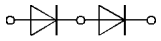
Rectifier Diode Modules

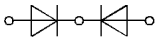
SEMIPACK® 1
SKKD 100 SKMD 100[1)]

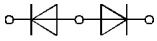
SEMIPACK® 2
SKKD 162 SKND 162[1)]
SKKE 162

V_{RSM}	V_{RRM}	I_{FRMS} (maximum value for continuous operation)		
		175 A	310 A	310 A
		I_{FAV} (sin. 180; T_{case} = . . .)		
V	V	100 A (85 °C)	160 A (95 °C)	160 A (95 °C)
500	400	**SKKD 100/04**	–	–
900	800	**SKKD 100/08**	**SKKD 162/08**	**SKKE 162/08**
1300	1200	**SKKD 100/12**	**SKKD 162/12**	**SKKE 162/12**
1500	1400	**SKKD 100/14**	**SKKD 162/14**	**SKKE 162/14**
1700	1600	**SKKD 100/16**	**SKKD 162/16**	**SKKE 162/16**
1900	1800	**SKKD 100/18**	**SKKD 162/18**	**SKKE 162/18**
2100	2000	–	**SKKD 162/20 H4[4)]**	–
2300	2200	–	**SKKD 162/22 H4[4)]**	–


SKKD


SKKE


SKMD


SKND

Symbol	Conditions	SKKD 100	SKKD 162 SKKE 162	Units
I_{FAV}	sin. 180; T_{case} = 85 °C	100	195	A
I_D [1)]	B2/B6 T_{amb} = 45 °C; P 3/180	73 / 91	90 / 115	A
	T_{amb} = 35 °C; P 3/180 F	150 / 190	210 / 260	A
	P 16/200 F	–	320 / 425	A
I_{FSM}	T_{vj} = 25 °C; 10 ms	2 500	6 000	A
	T_{vj} = 125 °C; 10 ms	2 000	5 000	A
i^2t	T_{vj} = 25 °C; 8,3 ... 10 ms	31 250	180 000	A^2s
	T_{vj} = 125 °C; 8,3 ... 10 ms	20 000	125 000	A^2s
I_{RD}	$T_{vj\ max.}$; V_{RD} = V_{RRM}	5	9	mA
V_F	T_{vj} = 25 °C; (I_F = . . .); max.	1,35 (300 A)	1,5 (500 A)	V
$V_{(TO)}$	T_{vjmax}	0,85	0,85	V
r_T	T_{vjmax}	1,3	1,2	mΩ
R_{thjc}	per diode / per module [2)]	0,35 / 0,175	0,18 / 0,09	°C/W
R_{thch}		0,2 / 0,1	0,10 / 0,05	°C/W
T_{vj}		– 40 ... + 125	– 40 ... + 135	°C
T_{stg}		– 40 ... + 125	– 40 ... + 135	°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 %		Nm
M_2	to terminals SI (US) units	3 (26 lb. in.) ± 15 % [3)]	5 (44 lb. in.) ± 15 % [3)]	Nm
a		5 · 9,81	5 · 9,81	m/s^2
w	approx.	95	165	g
Case	→ page B 1 – 95; 96	SKKD 100: A 10	SKKD 162: A 23 SKKE 162: A 24 SND 162: A 57	
	(B 1 – 38:	SKMD 100: A 33)		

Features

- Heat transfer through aluminium oxide ceramic isolated metal baseplate
- Hard soldered joints for high reliability
- **SKKD** half bridge connection
  SKMD center-tap connections: common cathode
  SKND common anode
- UL recognized, file no. E 63 532

Typical Applications

- Non-controllable rectifiers for AC/AC converters
- Line rectifiers for transistorized AC motor controllers
- Field supply for DC motors
- SKKE: Free-wheeling diodes

[1)] SKMD 100, SKND 162 available on request
[2)] SKKD types only
[3)] See the assembly instructions
[4)] V_{isol} 1 s/1 min. = 4800/4000 V~

