SEMIKRON

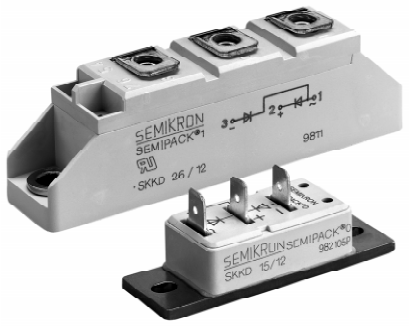
Rectifier Diode Modules

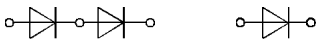
SEMIPACK® 0
SKKD 15 SKKE 15

SEMIPACK® 1
SKKD 26

V_{RSM}	V_{RRM}	I_{FRMS} (maximum value for continuous operation)		
		24 A[2]; 28 A[3]	24 A[2]; 28 A[3]	60 A
		I_{FAV} (sin. 180; T_{case} = 71 °C)		
V	V	17,5 A[3]	17,5 A[3]	38 A
500	400	–	**SKKE 15/04**	–
700	600	**SKKD 15/06**	**SKKE 15/06**	–
900	800	**SKKD 15/08**	**SKKE 15/08**	–
1300	1200	**SKKD 15/12**	**SKKE 15/12**	**SKKD 26/12**
1500	1400	**SKKD 15/14**	**SKKE 15/14**	**SKKD 26/14**
1700	1600	**SKKD 15/16**	**SKKE 15/16**	**SKKD 26/16**

Symbol	Conditions	SKKD 15 SKKE 15	SKKD 26	Units
I_{FAV}	sin. 180 (T_{case} = . . .)	15 (82 °C)	26 (93 °C)	A
		–	31 (85°C)	A
I_D [1]	B2/B6 | T_{amb} = 45 °C;			
	P 13A/125	18 / 22,5	–	A
	P 3/120	–	44 / 48	A
	P 3/180	–	53 / 59	A
I_{FSM}	T_{vj} = 25 °C; 10 ms	320	550	A
	T_{vj} = 125 °C; 10 ms	280	480	A
i^2t	T_{vj} = 25 °C; 8,3 ... 10 ms	510	1 500	A^2s
	T_{vj} = 125 °C; 8,3 ... 10 ms	390	1 150	A^2s
I_{RD}	T_{vj} = 125 °C, V_{RD} = V_{RRM}	2,5	3	mA
V_F	T_{vj} = 25 °C; I_F = 75 A; max.	1,85	1,35	V
$V_{(TO)}$	T_{vj} = 125 °C	0,85	0,85	V
r_T	T_{vj} = 125 °C	15	6	mΩ
R_{thjc}	per diode / per module [1]	2,0 / 1,0	1,0 / 0,5	°C/W
R_{thch}	per diode / per module [1]	0,2 / 0,1	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	1,5 (13 lb. in.) ± 15 %	5 (44 lb. in.) ± 15 %	Nm
M_2	to terminals, SI (US) units	–	3 (26 lb.in.) ± 15 %	Nm
a		5 · 9,81	5 · 9,81	m/s^2
w	approx.	50	95	g
Case	→ page B 1 – 30	SKKD 15: A 3 SKKE 15: A 4		
	→ page B 1 – 95		A 10	





SKKD SKKE

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

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

[1] SKKD types only
[2] Using tin plated connectors with flexible leads of 6 mm^2 for the main terminals
[3] Flexible leads of 6 mm^2 soldered to the main terminals

