

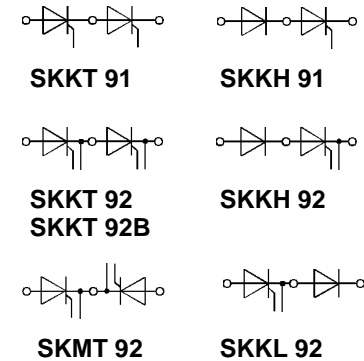
V_{RSM}	V_{RRM}	$(dv/dt)_{cr}$	I_{TRMS} (maximum value for continuous operation)			
	V_{DRM}		150 A			
V	V	V/ μ s	I_{TAV} (sin. 180; $T_{case} = 85^{\circ}C$)			
			95 A			
500	400	500	–	–	SKKH 91/04 D	–
700	600	500	SKKT 91/06 D	SKKT 92/06 D	SKKH 91/06 D	SKKH 92/06 D
900	800	500	SKKT 91/08 D	SKKT 92/08 D	SKKH 91/08 D	SKKH 92/08 D
1300	1200	1000	SKKT 91/12 E	SKKT 92/12 E ¹⁾	SKKH 91/12 E	SKKH 92/12 E
1500	1400	1000	SKKT 91/14 E	SKKT 92/14 E ¹⁾	SKKH 91/14 E	SKKH 92/14 E
1700	1600	1000	SKKT 91/16 E	SKKT 92/16 E ¹⁾	SKKH 91/16 E	SKKH 92/16 E
1900	1800	1000	SKKT 91/18 E	SKKT 92/18 E ¹⁾	SKKH 91/18 E	SKKH 92/18 E

SEMPACK® 1 Thyristor / Diode Modules

SKKT 91 SKKH 91
SKKT 92 SKKH 92
SKKT 92B SKMT 92²⁾
SKKL 92²⁾



Symbol	Conditions	SKKT 91 SKKH 91	SKKT 92 SKKT 92B SKKH 92	Units
I_{TAV}	sin. 180; $T_{case} = 85^{\circ}C$		95	A
I_D	B2/B6 $T_{amb} = 45^{\circ}C$; P 3/180		70 / 85	A
	$T_{amb} = 35^{\circ}C$; P 3/180 F		140 / 175	A
I_{RMS}	W1/W3 $T_{amb} = 35^{\circ}C$; P 3/180 F		190 / 3 x 135	A
I_{TSM}	$T_{vj} = 25^{\circ}C$; 10 ms		2 000	A
	$T_{vj} = 125^{\circ}C$; 10 ms		1 750	A
i^2t	$T_{vj} = 25^{\circ}C$; 8,3 ... 10 ms		20 000	A ² s
	$T_{vj} = 125^{\circ}C$; 8,3 ... 10 ms		15 000	A ² s
t_{gd}	$T_{vj} = 25^{\circ}C$; $I_G = 1 A$; $di_G/dt = 1 A/\mu s$		1	μs
t_{gr}	$V_D = 0,67 \cdot V_{DRM}$		2	μs
$(di/dt)_{cr}$	$T_{vj} = 125^{\circ}C$		150	A/ μs
t_q	$T_{vj} = 125^{\circ}C$		typ. 100	μs
I_H	$T_{vj} = 25^{\circ}C$; max.		250	mA
I_L	$T_{vj} = 25^{\circ}C$; $R_G = 33 \Omega$; max.		600	mA
V_T	$T_{vj} = 25^{\circ}C$; $I_T = 300 A$		max. 1,65	V
$V_{T(TO)}$	$T_{vj} = 125^{\circ}C$		0,9	V
r_T	$T_{vj} = 125^{\circ}C$		2	m Ω
I_{DD} ; I_{RD}	$T_{vj} = 125^{\circ}C$; $V_{RD} = V_{RRM}$ $V_{DD} = V_{DRM}$		max. 20	mA
V_{GT}	$T_{vj} = 25^{\circ}C$; d.c.		3	V
I_{GT}	$T_{vj} = 25^{\circ}C$; d.c.		150	mA
V_{GD}	$T_{vj} = 125^{\circ}C$; d.c.		0,25	V
I_{GD}	$T_{vj} = 125^{\circ}C$; d.c.		6	mA
R_{thjc}	cont. } per thyristor / sin. 180 } per module rec. 120 }		0,28 / 0,14 0,30 / 0,15 0,32 / 0,16 0,2 / 0,1	$^{\circ}C/W$ $^{\circ}C/W$ $^{\circ}C/W$ $^{\circ}C/W$
R_{thch}				
T_{vj}			- 40 ... + 125	$^{\circ}C$
T_{stg}			- 40 ... + 125	$^{\circ}C$
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.) $\pm 15\%$ ³⁾	Nm
M_2	to terminals }		3 (26 lb. in.) $\pm 15\%$	Nm
a			5 · 9,81	m/s ²
w	approx.		95	g
Case	→ page B 1 – 95	SKKT 91: A 5 SKKH 91: A 6	SKKL 92: A 59 SKKT 92: A 46 SKKH 92: 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 92B configuration (case A 48)

