

$V_{RSM}$	$V_{RRM}$	(dv/dt) <sub>cr</sub>	$I_{TRMS}$ (maximum value for continuous operation)			
	$V_{DRM}$		180 A			
			$I_{TAV}$ (sin. 180; $T_{case} = 80\text{ °C}$ )			
V	V	V/ $\mu$ s	115 A			
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 <sup>1)</sup>	SKKH 105/08 D	SKKH 106/08 D
1300	1200	1000	SKKT 105/12 E	SKKT 106/12 E <sup>1)</sup>	SKKH 105/12 E	SKKH 106/12 E
1500	1400	1000	SKKT 105/14 E	SKKT 106/14 E <sup>1)</sup>	SKKH 105/14 E	SKKH 106/14 E
1700	1600	1000	SKKT 105/16 E	SKKT 106/16 E <sup>1)</sup>	SKKH 105/16 E	SKKH 106/16 E
1900	1800	1000	SKKT 105/18 E	SKKT 106/18 E <sup>1)</sup>	SKKH 105/18 E	SKKH 106/18 E

## SEMIPACK® 1 Thyristor / Diode Modules

SKKT 105      SKKH 105  
SKKT 106      SKKH 106  
SKKT 106B



Symbol	Conditions	SKKT 105 SKKH 105	SKKT 106 SKKT 106B SKKH 106	Units
$I_{TAV}$	sin. 180; $T_{case} = 85\text{ °C}$	106		A
$I_D$	B2/B6   $T_{amb} = 35\text{ °C}$ ; P 3/180 F	145 / 180		A
		190 / 260		A
$I_{RMS}$	W1/W3   $T_{amb} = 35\text{ °C}$ ; P 3/180 F	200 / 3 x 140		A
$I_{TSM}$	$T_{vj} = 25\text{ °C}$ ; 10 ms	2 250		A
	$T_{vj} = 130\text{ °C}$ ; 10 ms	1 900		A
$i^2t$	$T_{vj} = 25\text{ °C}$ ; 8,3 ... 10 ms	25 000		A <sup>2</sup> s
	$T_{vj} = 130\text{ °C}$ ; 8,3 ... 10 ms	18 000		A <sup>2</sup> s
$t_{gd}$	$T_{vj} = 25\text{ °C}$ ; $I_G = 1\text{ A}$ $di_G/dt = 1\text{ A}/\mu\text{s}$	1		$\mu\text{s}$
$t_{gr}$	$V_D = 0,67 \cdot V_{DRM}$	2		$\mu\text{s}$
(di/dt) <sub>cr</sub>	$T_{vj} = 130\text{ °C}$	150		A/ $\mu\text{s}$
$t_q$	$T_{vj} = 130\text{ °C}$	typ. 100		$\mu\text{s}$
$I_H$	$T_{vj} = 25\text{ °C}$ ; typ./max.	150 / 250		mA
$I_L$	$T_{vj} = 25\text{ °C}$ ; $R_G = 33\ \Omega$ ; typ./max.	300 / 600		mA
$V_T$	$T_{vj} = 25\text{ °C}$ ; $I_T = 300\text{ A}$	max. 1,65		V
$V_{T(TO)}$	$T_{vj} = 130\text{ °C}$	0,9		V
$r_T$	$T_{vj} = 130\text{ °C}$	2		m $\Omega$
$I_{DD}$ ; $I_{RD}$	$T_{vj} = 130\text{ °C}$ ; $V_{RD} = V_{RRM}$ $V_{DD} = V_{DRM}$	max. 20		mA
$V_{GT}$	$T_{vj} = 25\text{ °C}$ ; d.c.	3		V
$I_{GT}$	$T_{vj} = 25\text{ °C}$ ; d.c.	150		mA
$V_{GD}$	$T_{vj} = 130\text{ °C}$ ; d.c.	0,25		V
$I_{GD}$	$T_{vj} = 130\text{ °C}$ ; d.c.	6		mA
$R_{thjc}$	cont. } sin. 180 } per thyristor / rec. 120 } per module	0,28 / 0,14		$^{\circ}\text{C}/\text{W}$
		0,30 / 0,15		$^{\circ}\text{C}/\text{W}$
		0,32 / 0,16		$^{\circ}\text{C}/\text{W}$
$R_{thch}$		0,2 / 0,1		$^{\circ}\text{C}/\text{W}$
$T_{vj}$		– 40 ... + 130		$^{\circ}\text{C}$
$T_{stg}$		– 40 ... + 125		$^{\circ}\text{C}$
$V_{isol}$	a. c. 50 Hz; r.m.s.; 1 s/1 min	3600 / 3000		V~
$M_1$	to heatsink } SI (US) units to terminals }	5 (44 lb. in.) $\pm 15\%$ <sup>2)</sup>		Nm
$M_2$		3 (26 lb. in.) $\pm 15\%$ <sup>2)</sup>		Nm
a		5 · 9,81		m/s <sup>2</sup>
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	



