

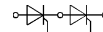
## SEMPACK® 0 Thyristor/ Diode Modules

### SKKT 15 SKKH 15

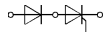


V <sub>RSM</sub>	V <sub>RRM</sub> V <sub>DRM</sub>	(dv/dt) <sub>cr</sub>	I <sub>T(RMS)</sub> (maximum values for continuous operation)	
			24 A <sup>1)</sup> ; 28 A <sup>2)</sup>	24 A <sup>1)</sup> ; 28 A <sup>2)</sup>
V	V	V/μs	I <sub>TAV</sub> (sin. 180; T <sub>case</sub> = 65 °C) 17,5 A <sup>2)</sup>	
500	400	500	<b>SKKT 15/04</b>	<b>SKKH 15/04</b>
700	600	500	<b>SKKT 15/06</b>	<b>SKKH 15/06</b>
900	800	500	<b>SKKT 15/08</b>	<b>SKKH 15/08</b>
1300	1200	500	<b>SKKT 15/12</b>	<b>SKKH 15/12</b>
1500	1400	500	<b>SKKT 15/14</b>	<b>SKKH 15/14</b>
1700	1600	500	<b>SKKT 15/16</b>	<b>SKKH 15/16</b>

Symbol	Conditions	SKKT 15 SKKH 15
I <sub>TAV</sub>	sin. 180; T <sub>case</sub> = 65 °C T <sub>case</sub> = 75 °C	17,5 A <sup>2)</sup> 15 A <sup>1)</sup>
I <sub>D</sub>	B2/B6   T <sub>amb</sub> = 45 °C; P 13A/100	14 A/17 A
I <sub>RMS</sub>	W1/W3   T <sub>amb</sub> = 45 °C; P 13A/100	21 A/3 x 12 A
I <sub>TSM</sub>	T <sub>vj</sub> = 25 °C; 10 ms T <sub>vj</sub> = 125 °C; 10 ms	320 A 280 A
i <sup>2</sup> t	T <sub>vj</sub> = 25 °C; 8,3 ... 10 ms T <sub>vj</sub> = 125 °C; 8,3 ... 10 ms	510 A <sup>2</sup> s 390 A <sup>2</sup> s
t <sub>gd</sub>	T <sub>vj</sub> = 25 °C; I <sub>G</sub> = 1 A; di <sub>G</sub> /dt = 1 A/μs	1 μs
t <sub>gr</sub>	V <sub>D</sub> = 0,67 · V <sub>DRM</sub>	1 μs
(di/dt) <sub>cr</sub>	T <sub>vj</sub> = 125 °C	100 A/μs
t <sub>q</sub>	T <sub>vj</sub> = 125 °C	typ. 80 μs
I <sub>H</sub>	T <sub>vj</sub> = 25 °C; typ./max.	80 mA/150 mA
I <sub>L</sub>	T <sub>vj</sub> = 25 °C; R <sub>G</sub> = 33 Ω; typ./max.	150 mA/300 mA
V <sub>T</sub>	T <sub>vj</sub> = 25 °C; I <sub>T</sub> = 75 A	max. 2,45 V
V <sub>T(TO)</sub>	T <sub>vj</sub> = 125 °C	1,1 V
r <sub>T</sub>	T <sub>vj</sub> = 125 °C	20 mΩ
I <sub>DD</sub> ; I <sub>RD</sub>	T <sub>vj</sub> = 125 °C; V <sub>DD</sub> = V <sub>DRM</sub> ; V <sub>RD</sub> = V <sub>RRM</sub>	max. 8 mA
V <sub>GT</sub>	T <sub>vj</sub> = 25 °C; d. c.	3 V
I <sub>GT</sub>	T <sub>vj</sub> = 25 °C; d. c.	100 mA
V <sub>GD</sub>	T <sub>vj</sub> = 125 °C; d. c.	0,25 V
I <sub>GD</sub>	T <sub>vj</sub> = 125 °C; d. c.	5 mA
R <sub>thjc</sub>	cont. sin. 180 rec.120	} per thyristor/per module 1,6/0,8 °C/W 1,7/0,9 °C/W 1,8/0,9 °C/W 0,2/0,1 °C/W - 40 ... +125 °C - 40 ... +125 °C
R <sub>thch</sub>		
T <sub>vj</sub>		
T <sub>stg</sub>		
V <sub>isol</sub>	a. c. 50 Hz; r.m.s.; 1 s/1 min	
M <sub>1</sub>	Case to heatsink; SI units/US units	1,5 Nm/13 lb. in. ± 15 % <sup>3)</sup>
a		5 · 9,81 m/s <sup>2</sup>
w	approx.	50 g
Case	→ page B 1 – 30	SKKT 15: A1 SKKH 15: A2



SKKT



SKKH

#### 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)
- Temperature control (e. g. for ovens, chemical processes)
- Professional light dimming (studios, theaters)