²⁾ SKKL 92, SKMT 92 available on request

³⁾ See the assembly instructions

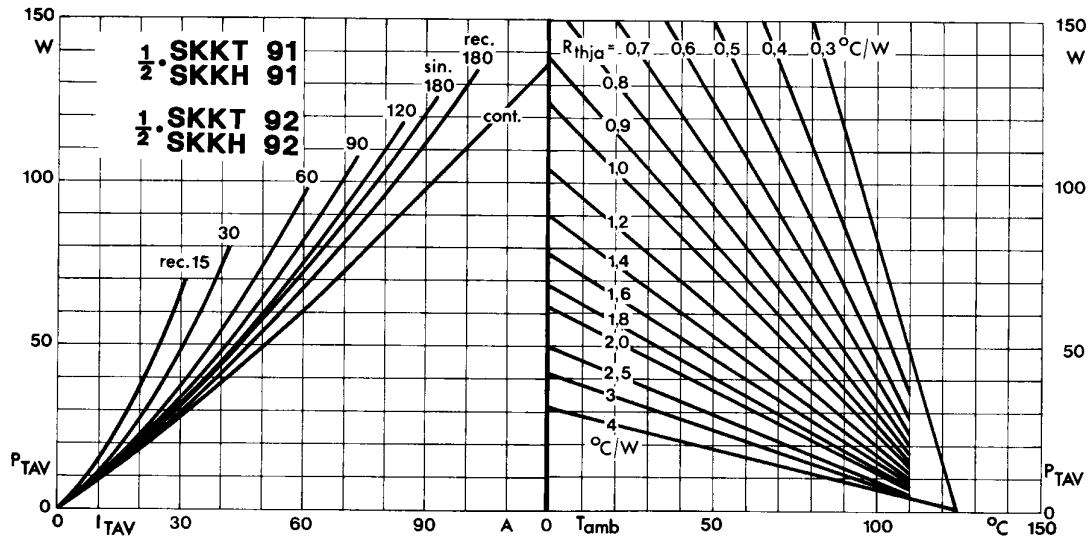


Fig. 1 Power dissipation per thyristor vs. on-state current and ambient temperature