SKKT 105      SKKH 105



SKKT 106      SKKH 106  
SKKT 106B

### 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)

<sup>1)</sup> Also available in SKKT 106 B configuration (case A 48)

<sup>2)</sup> See the assembly instructions

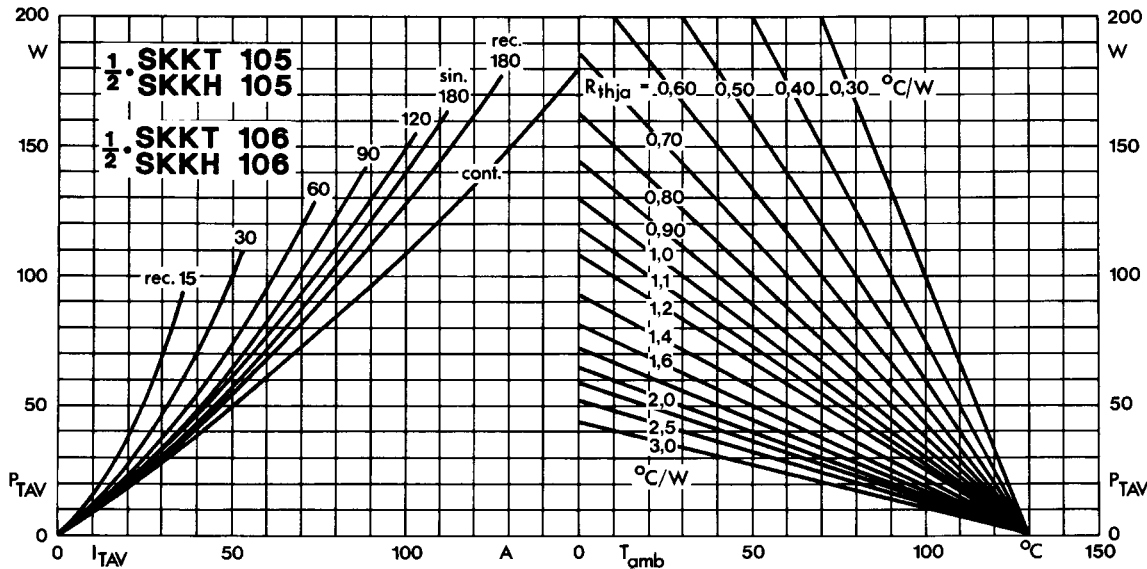


Fig. 1 Power dissipation per thyristor vs. on-state current and ambient temperature