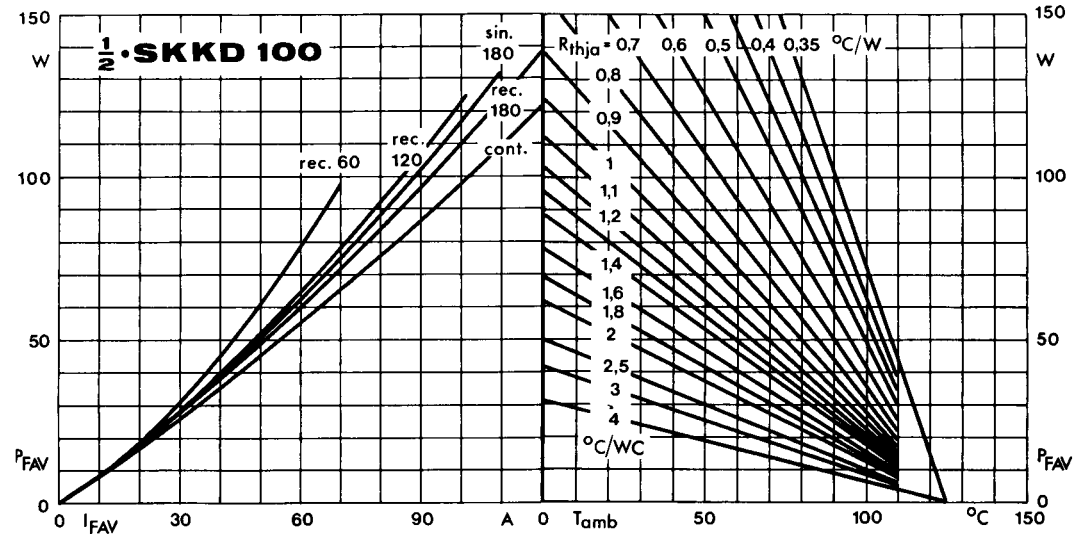


Fig. 11 a Power dissipation per diode vs. forward current and ambient temperature

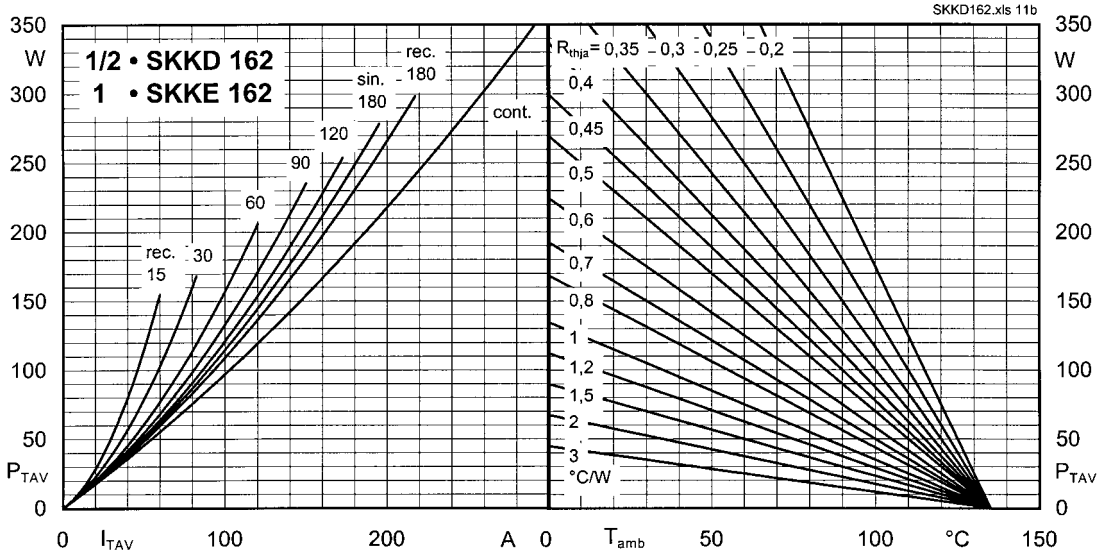


Fig. 11 b Power dissipation per diode vs. forward current and ambient temperature