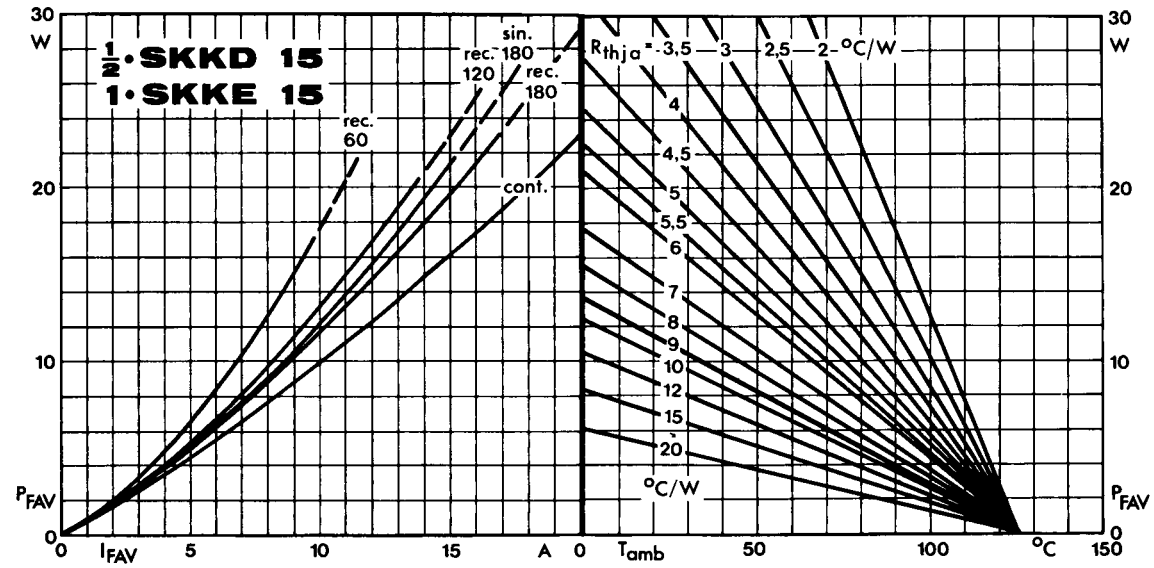


Fig. 11 a Power dissipation per diode vs. forward current and ambient temperature

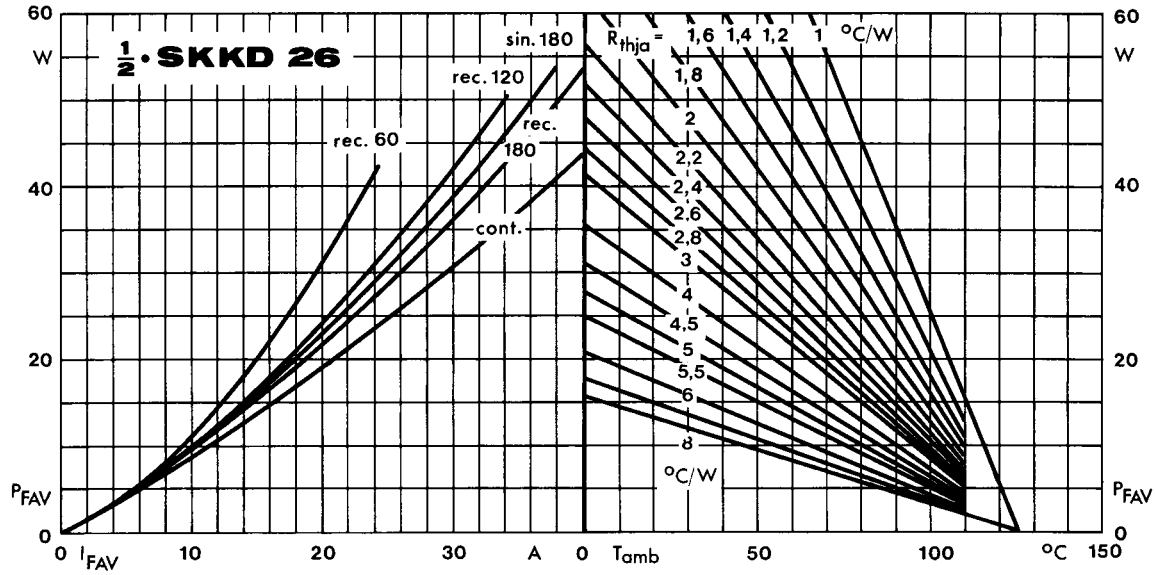


Fig. 11 b Power dissipation per diode vs. forward current and ambient temperature