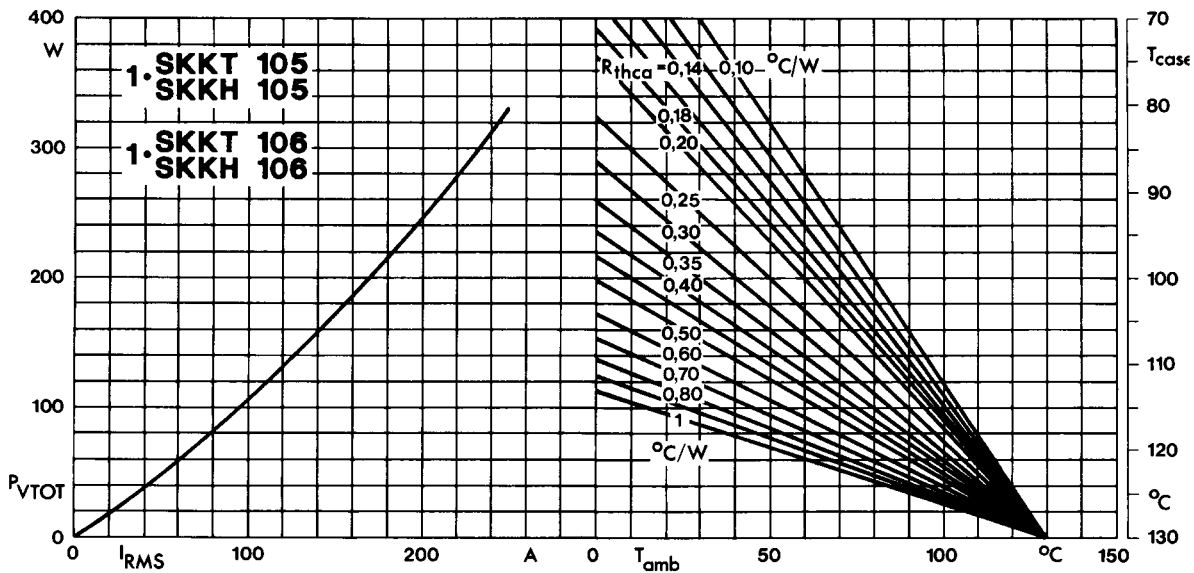


Fig. 2 Power dissipation per module vs. rms current and case temperature

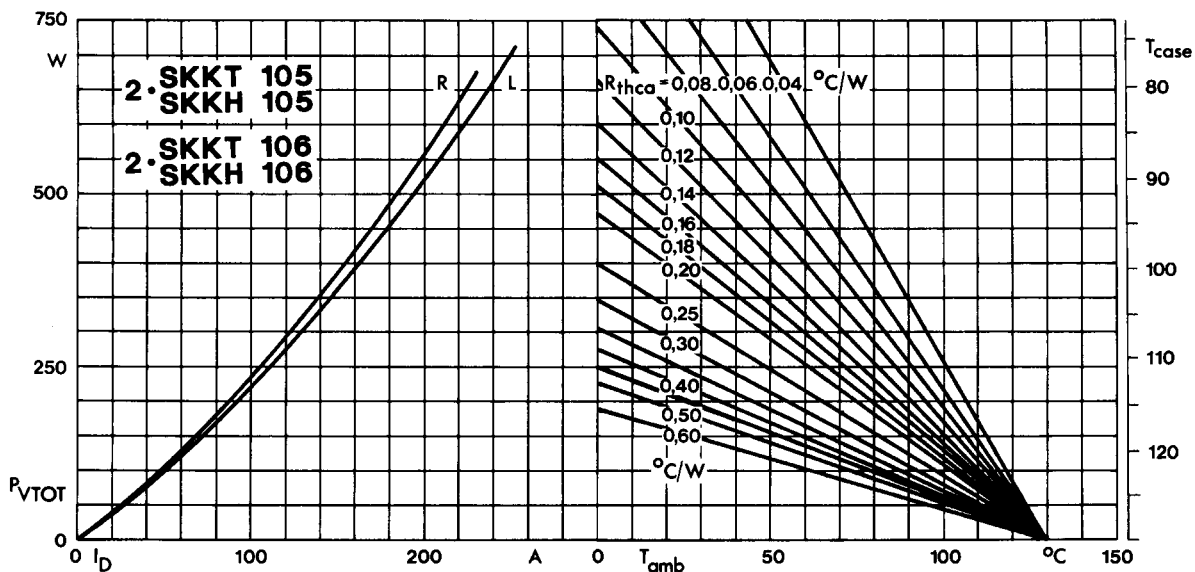


