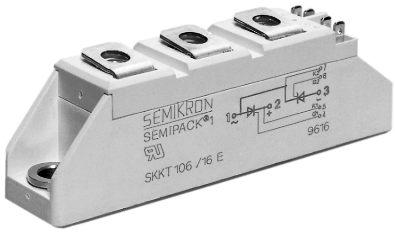
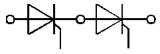
SEMIPACK® 1
Thyristor / Diode Modules

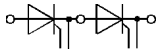
SKKT 71 SKKH 71
SKKT 72 SKKH 72
SKKT 72B

V_{RSM}	V_{RRM}	(dv/	I_{TRMS} (maximum value for continuous operation)			
	V_{DRM}	$dt)_{cr}$	125 A			
			I_{TAV} (sin. 180; T_{case} = 78 °C)			
V	V	V/µs	80 A			
700	600	500	**SKKT 71/06 D**	–	–	**SKKH 72/06 D**
900	800	500	**SKKT 71/08 D**	**SKKT 72/08 D**[1)]	**SKKH 71/08 D**	**SKKH 72/08 D**
1300	1200	1000	**SKKT 71/12 E**	**SKKT 72/12 E**[1)]	**SKKH 71/12 E**	**SKKH 72/12 E**
1500	1400	1000	**SKKT 71/14 E**	**SKKT 72/14 E**[1)]	**SKKH 71/14 E**	**SKKH 72/14 E**
1700	1600	1000	**SKKT 71/16 E**	**SKKT 72/16 E**[1)]	**SKKH 71/16 E**	**SKKH 72/16 E**
1900	1800	1000	**SKKT 71/18 E**	**SKKT 72/18 E**[1)]	**SKKH 71/18 E**	**SKKH 72/18 E**
2100	2000	1000	–	**SKKT 72/20 E**	–	**SKKH 72/20 E**
2300	2200	1000	–	**SKKT 72/22 E**	–	**SKKH 72/22 E**





SKKT 71 **SKKH 71**



SKKT 72 **SKKH 72**
SKKT 72B

Symbol	Conditions		SKKT 71 SKKH 71	SKKT 72 SKKT 72B SKKH 72	Units
I_{TAV}	sin. 180;	T_{case} = 78 °C	80		A
		T_{case} = 85 °C	70		A
I_D	B2/B6	T_{amb} = 45 °C; P 3/180	62 / 75		A
		T_{amb} = 35 °C; P 3/180 F	115 / 145		A
I_{RMS}	W1/W3	T_{amb} = 45 °C; P 3/180 F	155 / 3 x 115		A
I_{TSM}	T_{vj} = 25 °C; 10 ms		1 600		A
	T_{vj} = 125 °C; 10 ms		1 450		A
i^2t	T_{vj} = 25 °C; 8,3 ... 10 ms		13 000		A^2s
	T_{vj} = 125 °C; 8,3 ... 10 ms		10 500		A^2s
t_{gd}	T_{vj} = 25 °C; I_G = 1 A				
		di_G/dt = 1 A/µs	1		µs
t_{gr}	$V_D = 0{,}67 \cdot V_{DRM}$		1		µs
$(di/dt)_{cr}$	T_{vj} = 125 °C		150		A/µs
t_q	T_{vj} = 125 °C		typ. 80		µs
I_H	T_{vj} = 25 °C; typ./max.		150 / 250		mA
I_L	T_{vj} = 25 °C; R_G = 32 Ω; typ./max.		300 / 600		mA
V_T	T_{vj} = 25 °C; I_T = 300A		max. 1,9		V
$V_{T(TO)}$	T_{vj} = 125 °C		0,9		V
r_T	T_{vj} = 125 °C		3,5		mΩ
I_{DD}; I_{RD}	T_{vj} = 125 °C;	$V_{RD} = V_{RRM}$			
		$V_{DD} = V_{DRM}$	max. 20[3)]		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} = 125 °C; d.c.		0,25		V
I_{GD}	T_{vj} = 125 °C; d.c.		6		mA
R_{thjc}	cont.	per thyristor / per module	0,35 / 0,18		°C/W
	sin. 180	per thyristor / per module	0,37 / 0,19		°C/W
	rec. 120	per thyristor / per module	0,39 / 0,20		°C/W
R_{thch}			0,2 / 0,1		°C/W
T_{vj}			– 40 ... + 125		°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	SI (US) units	3 (26 lb. in.) ± 15 %		Nm
a			$5 \cdot 9{,}81$		m/s^2
w	approx.		120		g
Case	→ page B 1 – 95	SKKT 71: A 5 SKKH 71: A 6	SKKT 72: A 46 SKKT 72B: A 48 SKKH 72: A 47		