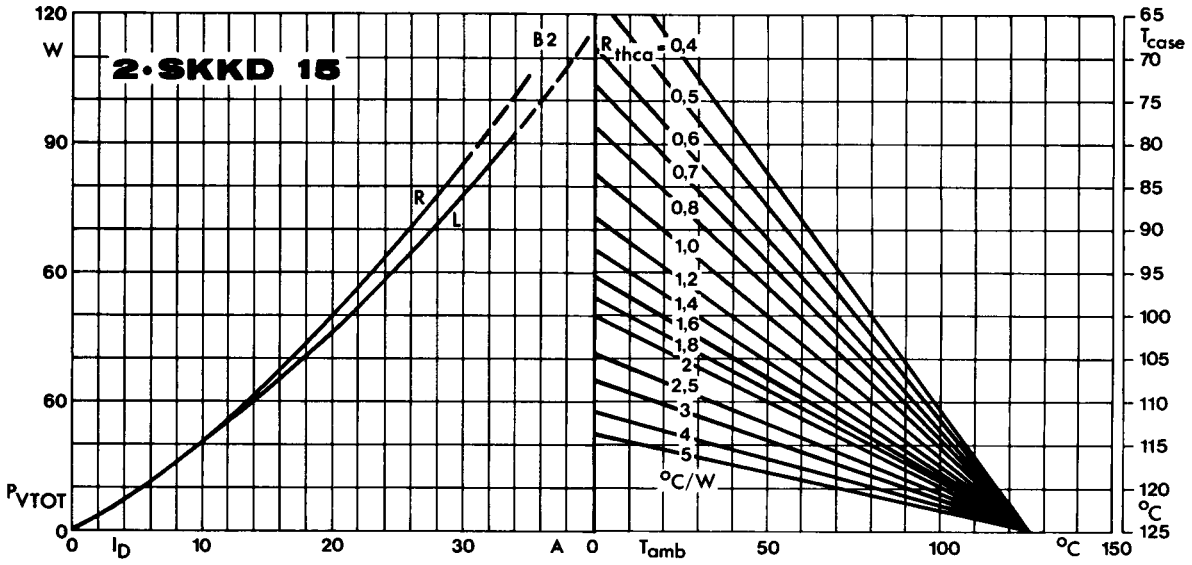


Fig. 12 a Power dissipation of two modules vs. direct current and case temperature

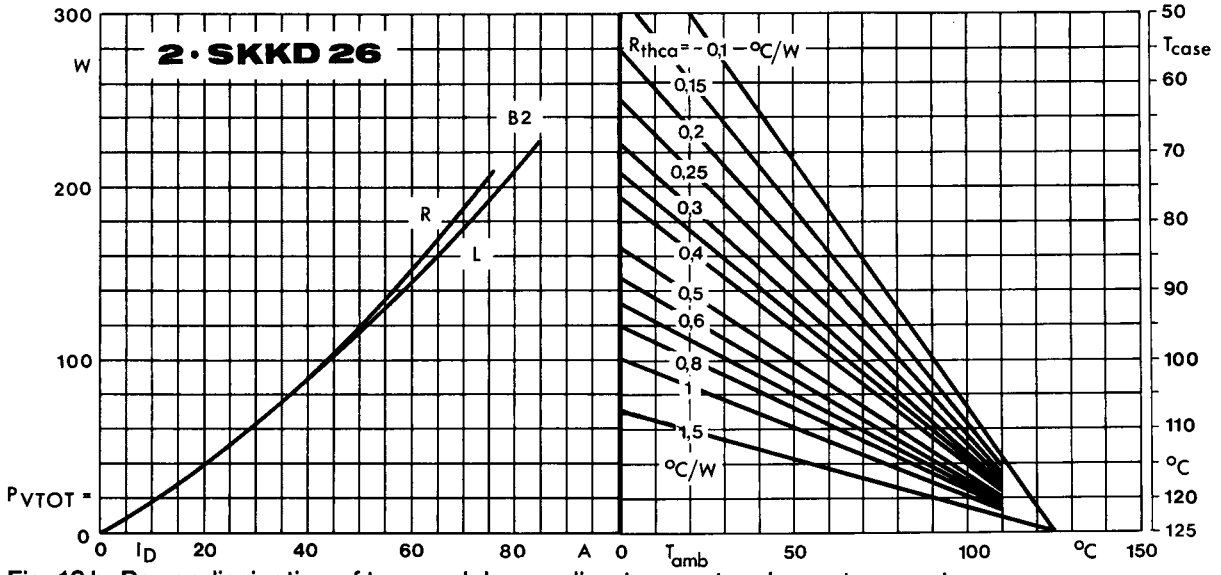


Fig. 12 b Power dissipation of two modules vs. direct current and case temperature

