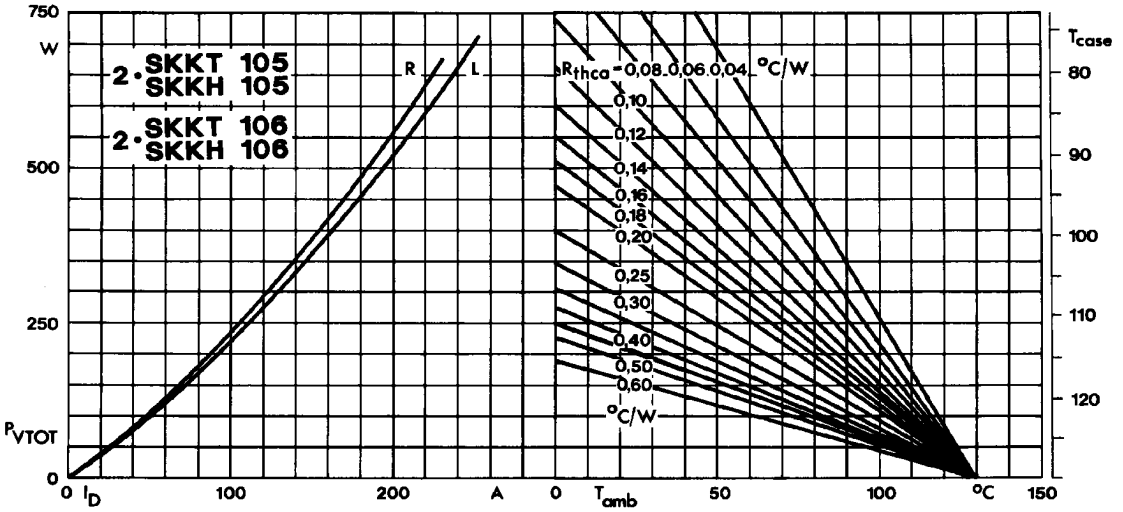


Fig. 3 Power dissipation of two modules vs. direct current and case temperature

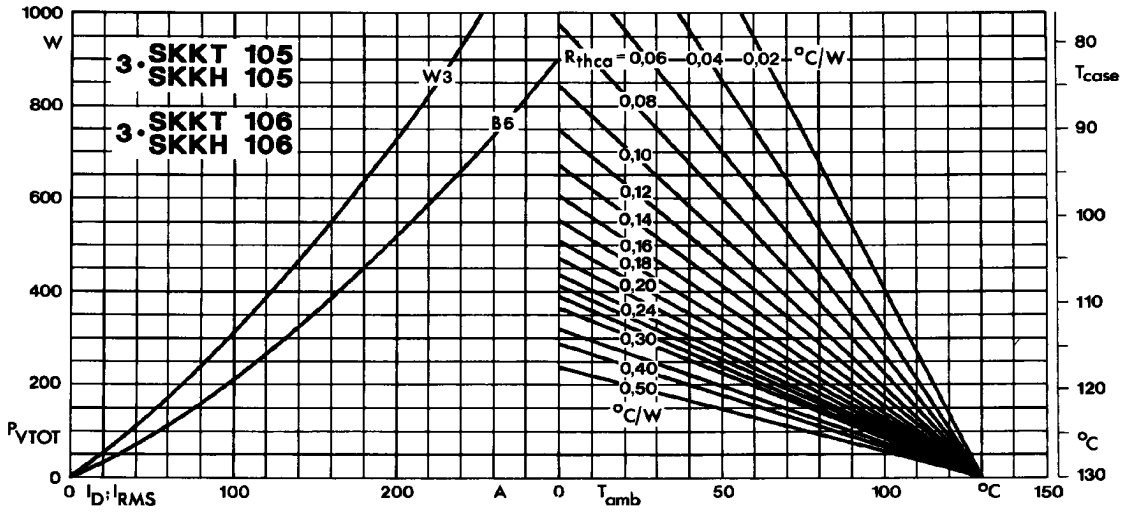


Fig. 4 Power dissipation of three modules vs. direct and rms current and case temperature