<sup>1)</sup> Using tin plated connectors with flexible leads of 6 mm<sup>2</sup> for the main terminals

<sup>2)</sup> Flexible leads of 6 mm<sup>2</sup> soldered to the main terminals

<sup>3)</sup> See the assembly instructions

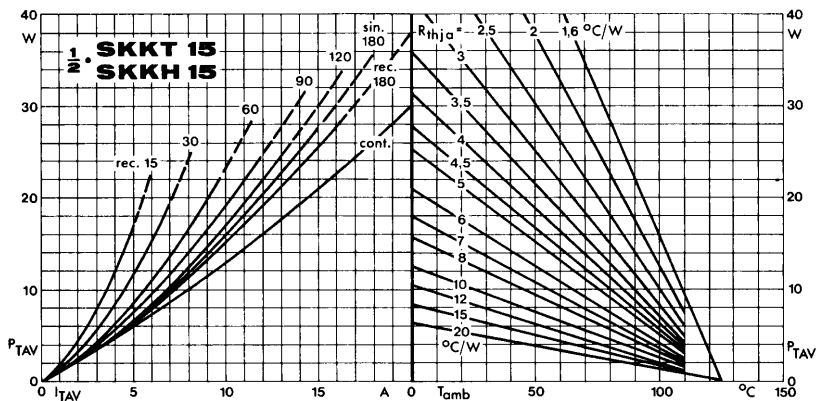


Fig. 1 Power dissipation per thyristor vs. on-state current and ambient temperature

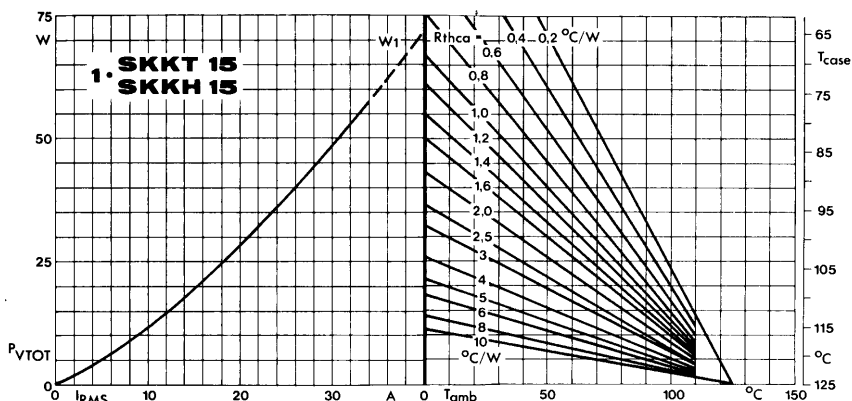


Fig. 2 Power dissipation per module vs. rms current and case temperature

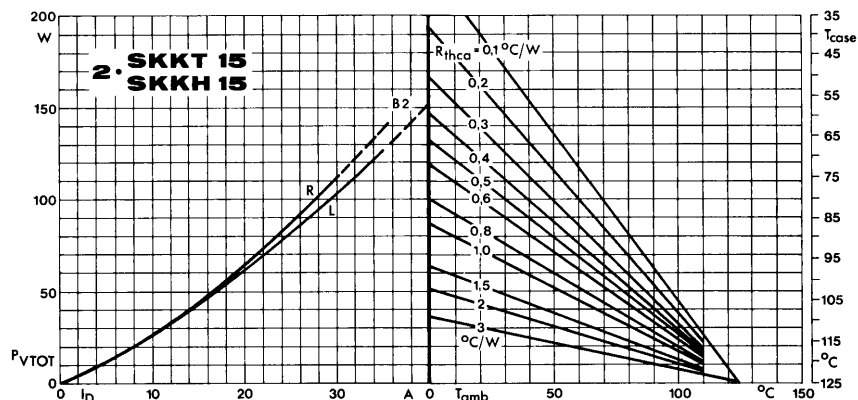


Fig. 3 Power dissipation of two modules vs. direct current and case temperature

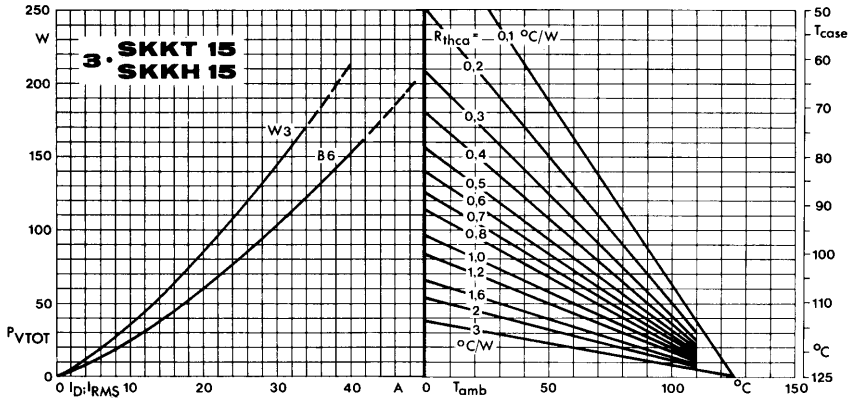


Fig. 4 Power dissipation of three modules vs. direct and rms current and case temperature