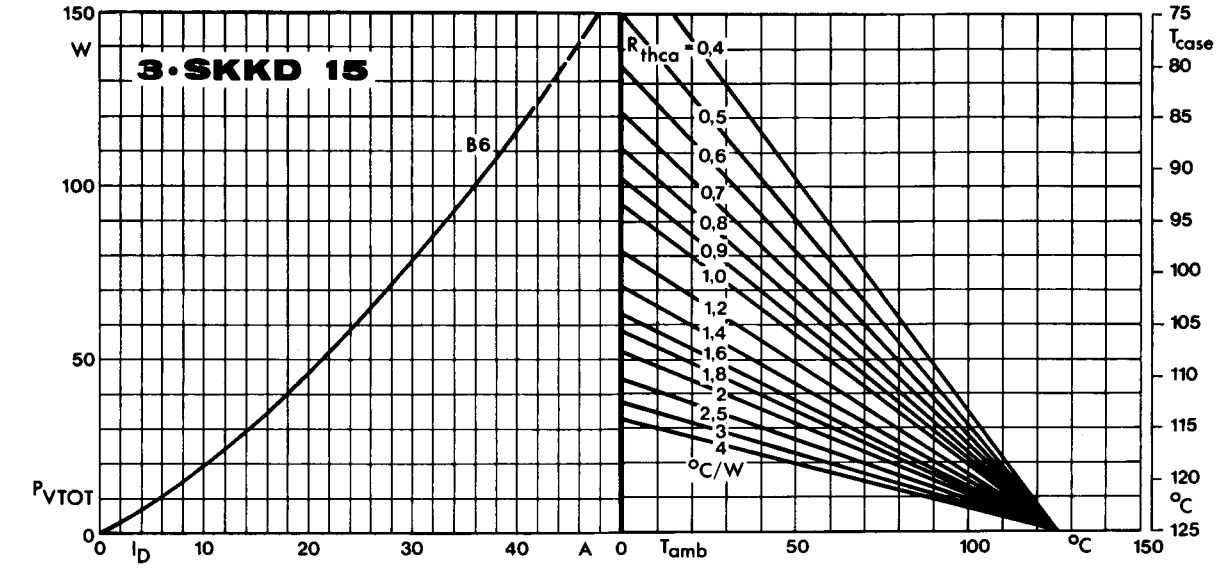


Fig. 13 a Power dissipation of three modules vs. direct current and case temperature

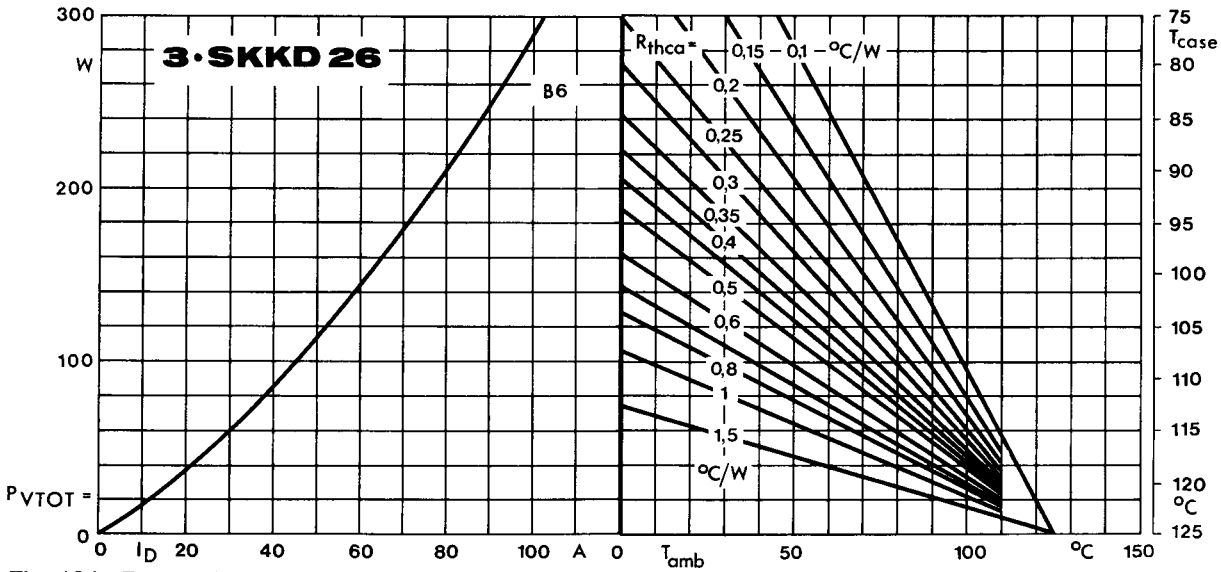


Fig. 13 b Power dissipation of three modules vs. direct current and case temperature