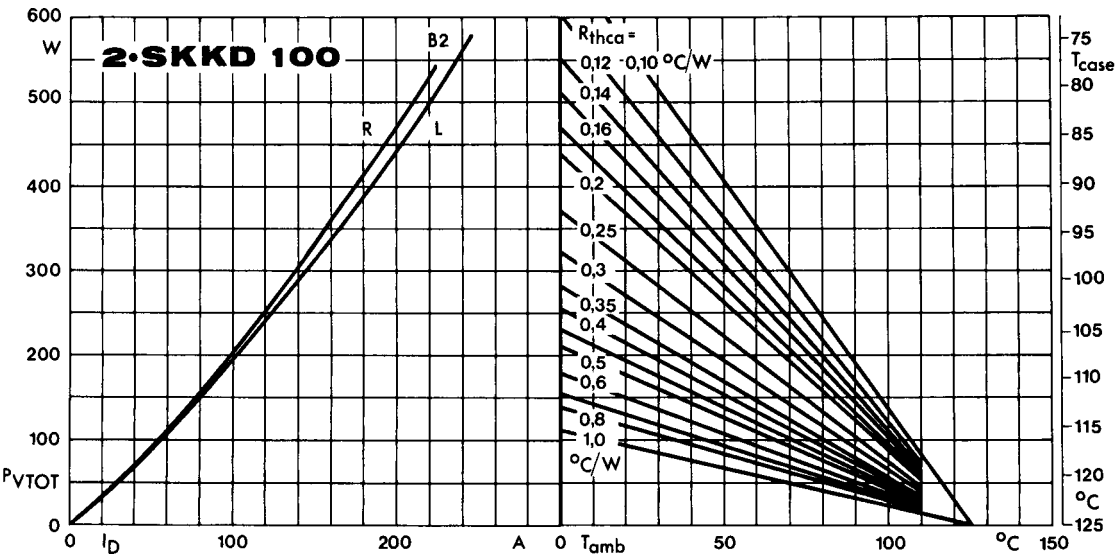


Fig. 12 a Power dissipation of two module vs. direct current and case temperature

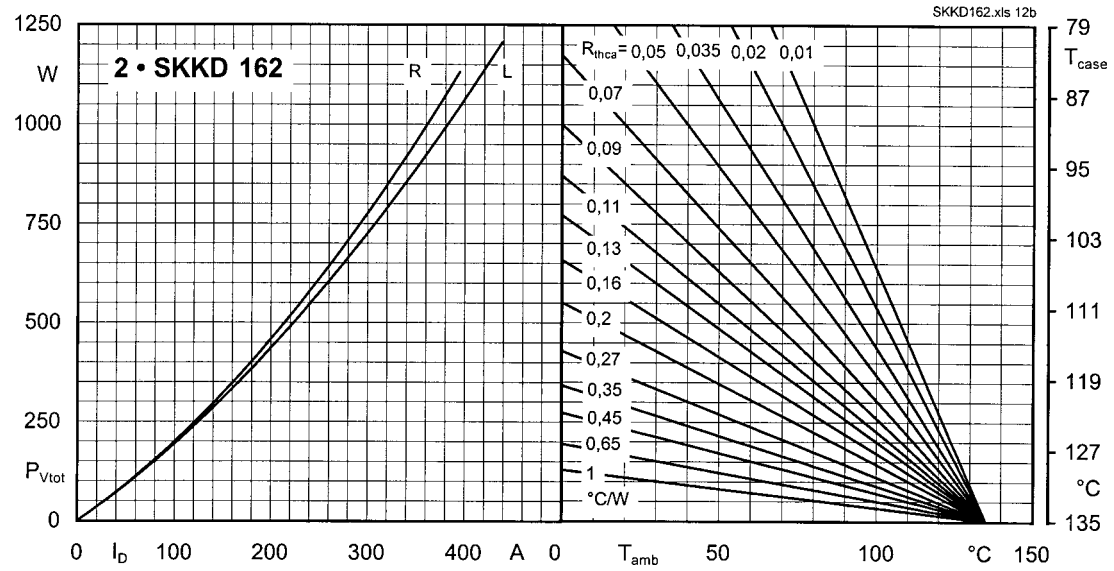


Fig. 12 b Power dissipation of two modules vs. direct current and case temperature