Fig. 3 Power dissipation of two modules vs. direct current and case temperature

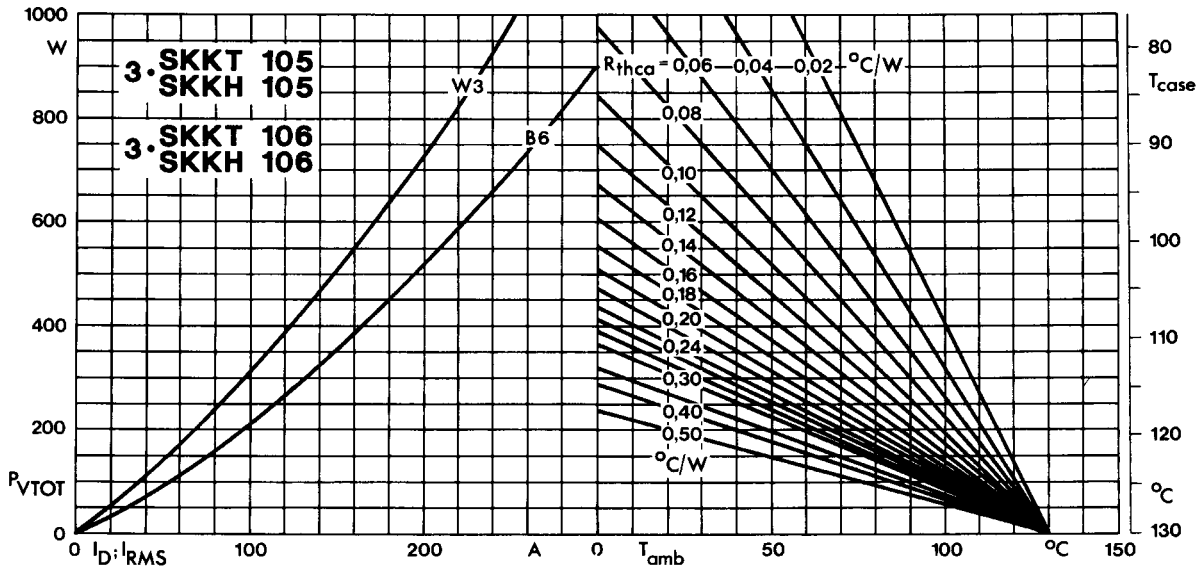


Fig. 4 Power dissipation of three modules vs. direct and rms current and case temperature