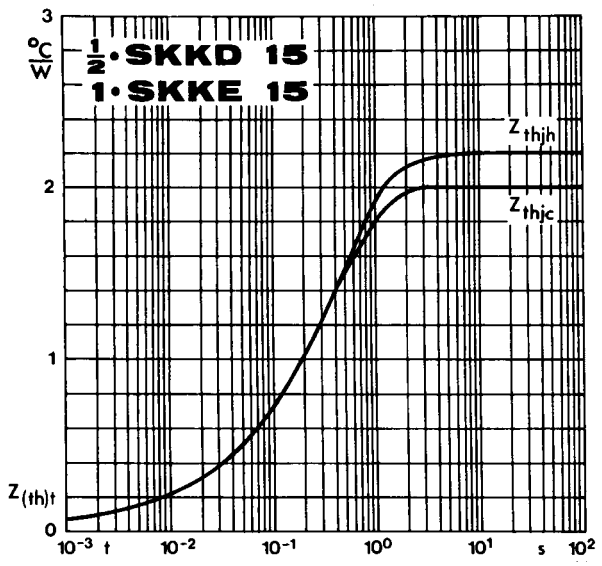


Fig. 14 a Transient thermal impedance vs. time

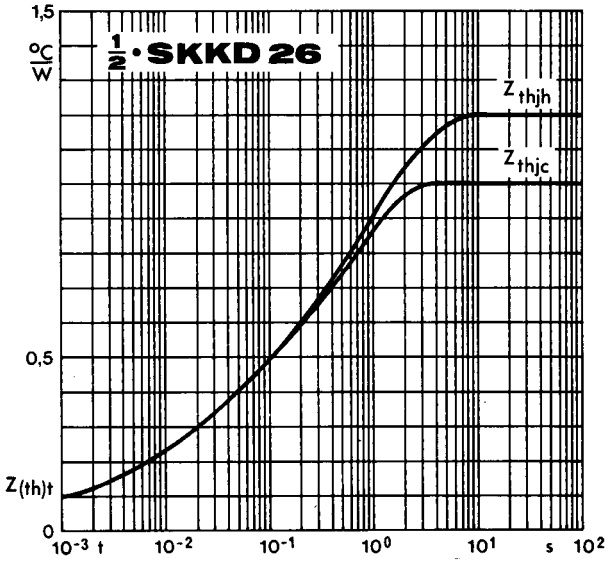


Fig. 14 b Transient thermal impedance vs. time

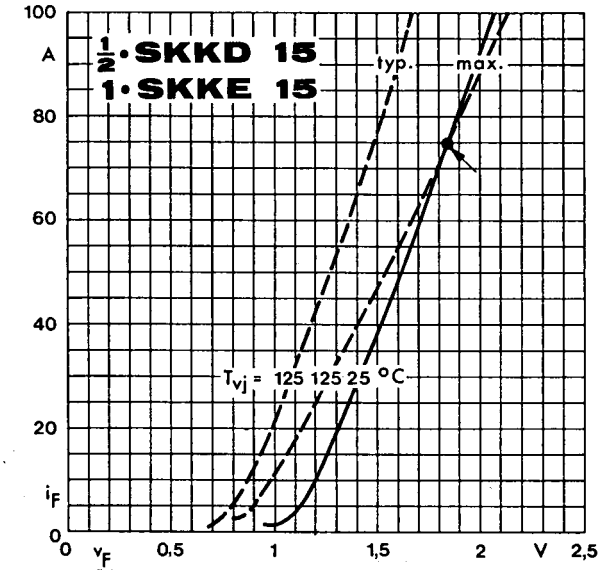