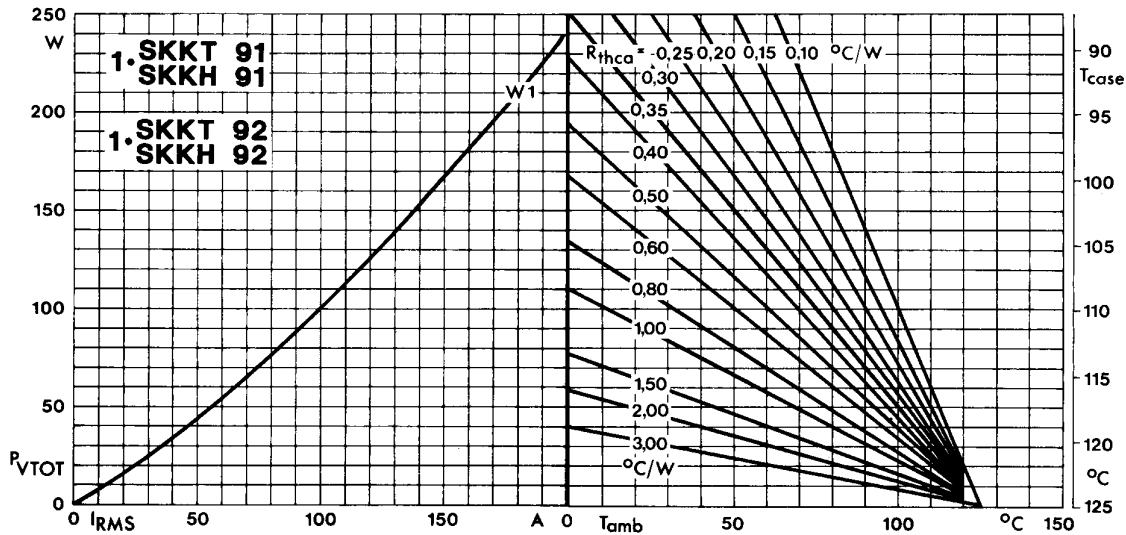


Fig. 2 Power dissipation per module vs. rms current and case temperature

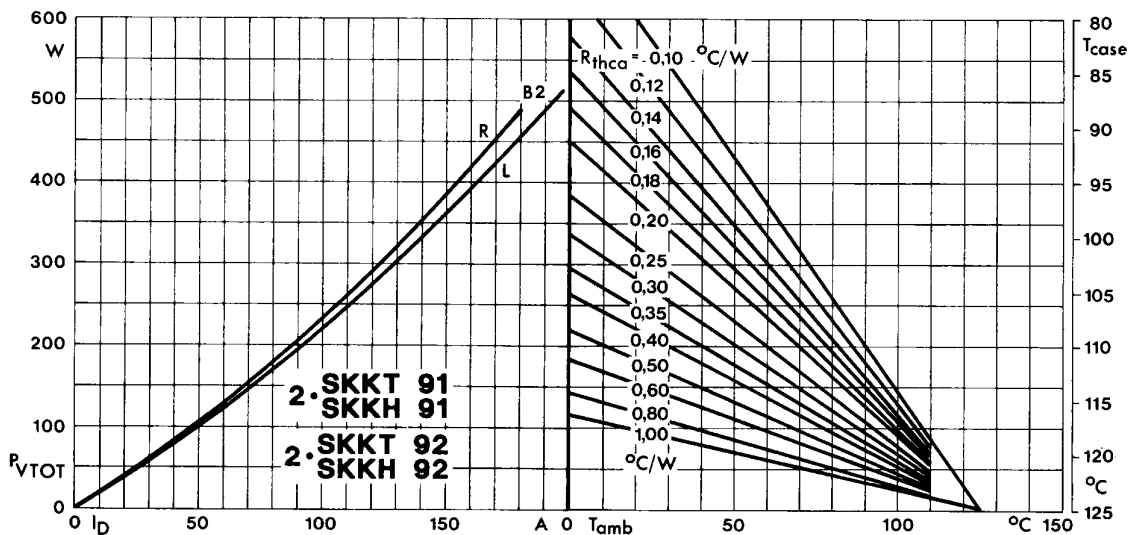


Fig. 3 Power dissipation of two modules vs. direct current and case temperature

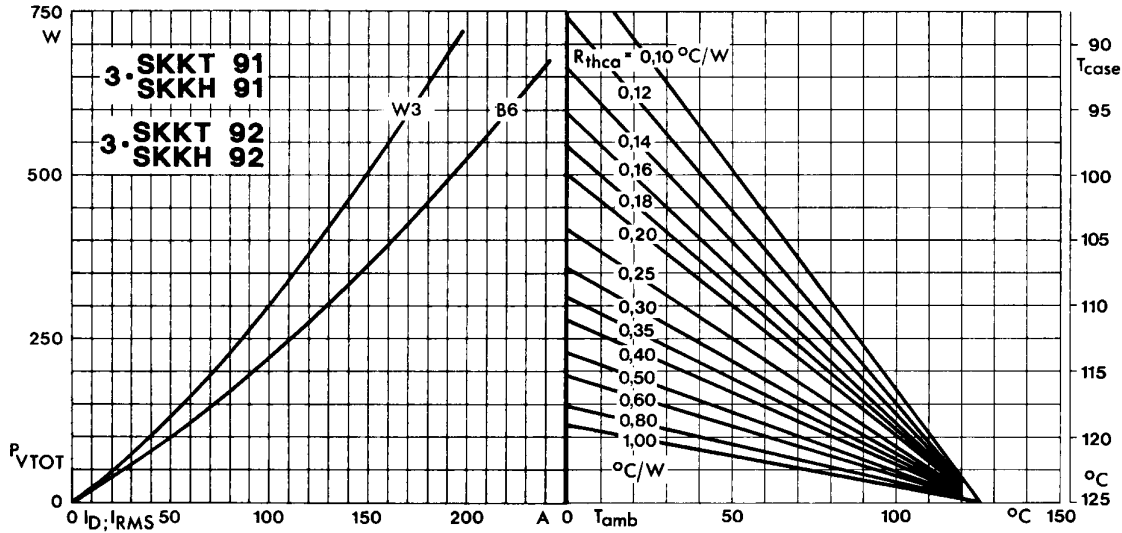


Fig. 4 Power dissipation of three modules vs. direct and rms current and case temperature