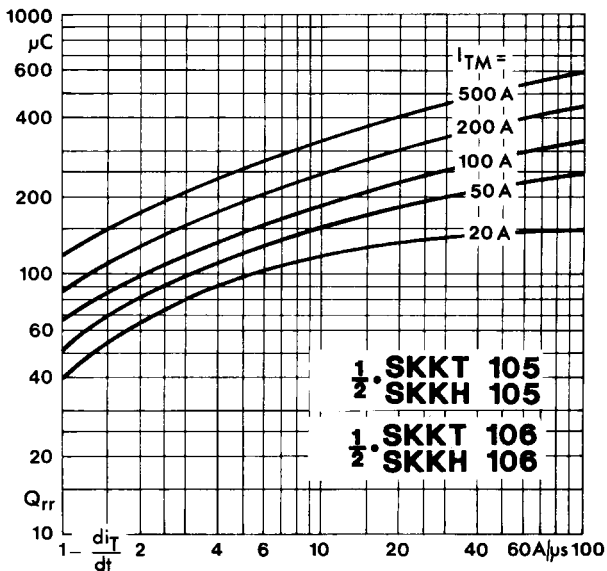


Fig. 5 Recovered charge vs. current decrease

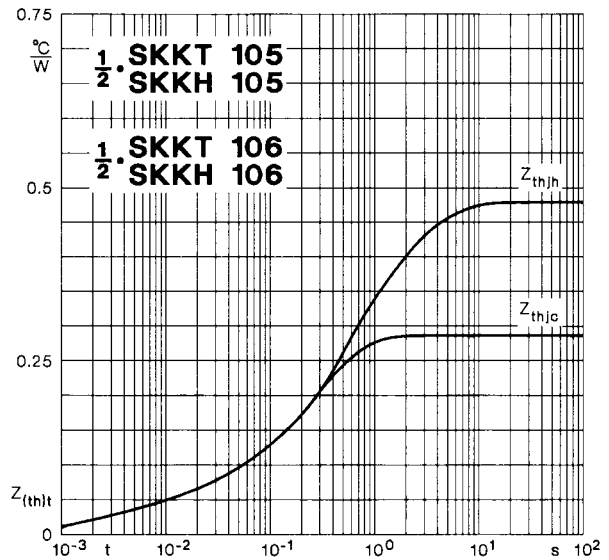


Fig. 6 Transient thermal impedance vs. time

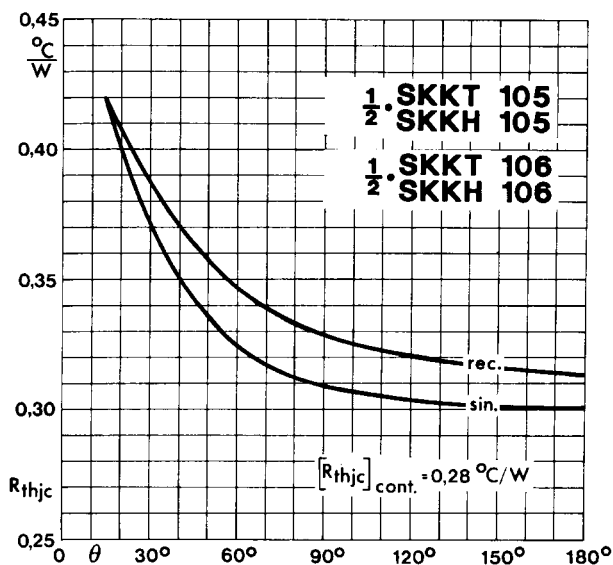


Fig. 7 Thermal resistance vs. conduction angle

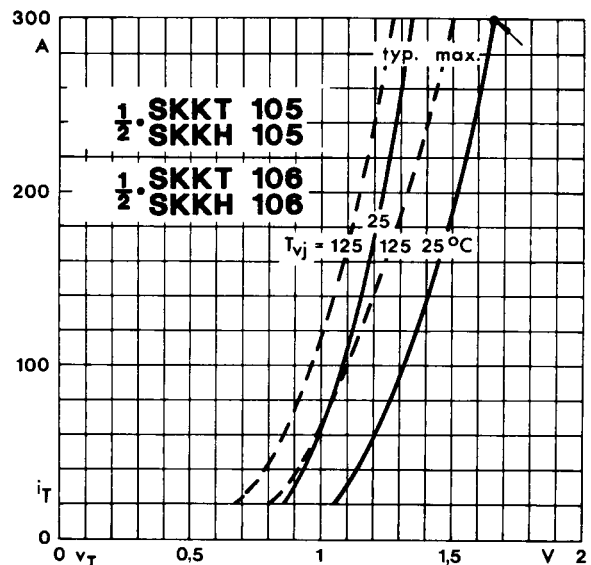


Fig. 8 On-state characteristics