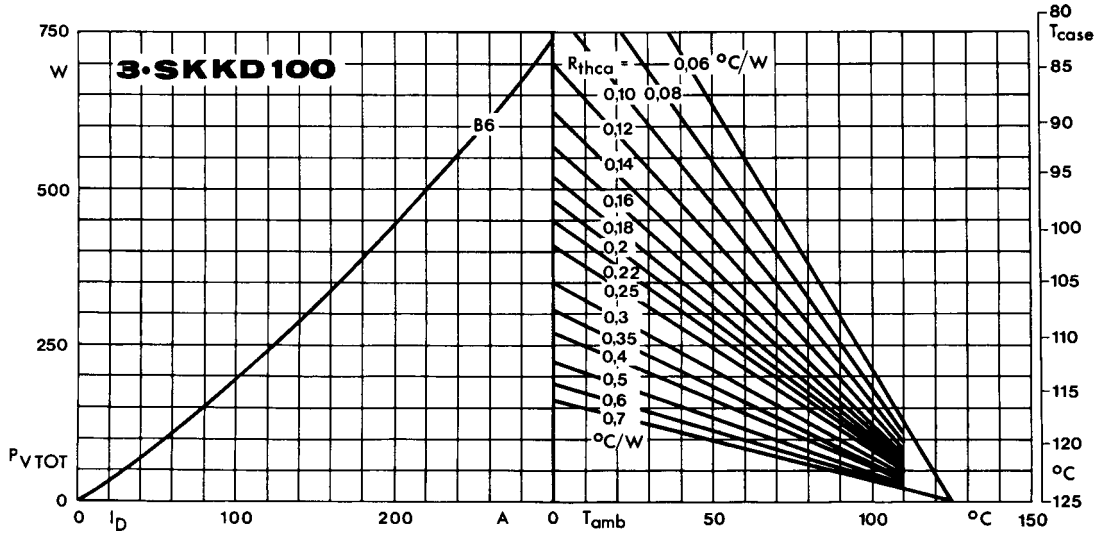


Fig. 13 a Power dissipation of three modules vs. direct current and case temperature

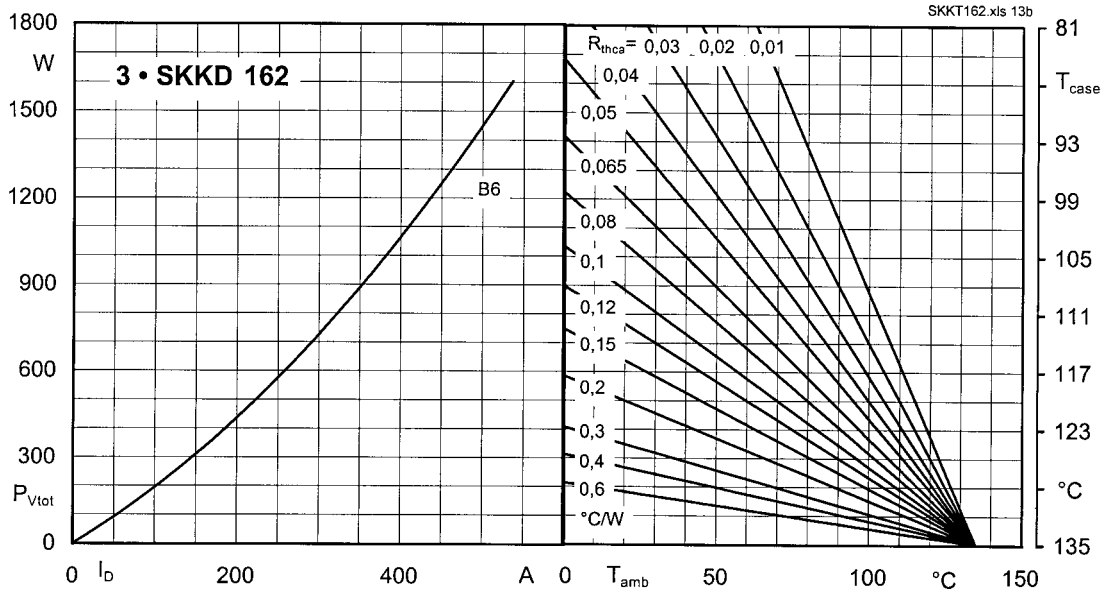


Fig. 13 b Power dissipation of three modules vs. direct current and case temperature