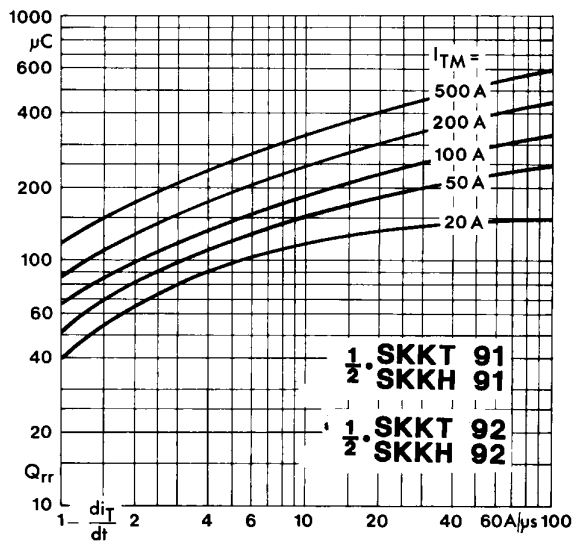


Fig. 5 Recovered charge vs. current decrease

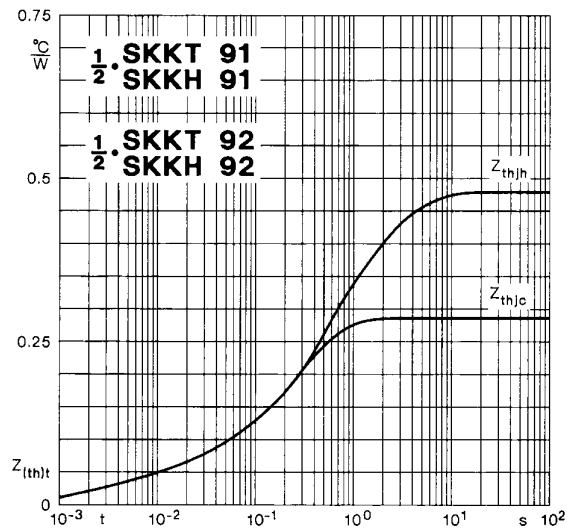


Fig. 6 Transient thermal impedance vs. time

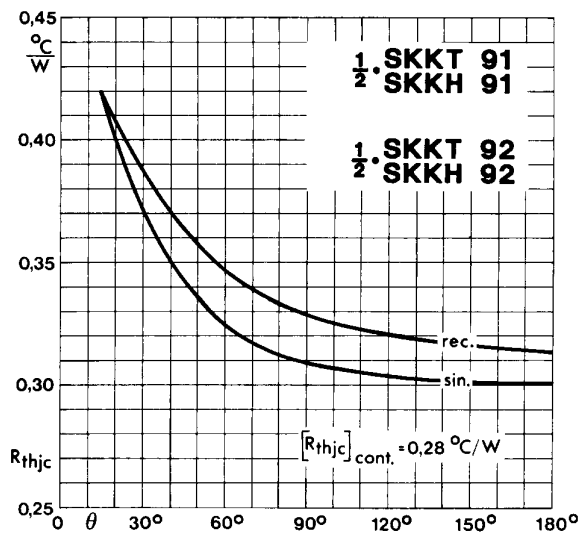


Fig. 7 Thermal resistance vs. conduction angle

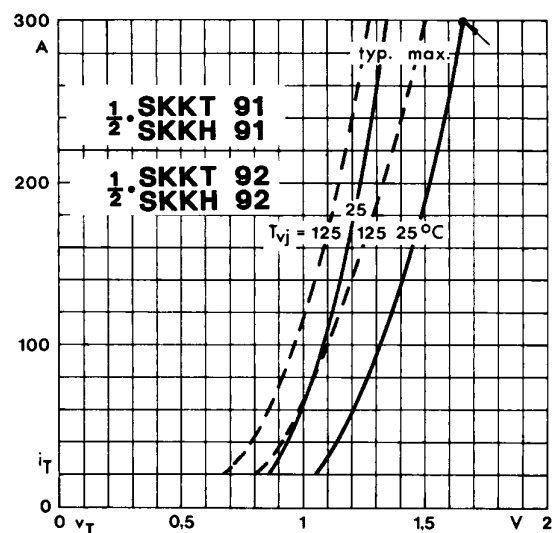


Fig. 8 On-state characteristics

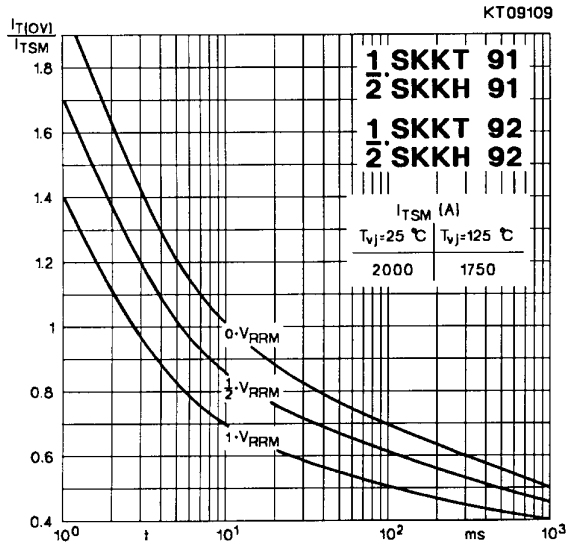


Fig. 9 Surge overload current vs. time

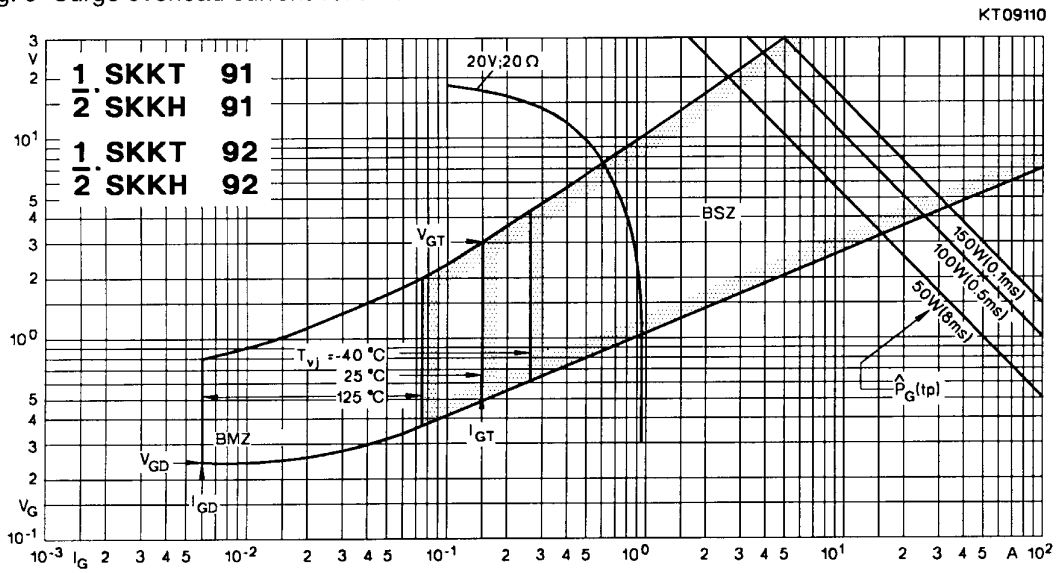


Fig. 10 Gate trigger characteristics