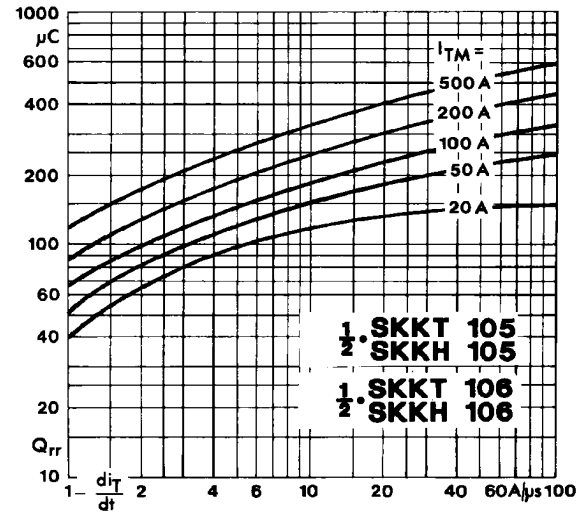


Fig. 5 Recovered charge vs. current decrease

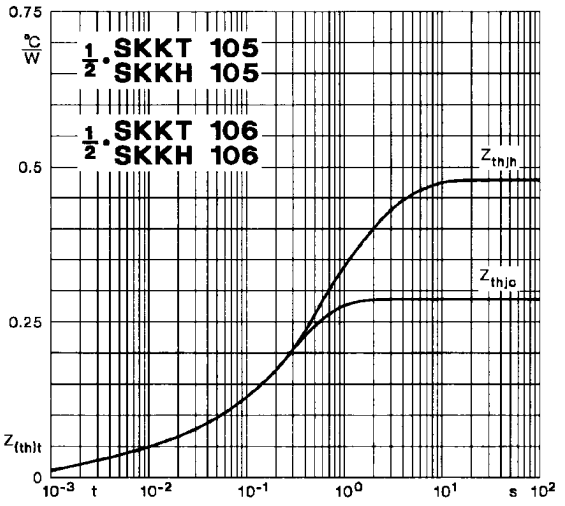


Fig. 6 Transient thermal impedance vs. time

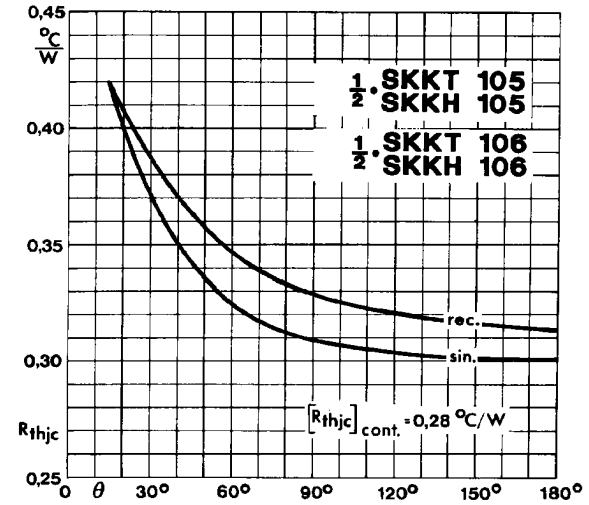


Fig. 7 Thermal resistance vs. conduction angle