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 72 B configuration (case A 48)
2) See the assembly instructions
3) /20 E, /22 E max. 30 mA

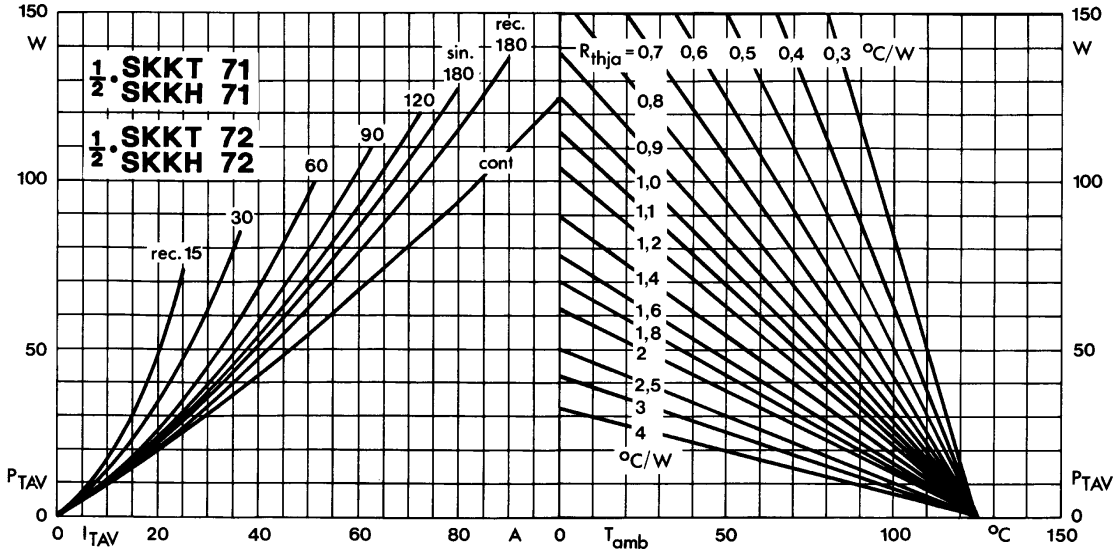


Fig. 1 Power dissipation per thyristor vs. on-state current and ambient temperature