SKKT 19 ... 105

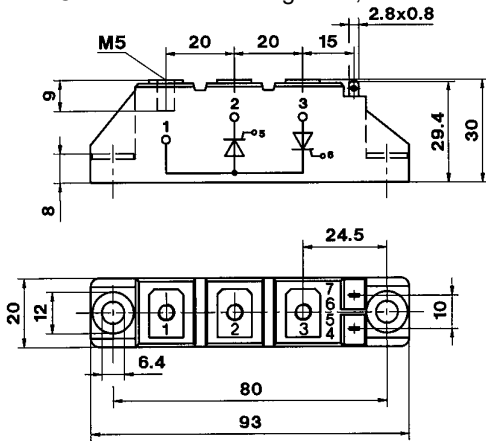
Case A 5

IEC 192-2: A 77 A

JEDEC: TO-240 AA

SEMIPACK® 1

UL recognized, file no. E 63 532



Dimensions in mm

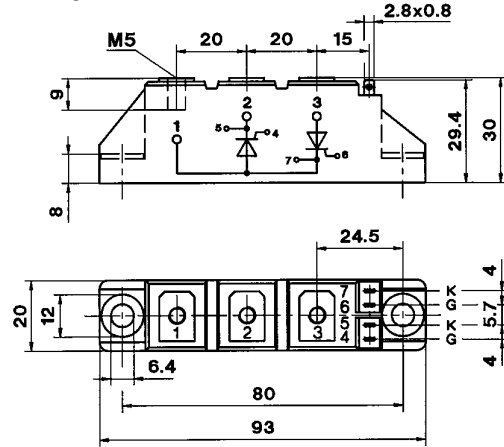
SKKT 20/ ... 106/

Case A 46

IEC 192-2: A 77 A

JEDEC: TO-240 AA

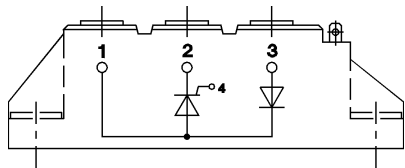
SEMIPACK® 1



Dimensions in mm

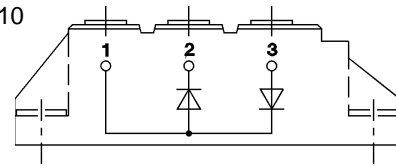
SKKH 26 ... 105

Case A 6



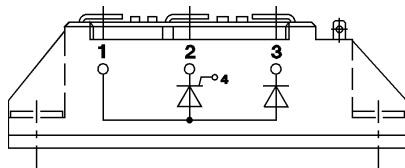