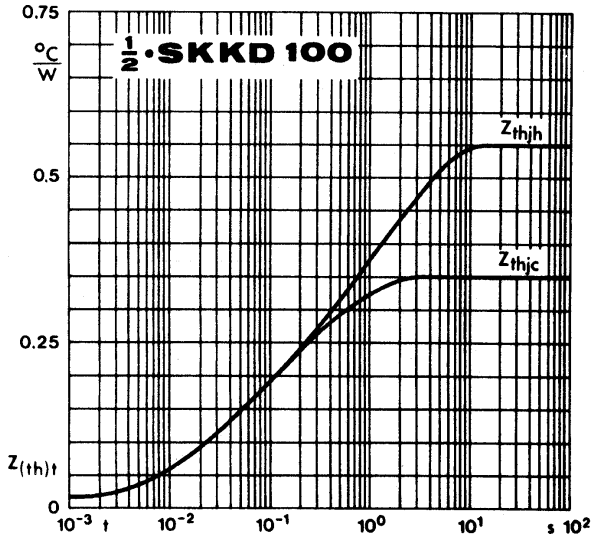


Fig. 14 a Transient thermal impedance vs. time

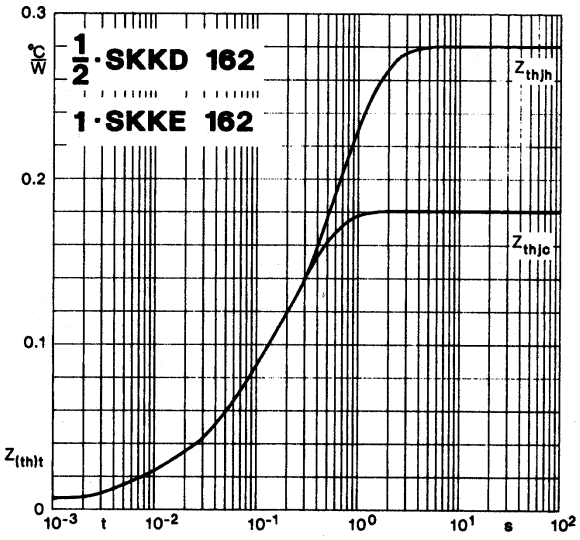


Fig. 14 b Transient thermal impedance vs. time

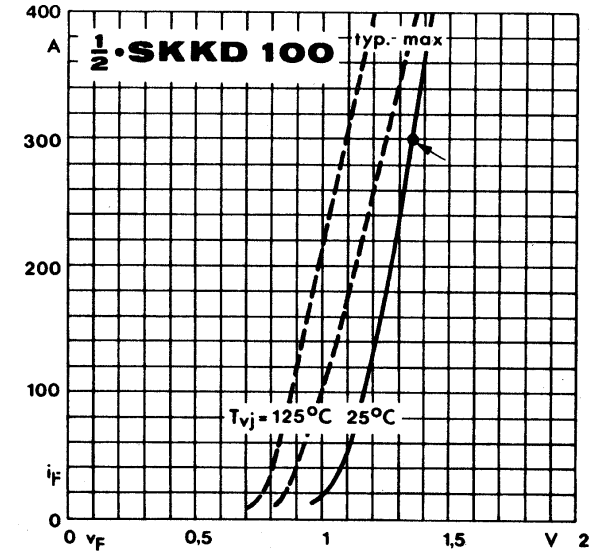


Fig. 15 a Forward characteristics

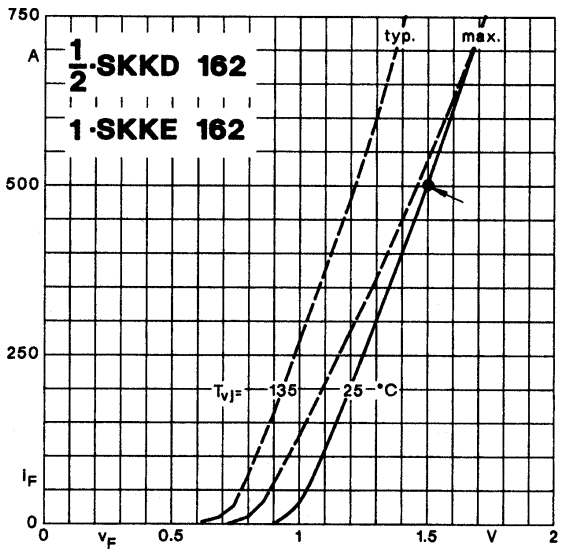


Fig. 15 b Forward characteristics

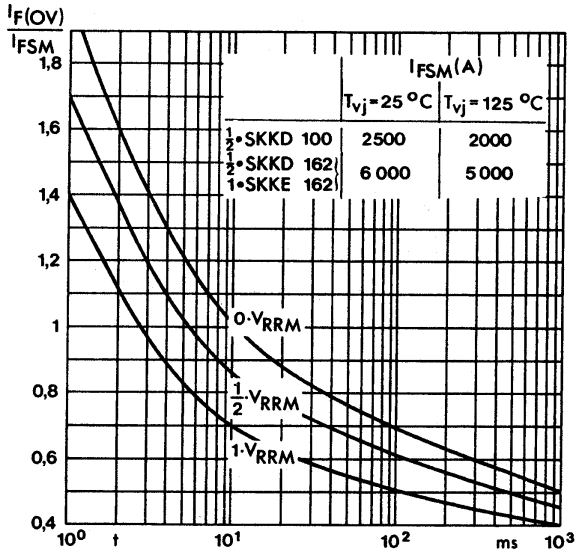


Fig. 16 Surge overload current vs. time

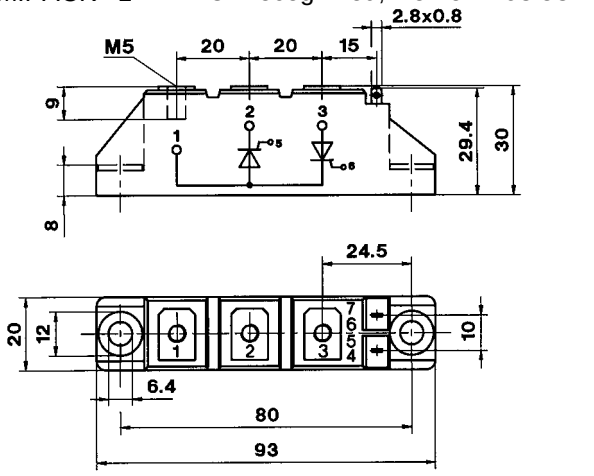
SKKT 19 . . . 105

Case A 5

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

SEMIPACK® 1