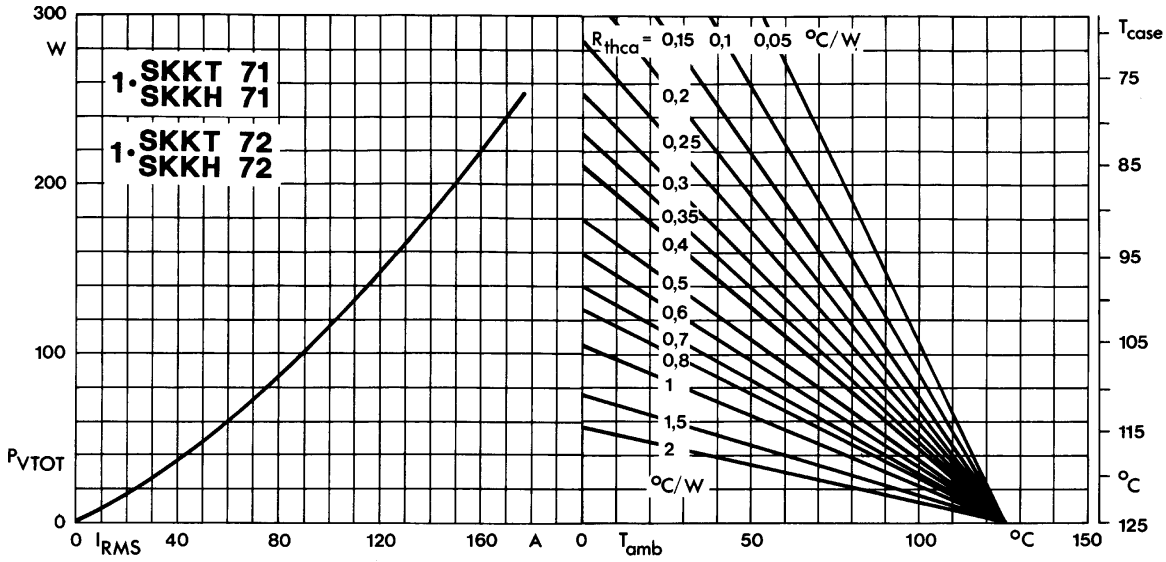


Fig. 2 Power dissipation per module vs. rms current and case temperature

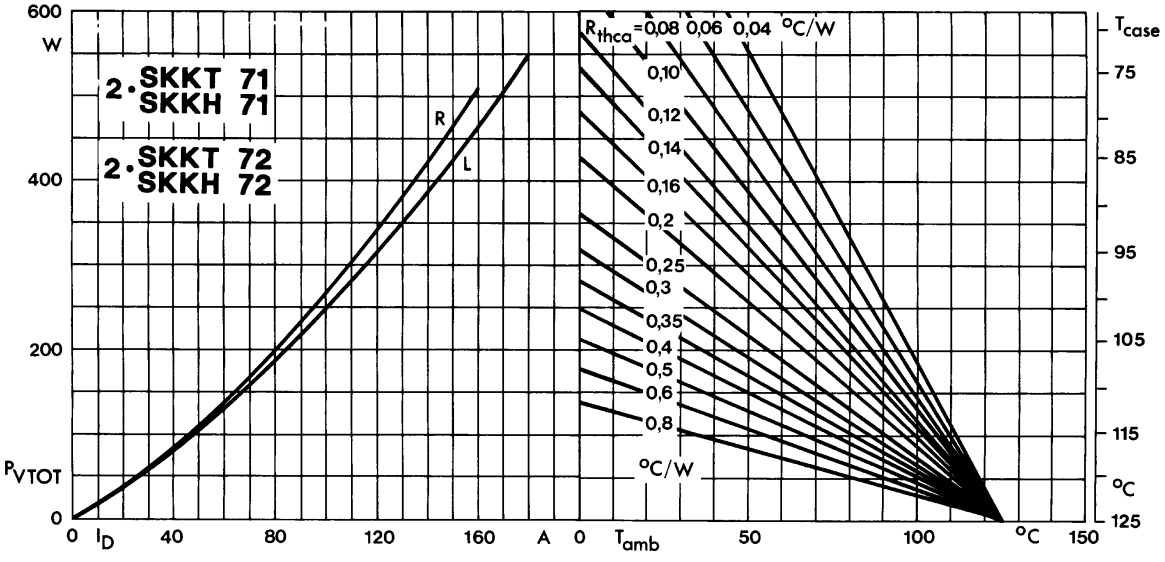