Fig. 15 a Forward characteristics

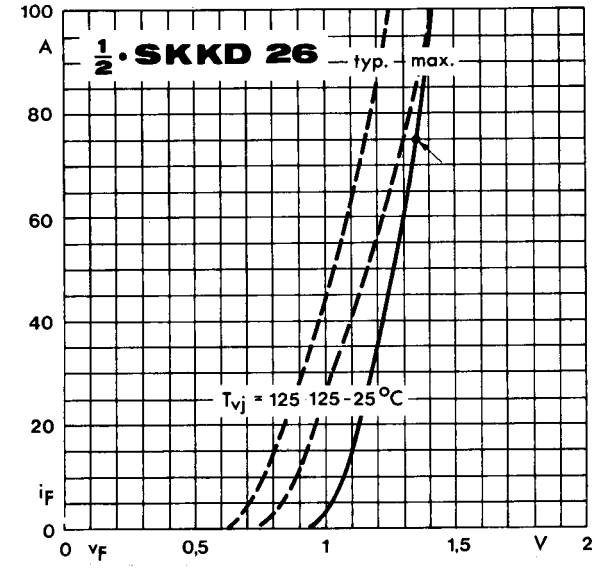


Fig. 15 b Forward characteristics

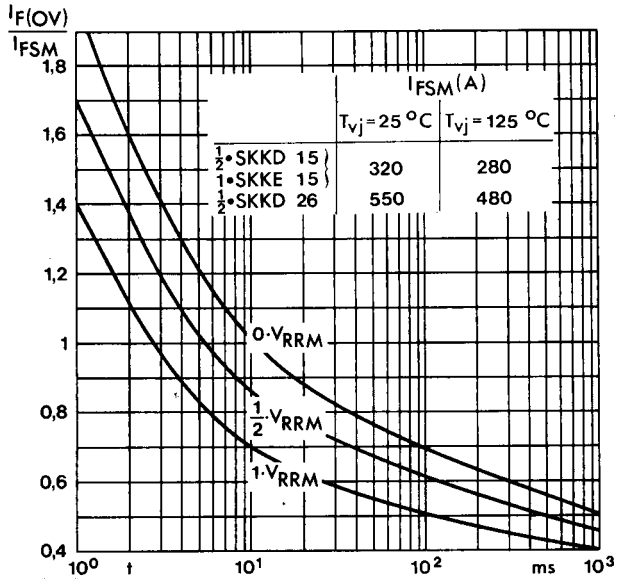


Fig. 16 Surge overload current vs. time