UL recognized, file no. E 63 532



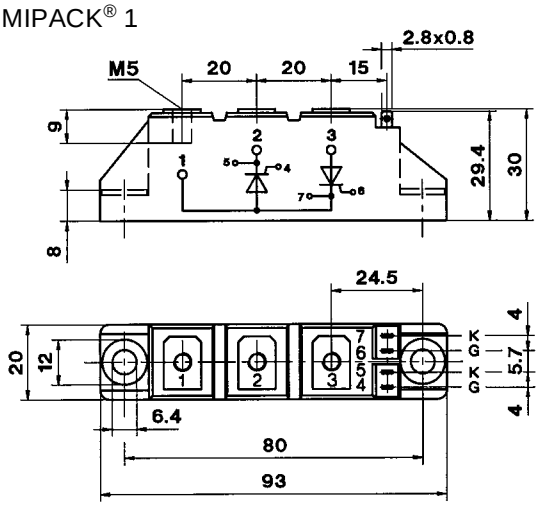
Dimensions in mm

SKKT 20/ . . . 106/

Case A 46

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

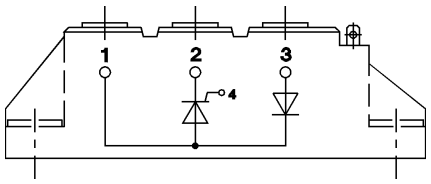
SEMIPACK® 1



Dimensions in mm

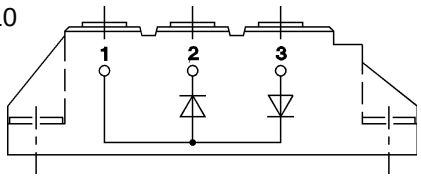
SKKH 26 . . . 105

Case A 6



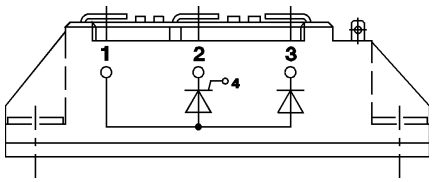
SKKD 26 . . . 100

Case A 10



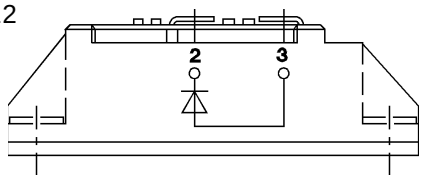
SKNH 56 . . . 91

Case A 7



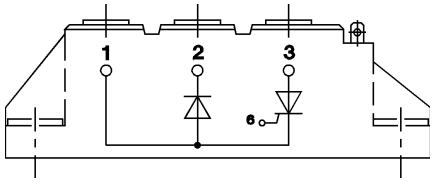
SKKE 81

Case A 12



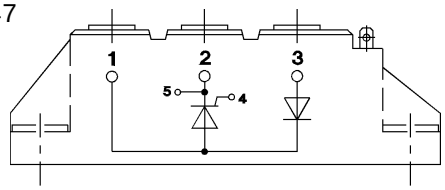