Fig. 3 Power dissipation of two modules vs. direct current and case temperature

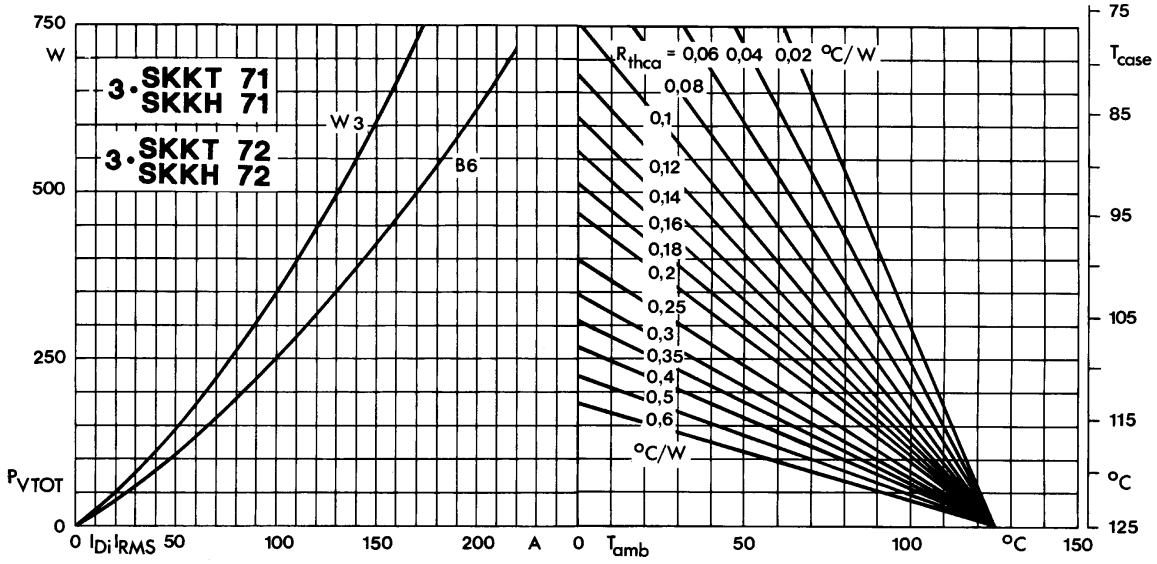


Fig. 4 Power dissipation of three modules vs. direct and rms current and case temperature