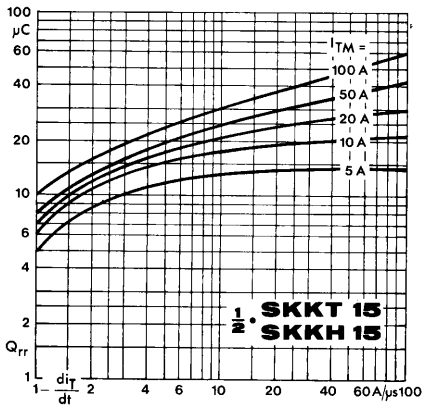


Fig. 5 Recovered charge vs. current decrease

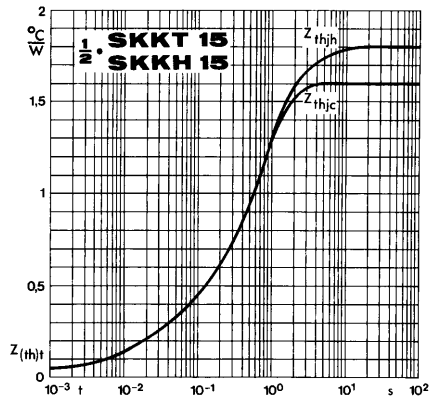


Fig. 6 Transient thermal impedance vs. time

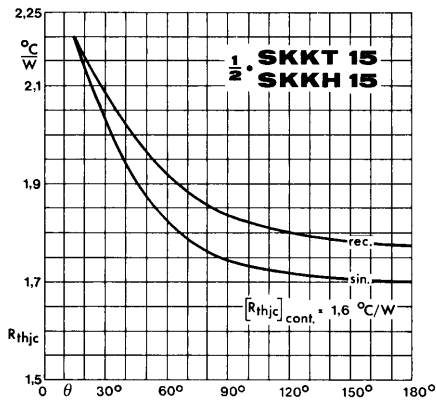


Fig. 7 Thermal resistance vs. conduction angle

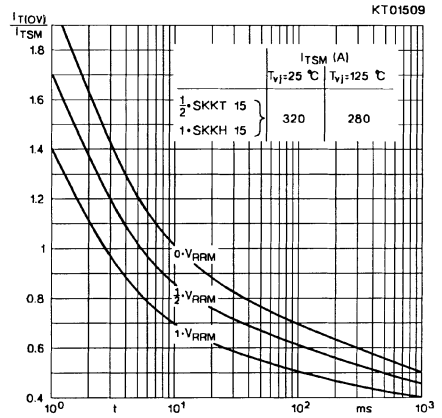
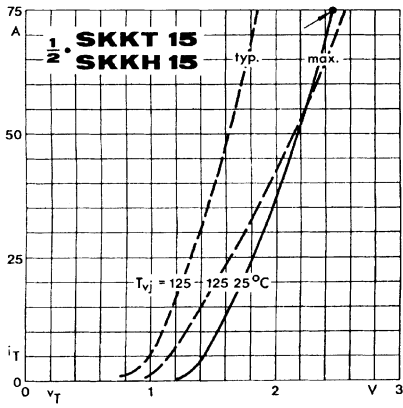


Fig. 8 On-state characteristics

Fig. 9 Surge overload current vs. time

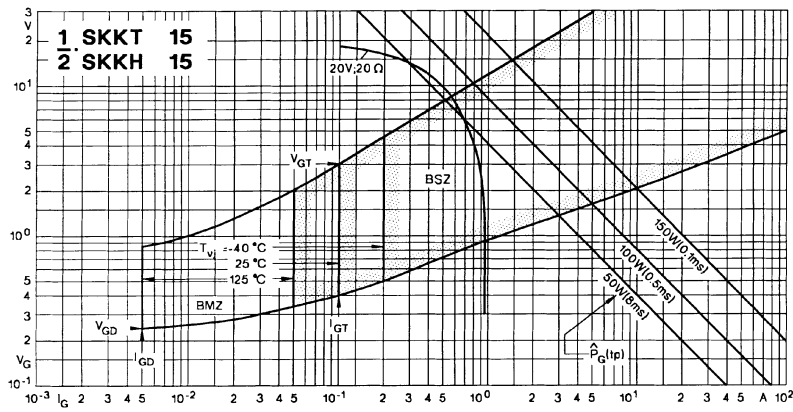


Fig. 10 Gate trigger characteristics