SKKL 56 . . . 105

Case A 9



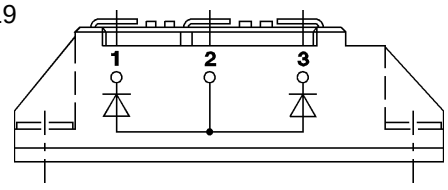
SKKH 27 . . . 106

Case A 47



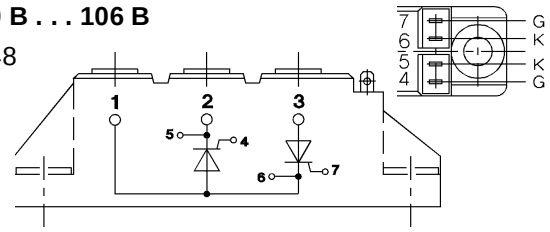
SKND 46 . . . 81

Case A 19



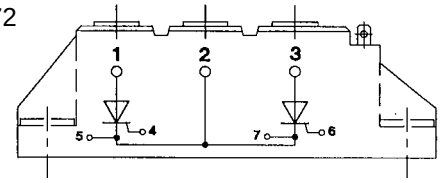
SKKT 20 B . . . 106 B

Case A 48



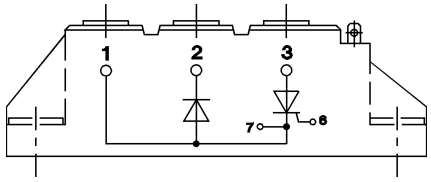
SKMT 92

Case A 72



SKKL 42 . . . 106

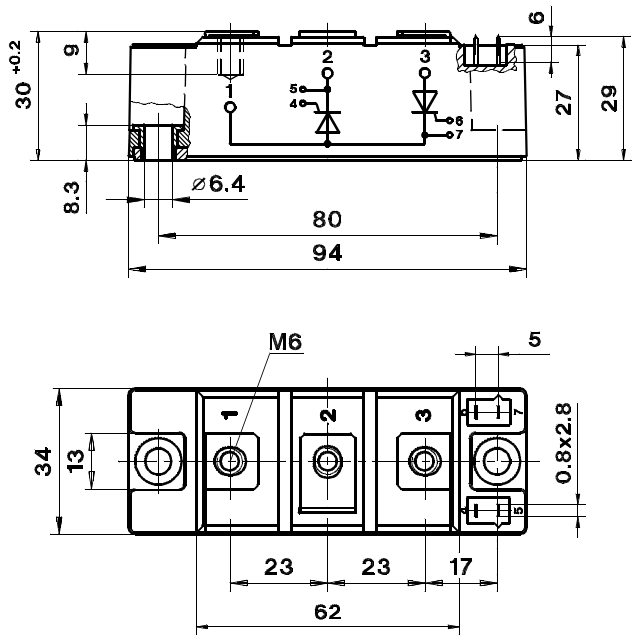
Case A 59



SKKT 122, 132, 162

Case A 21

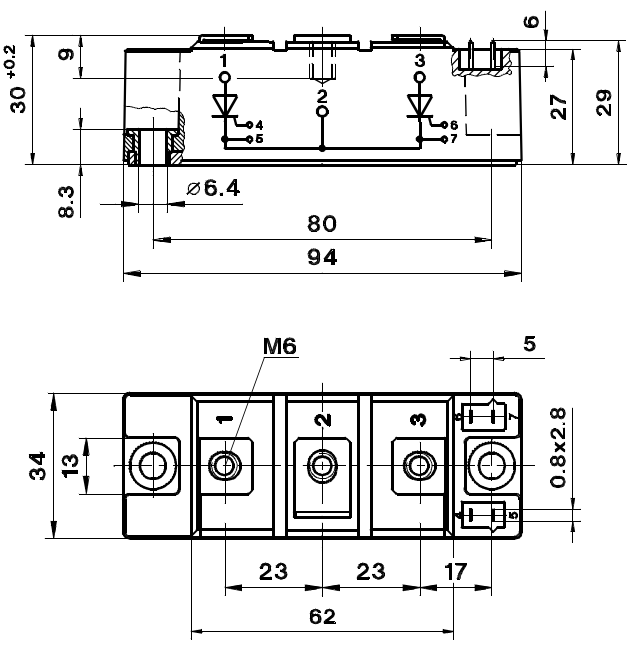
SEMIPACK® 2 UL recognized, file no. E 63 532



SKMT 132

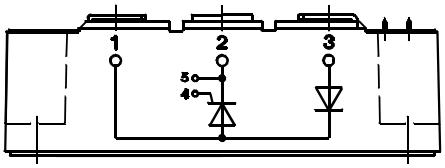