SKKD 26 ... 100

Case A 10



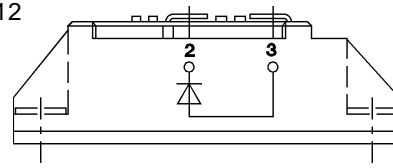
SKNH 56 ... 91

Case A 7



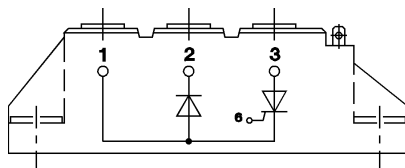
SKKE 81

Case A 12



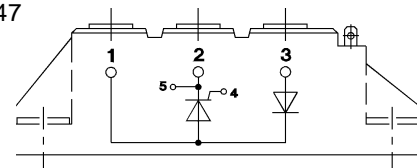
SKKL 56 ... 105

Case A 9



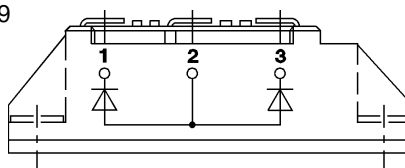
SKKH 27 ... 106

Case A 47



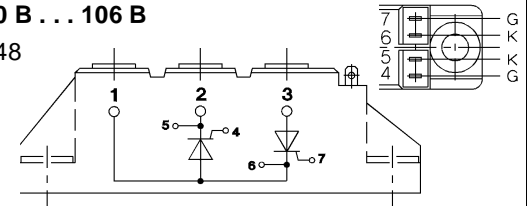
SKND 46 ... 81

Case A 19



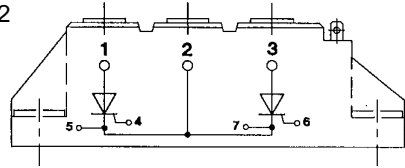
SKKT 20 B ... 106 B

Case A 48



SKMT 92

Case A 72



SKKL 42 ... 106

Case A 59