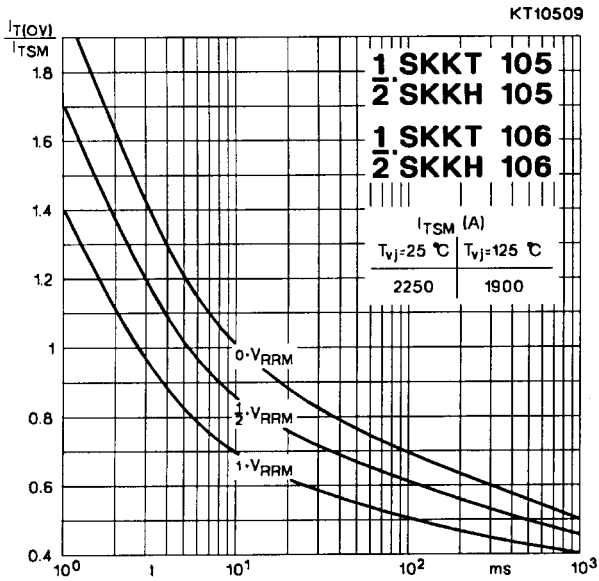


Fig. 9 Surge overload current vs. time

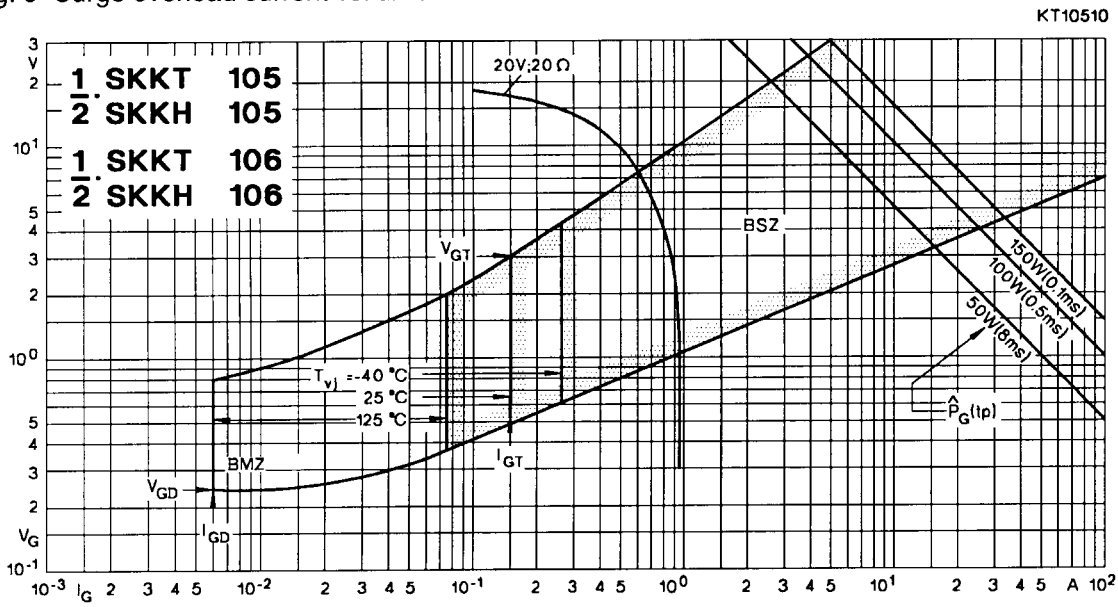


Fig. 10 Gate trigger characteristics

## SKKT 19 ... 105

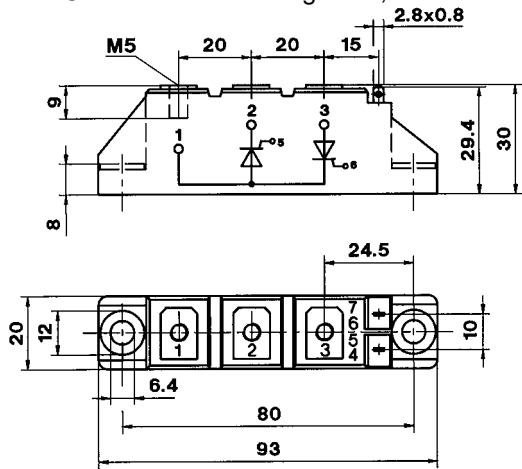
Case A 5

IEC 192-2: A 77 A

JEDEC: TO-240 AA

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UL recognized, file no. E 63 532