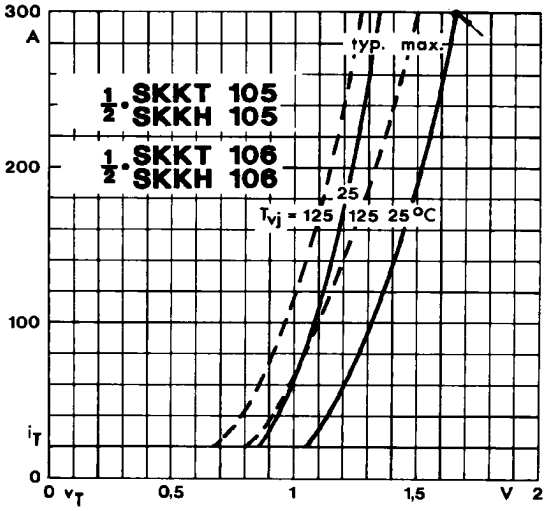


Fig. 8 On-state characteristics

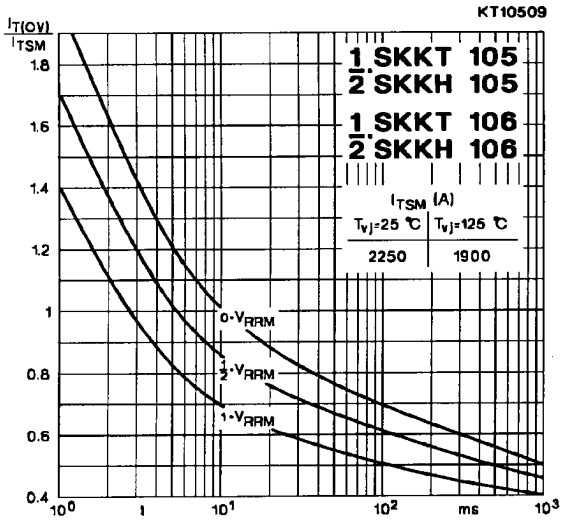


Fig. 9 Surge overload current vs. time

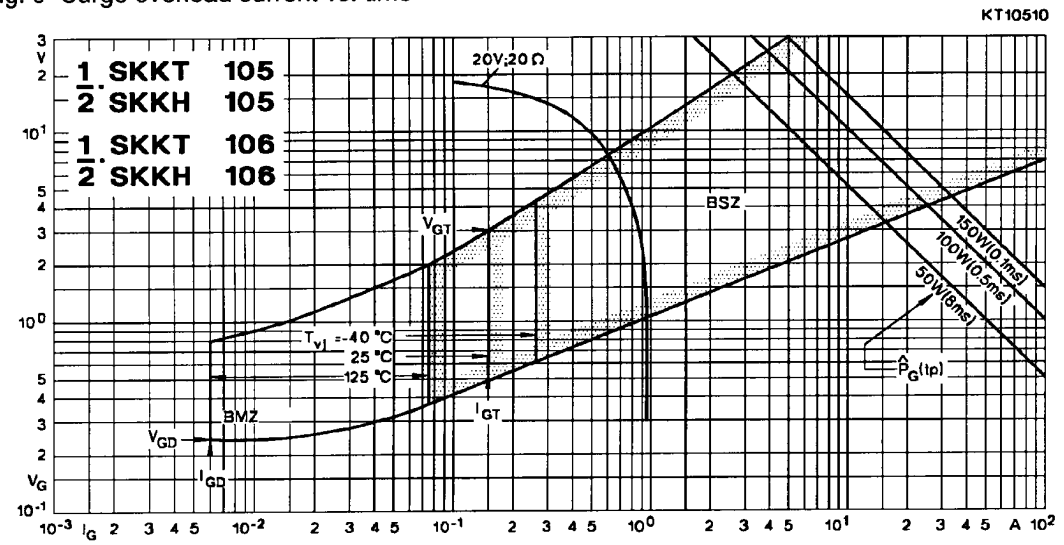
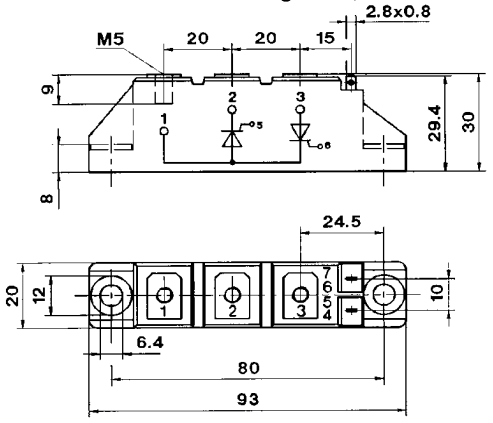