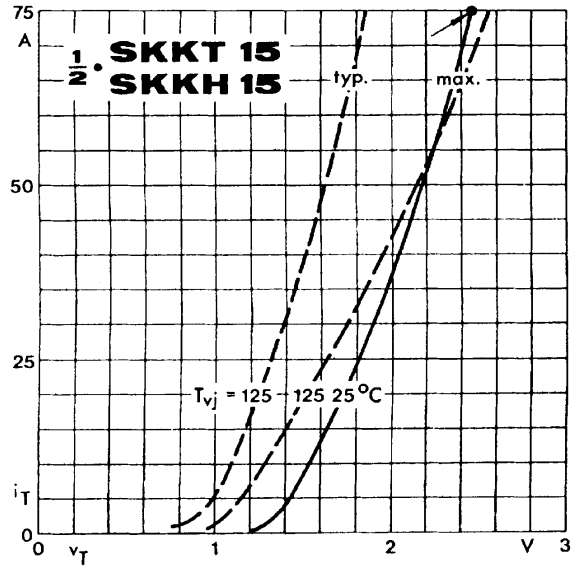


Fig. 8 On-state characteristics

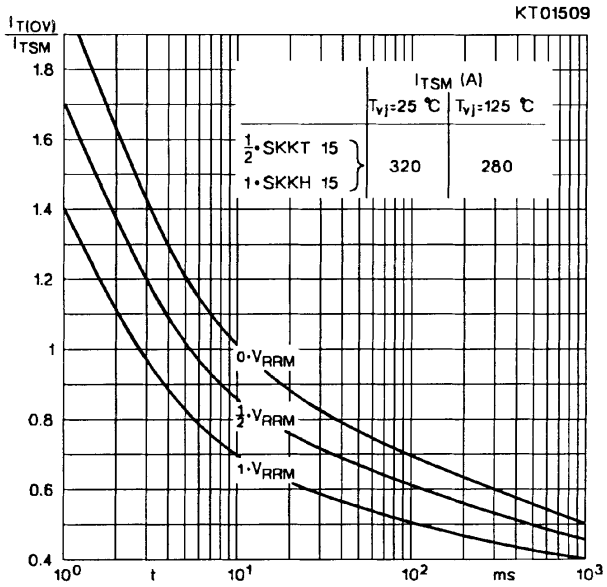


Fig. 9 Surge overload current vs. time

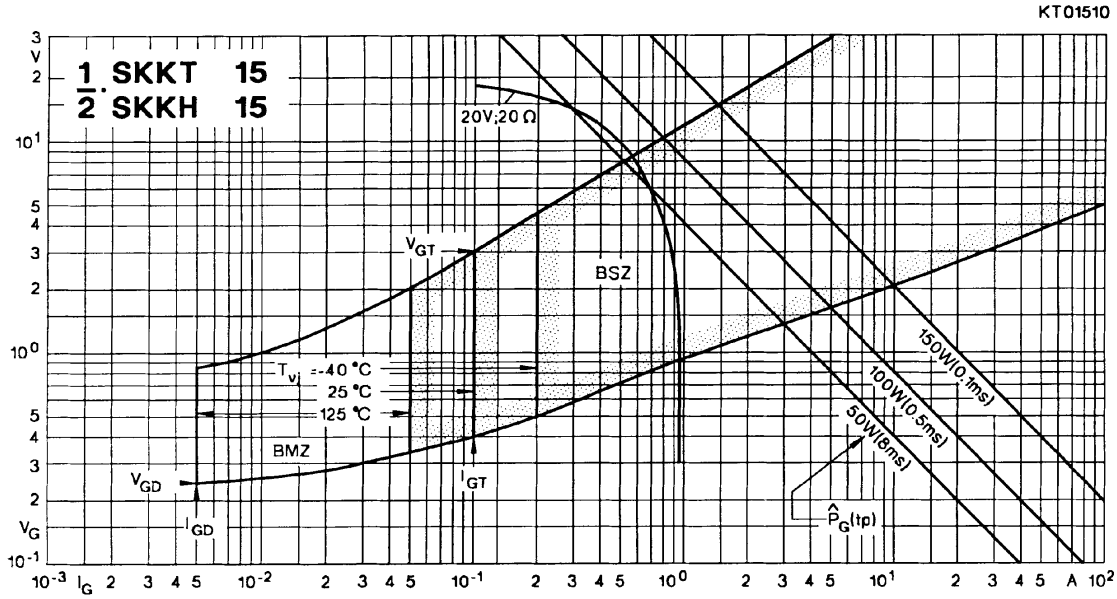
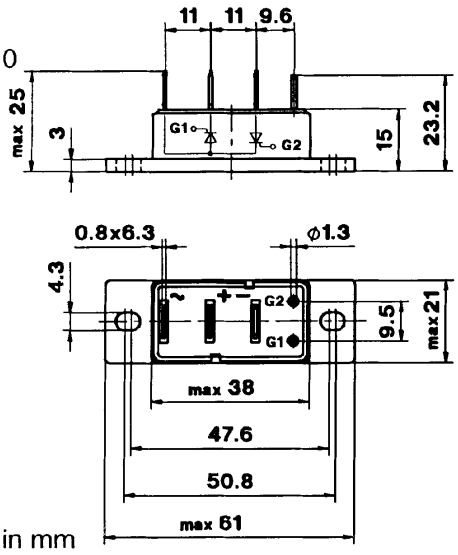