Dimensions in mm

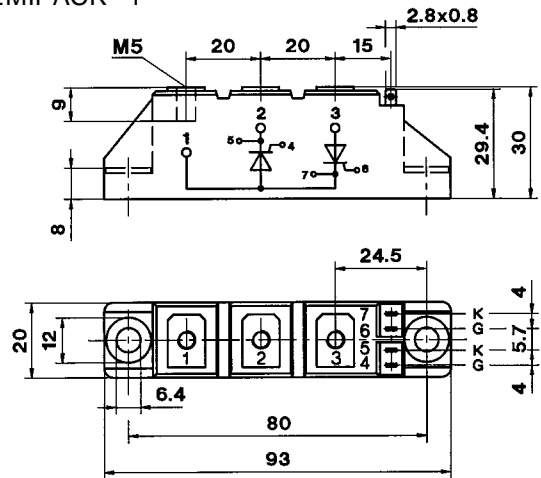
## SKKT 20/ ... 106/

Case A 46

IEC 192-2: A 77 A

JEDEC: TO-240 AA

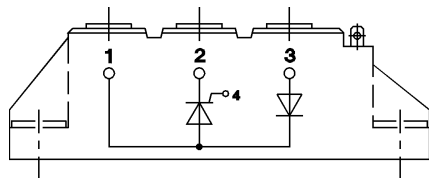
SEMIPACK® 1



Dimensions in mm

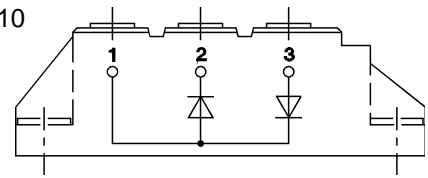
## SKKH 26 ... 105

Case A 6



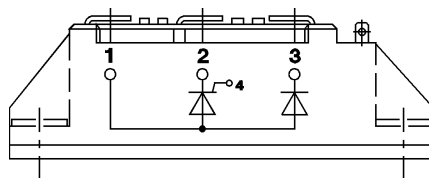
## SKKD 26 ... 100

Case A 10



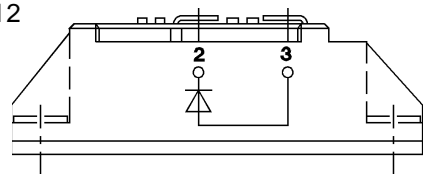
## SKNH 56 ... 91

Case A 7



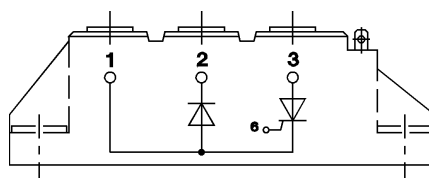
## SKKE 81

Case A 12



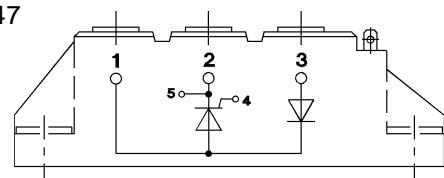
## SKKL 56 ... 105

Case A 9



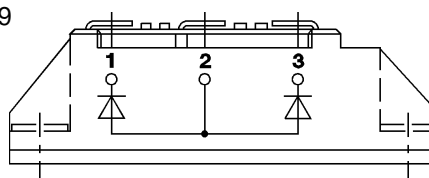
## SKKH 27 ... 106

Case A 47



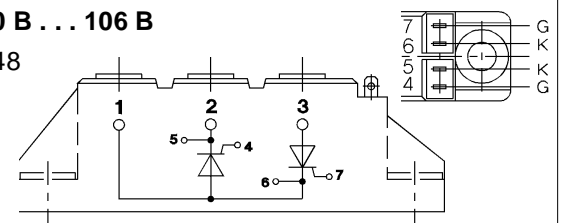
## SKND 46 ... 81

Case A 19



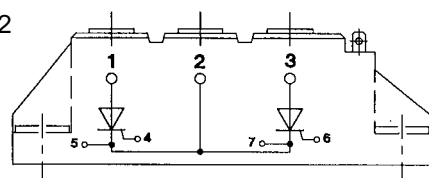
## SKKT 20 B ... 106 B

Case A 48



## SKMT 92

Case A 72



## SKKL 42 ... 106

Case A 59