Case A 50

SEMIPACK® 2 UL recognized, file no. E 63 532



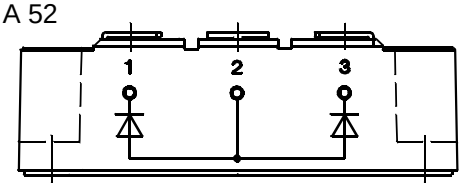
SKKH 122, 132, 162

Case A 22



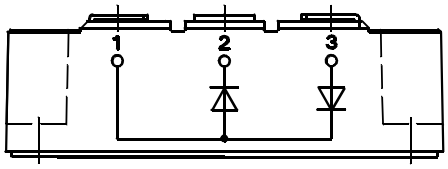
SKND 165

Case A 52



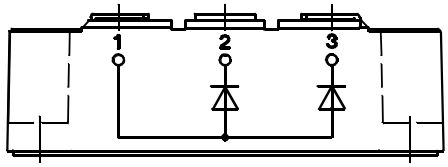
SKKD 162

Case A 23



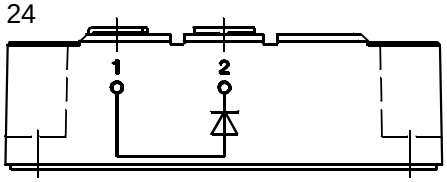
SKND 162

Case A 57



SKKE 162

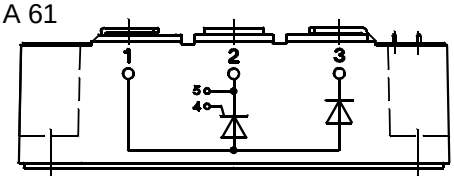
Case A 24



Dimensions in mm

SKNH 132

Case A 61

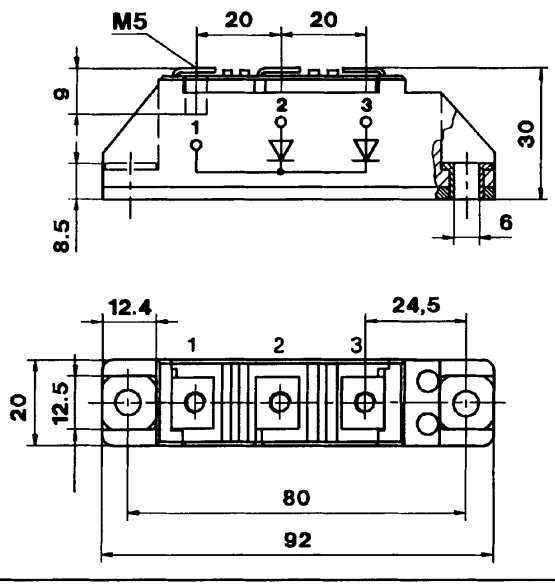


Dimensions in mm

SKMD 100

Case A 33

SEMIPACK® 1



Dimensions in mm