Fig. 10 Gate trigger characteristics

SKKT 15

Case A 1

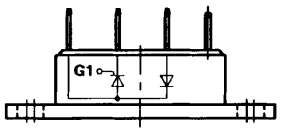
SEMIPACK 0



Dimensions in mm

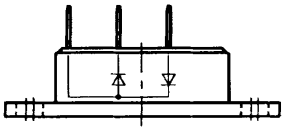
SKKH 15

Case A 2



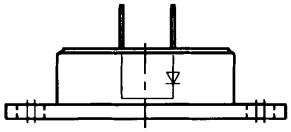
SKKD 15

Case A 3



SKKE 15

Case A 4



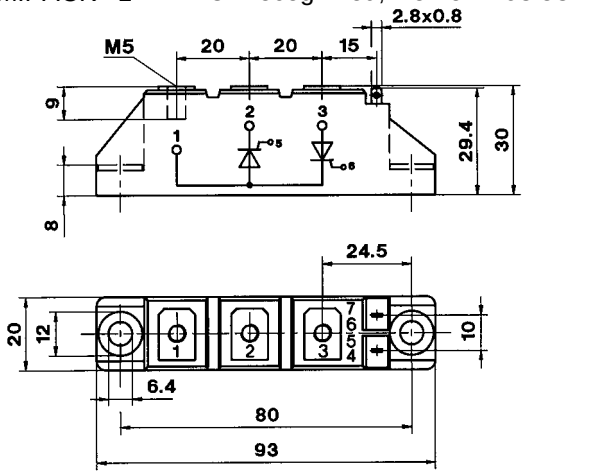
SKKT 19 . . . 105

Case A 5

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

SEMIPACK® 1

UL recognized, file no. E 63 532



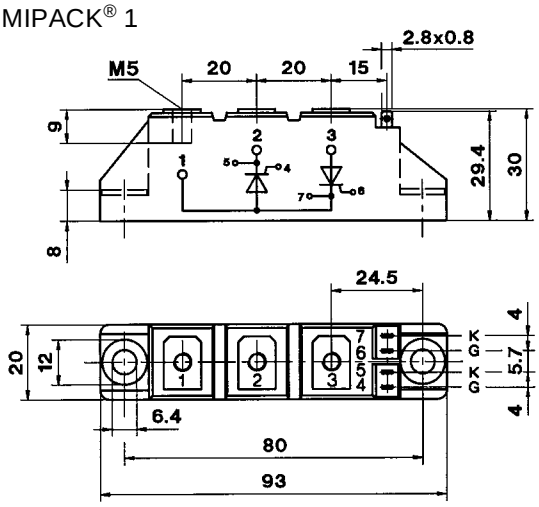
Dimensions in mm

SKKT 20/ . . . 106/

Case A 46

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

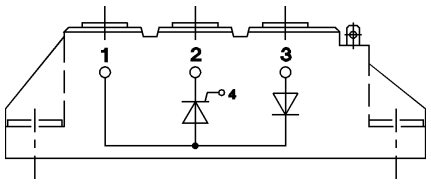
SEMIPACK® 1



Dimensions in mm

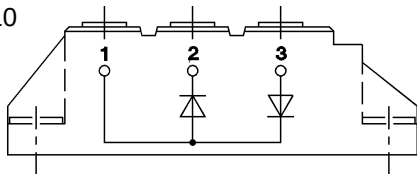
SKKH 26 . . . 105

Case A 6



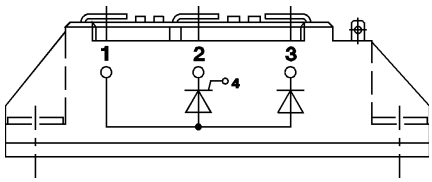
SKKD 26 . . . 100

Case A 10



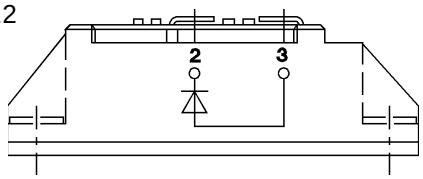
SKNH 56 . . . 91

Case A 7



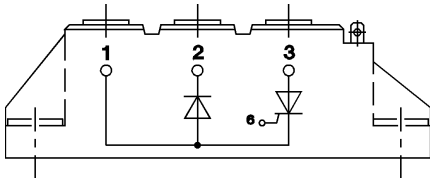
SKKE 81

Case A 12



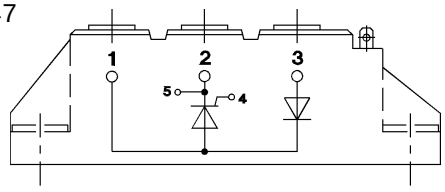
SKKL 56 . . . 105

Case A 9



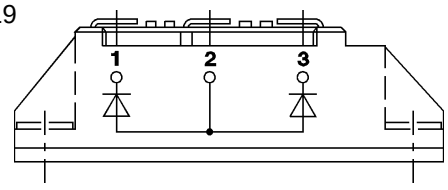
SKKH 27 . . . 106

Case A 47



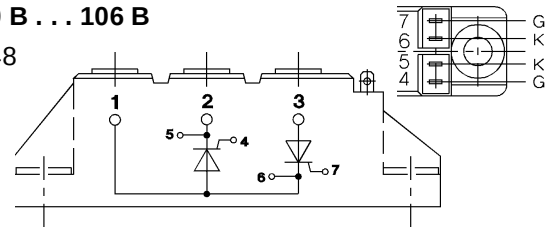
SKND 46 . . . 81

Case A 19



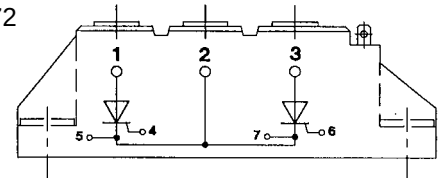
SKKT 20 B . . . 106 B

Case A 48



SKMT 92

Case A 72



SKKL 42 . . . 106

Case A 59