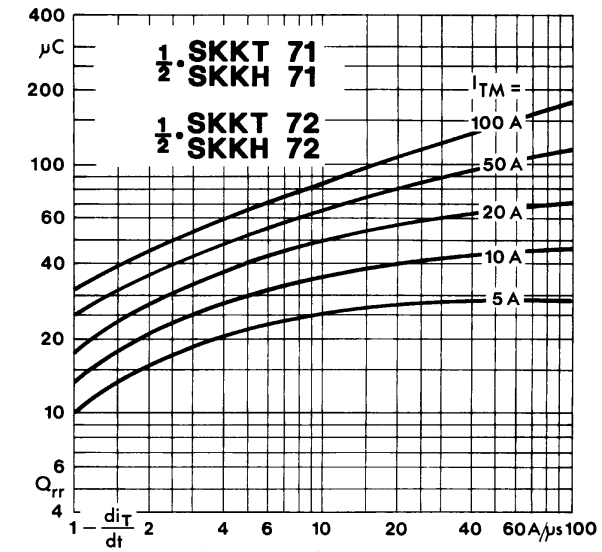


Fig. 5 Recovered charge vs. current decrease

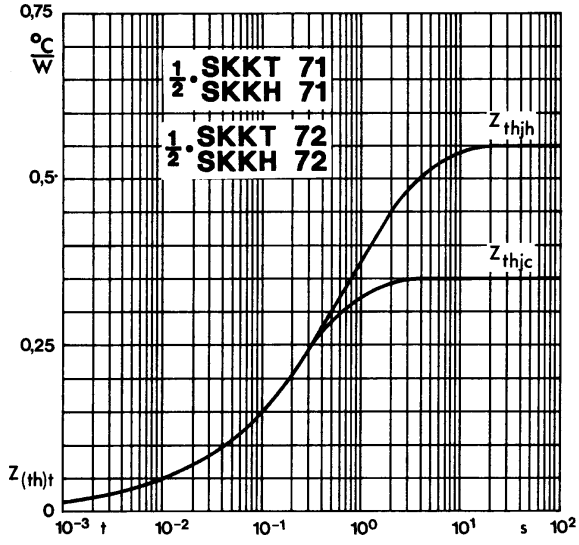


Fig. 6 Transient thermal impedance vs. time

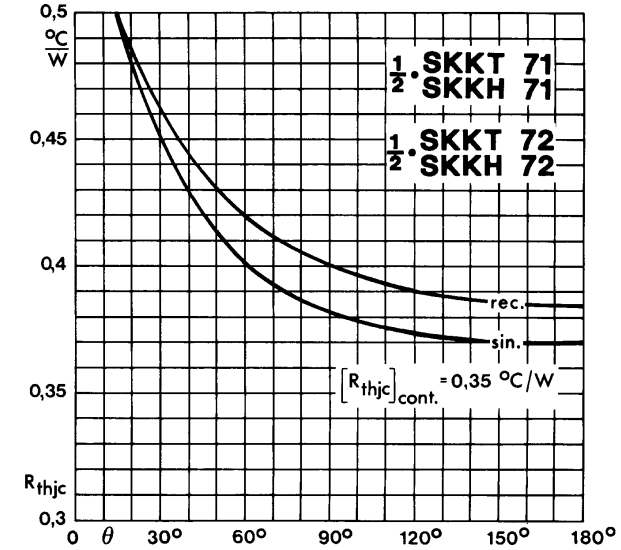


Fig. 7 Thermal resistance vs. conduction angle

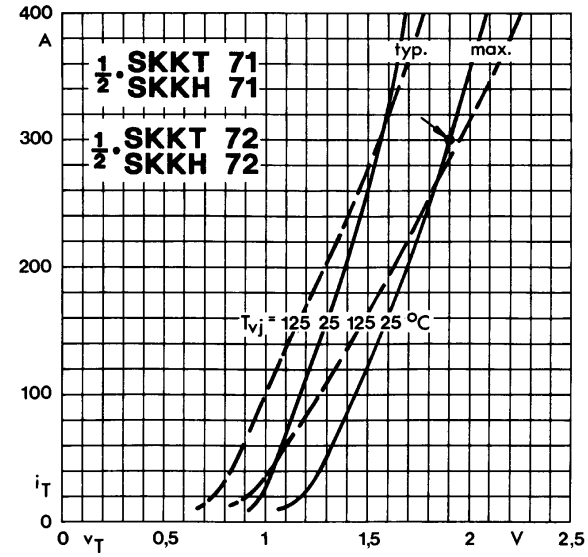


Fig. 8 On-state characteristics

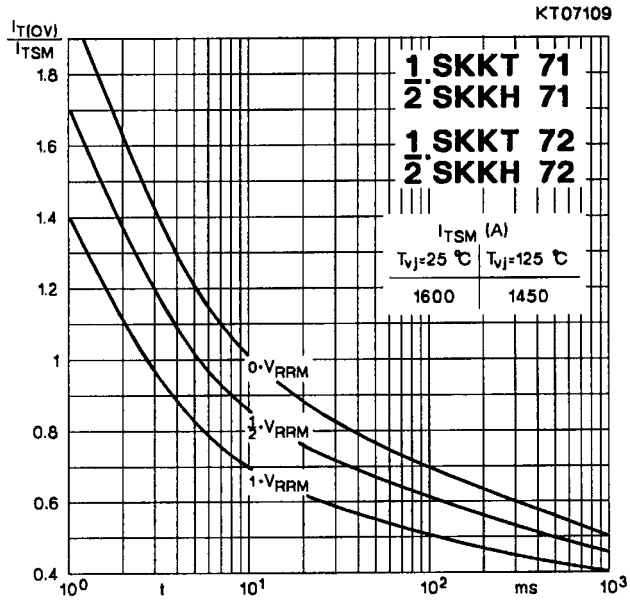


Fig. 9 Surge overload current vs. time

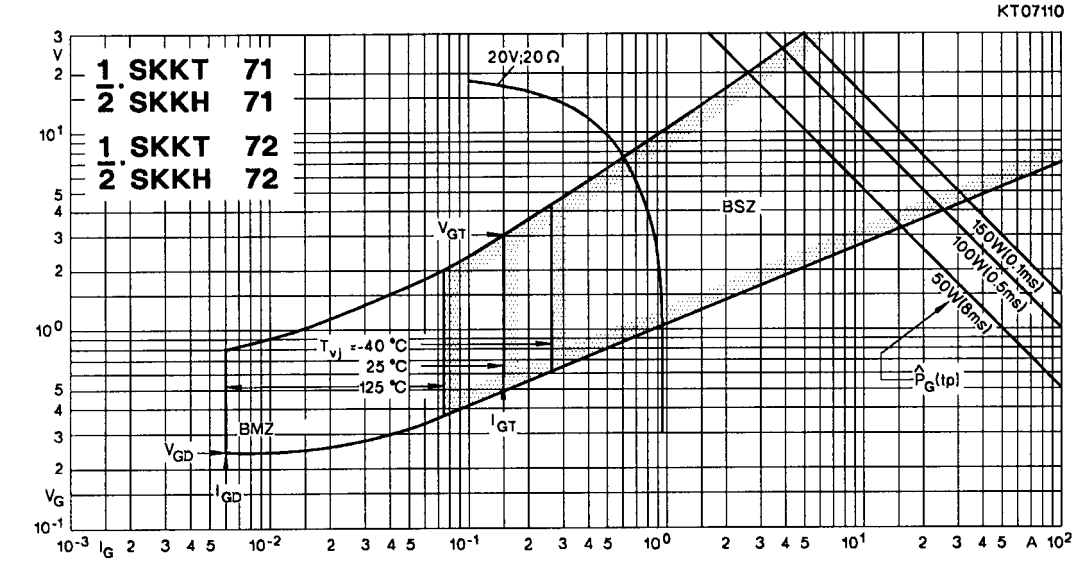


Fig. 10 Gate trigger characteristics