Fig. 10 Gate trigger characteristics

SKKT 19 . . . 105

Case A 5 — IEC 192-2: A 77 A, JEDEC: TO-240 AA

SEMIPACK® 1 — UL recognized, file no. E 63 532

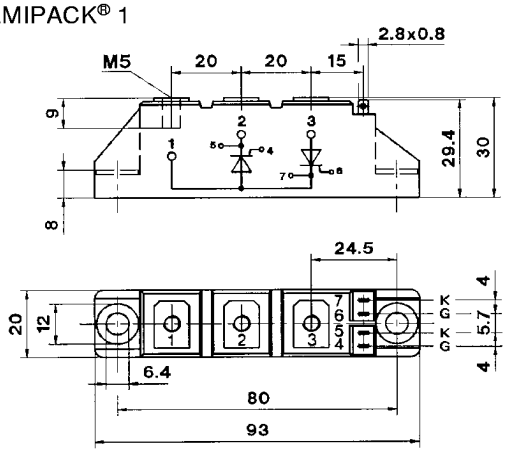


Dimensions in mm

SKKT 20/ . . . 106/

Case A 46 — IEC 192-2: A 77 A, JEDEC: TO-240 AA

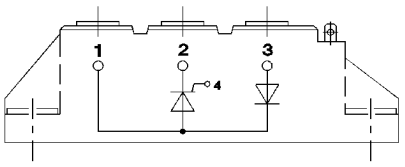
SEMIPACK® 1



Dimensions in mm

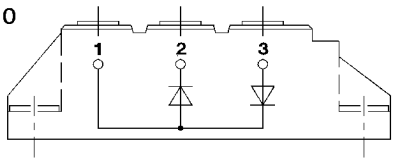
SKKH 26 . . . 105

Case A 6



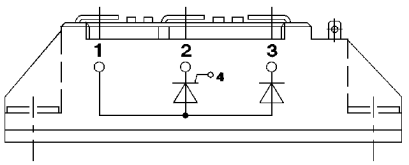
SKKD 26 . . . 100

Case A 10



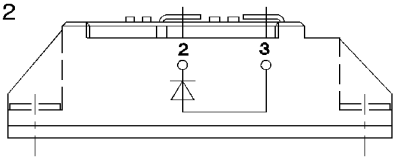
SKNH 56 . . . 91

Case A 7



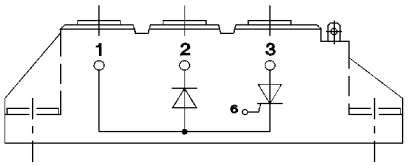
SKKE 81

Case A 12



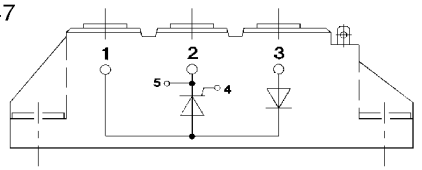
SKKL 56 . . . 105

Case A 9



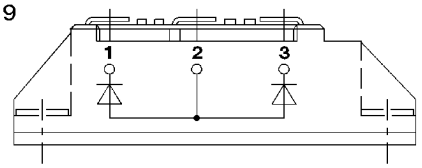
SKKH 27 . . . 106

Case A 47



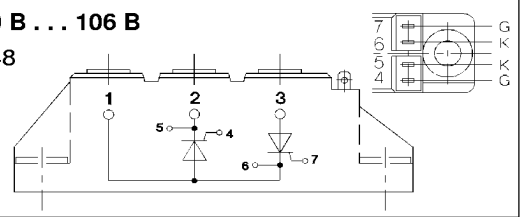
SKND 46 . . . 81

Case A 19



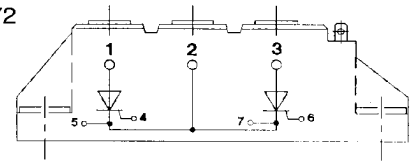
SKKT 20 B . . . 106 B

Case A 48



SKMT 92

Case A 72



SKKL 42 . . . 106

Case A 59