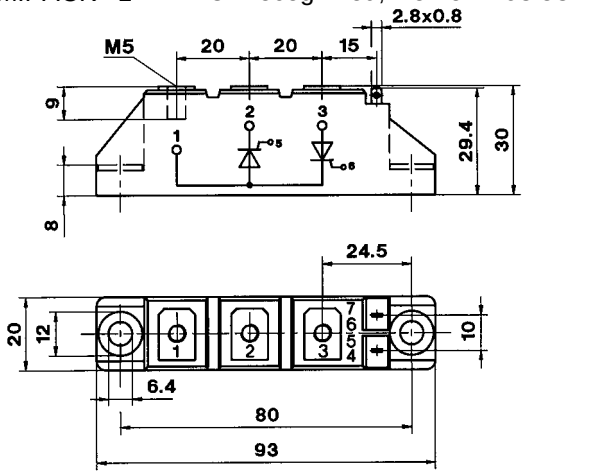
SKKT 19 . . . 105

Case A 5

IEC 192-2: A 77 A
JEDEC: TO-240 AA

SEMIPACK® 1

UL recognized, file no. E 63 532



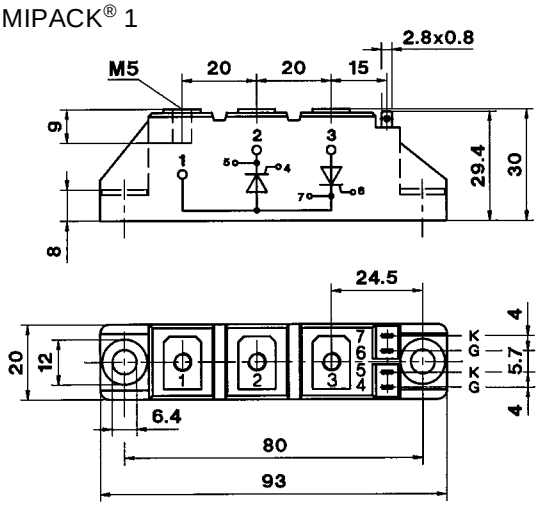
Dimensions in mm

SKKT 20/ . . . 106/

Case A 46

IEC 192-2: A 77 A
JEDEC: TO-240 AA

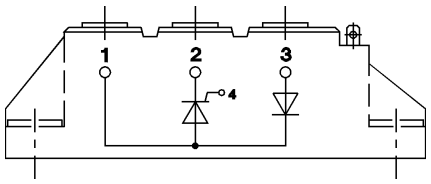
SEMIPACK® 1



Dimensions in mm

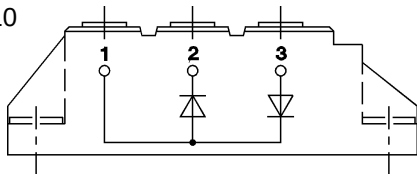
SKKH 26 . . . 105

Case A 6



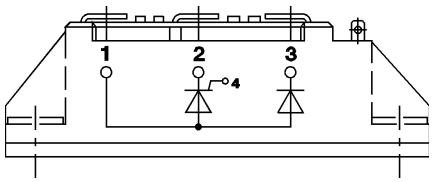
SKKD 26 . . . 100

Case A 10



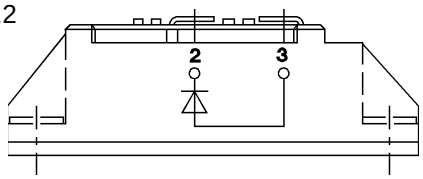
SKNH 56 . . . 91

Case A 7



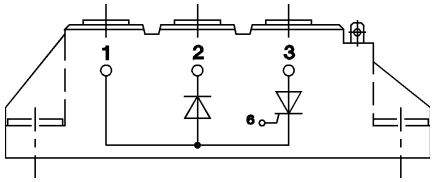
SKKE 81

Case A 12



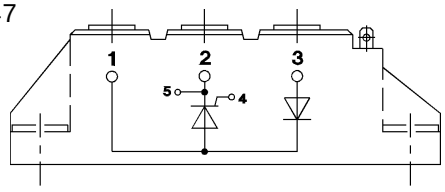
SKKL 56 . . . 105

Case A 9



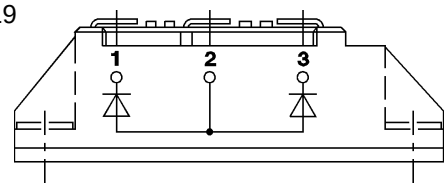
SKKH 27 . . . 106

Case A 47



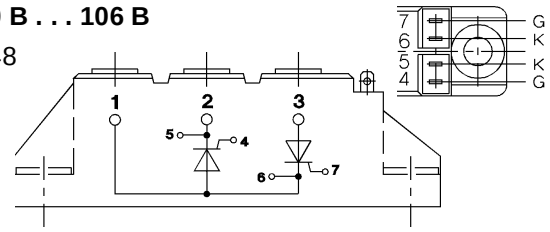
SKND 46 . . . 81

Case A 19



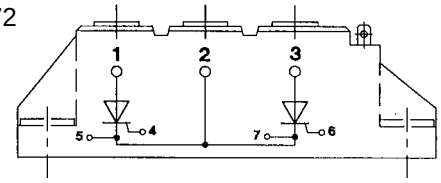
SKKT 20 B . . . 106 B

Case A 48



SKMT 92

Case A 72



SKKL 42 . . . 106

Case A 59