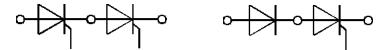
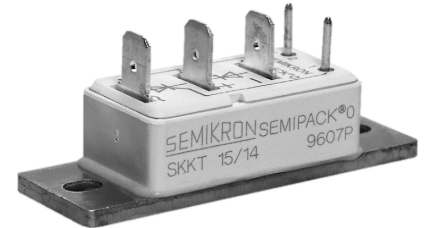


$V_{RSM}$	$V_{RRM}$ $V_{DRM}$	$(dv/dt)_{cr}$	$I_{TRMS}$ (maximum values for continuous operation)	
			24 A <sup>1)</sup> ; 30 A <sup>2)</sup>	24 A <sup>1)</sup> ; 45 A <sup>2)</sup>
V	V	V/ $\mu$ s	$I_{TAV}$ (sin. 180; $T_{case} = 65\text{ }^\circ\text{C}$ )	
			17,5 A <sup>2)</sup>	17,5 A <sup>2)</sup>
500	400	500	<b>SKKT 15/04 D</b>	<b>SKKH 15/04 D</b>
700	600	500	<b>SKKT 15/06 D</b>	<b>SKKH 15/06 D</b>
900	800	500	<b>SKKT 15/08 D</b>	<b>SKKH 15/08 D</b>
1300	1200	1000	<b>SKKT 15/12 E</b>	<b>SKKH 15/12 E</b>
1500	1400	1000	<b>SKKT 15/14 E</b>	<b>SKKH 15/14 E</b>
1700	1600	1000	<b>SKKT 15/16 E</b>	<b>SKKH 15/16 E</b>

## SEMIPACK® 0 Thyristor / Diode Modules

### SKKT 15 SKKH 15



SKKT

SKKH

Symbol	Conditions	SKKT 15 SKKH 15	Units
$I_{TAV}$	sin. 180; $T_{case} = 65\text{ }^\circ\text{C}$ $T_{case} = 75\text{ }^\circ\text{C}$	17,5 <sup>2)</sup> 15 <sup>1)</sup>	A
$I_D$	B2/B6   $T_{amb} = 45\text{ }^\circ\text{C}$ ; P 13A/100	14 / 17	A
$I_{RMS}$	W1/W3   $T_{amb} = 45\text{ }^\circ\text{C}$ ; P 13A/100	21 / 3 x 12	A
$I_{TSM}$	$T_{vj} = 25\text{ }^\circ\text{C}$ ; 10 ms $T_{vj} = 125\text{ }^\circ\text{C}$ ; 10 ms	320 280	A
$i^2t$	$T_{vj} = 25\text{ }^\circ\text{C}$ ; 8,3 ... 10 ms $T_{vj} = 125\text{ }^\circ\text{C}$ ; 8,3 ... 10 ms	510 390	A <sup>2</sup> s A <sup>2</sup> s
$t_{gd}$	$T_{vj} = 25\text{ }^\circ\text{C}$   $I_G = 1\text{ A}$ $di_G/dt = 1\text{ A}/\mu\text{s}$	1	$\mu\text{s}$
$t_{gr}$	$V_D = 0,67 \cdot V_{DRM}$	1	$\mu\text{s}$
$(di/dt)_{cr}$	$T_{vj} = 125\text{ }^\circ\text{C}$	100	A/ $\mu\text{s}$
$t_q$	$T_{vj} = 125\text{ }^\circ\text{C}$	typ. 80	$\mu\text{s}$
$I_H$	$T_{vj} = 25\text{ }^\circ\text{C}$ ; typ./max.	80 / 150	mA
$I_L$	$T_{vj} = 25\text{ }^\circ\text{C}$ ; $R_G = 33\ \Omega$ ; typ./max.	150 / 300	mA
$V_T$	$T_{vj} = 25\text{ }^\circ\text{C}$ ; $I_T = 75\text{ A}$	max. 2,45	V
$V_{T(TO)}$	$T_{vj} = 125\text{ }^\circ\text{C}$	1,1	V
$r_T$	$T_{vj} = 125\text{ }^\circ\text{C}$	20	m $\Omega$
$I_{DD}$ ; $I_{RD}$	$T_{vj} = 125\text{ }^\circ\text{C}$ ; $V_{RD} = V_{RRM}$ $V_{DD} = V_{DRM}$	max. 8	mA
$V_{GT}$	$T_{vj} = 25\text{ }^\circ\text{C}$ ; d.c.	3	V
$I_{GT}$	$T_{vj} = 25\text{ }^\circ\text{C}$ ; d.c.	100	mA
$V_{GD}$	$T_{vj} = 125\text{ }^\circ\text{C}$ ; d.c.	0,25	V
$I_{GD}$	$T_{vj} = 125\text{ }^\circ\text{C}$ ; d.c.	5	mA
$R_{thjh}$	cont. } sin. 180 } per thyristor / rec. 120 } per module	1,6 / 0,8 1,7 / 0,9 1,8 / 0,9	$^\circ\text{C}/\text{W}$ $^\circ\text{C}/\text{W}$ $^\circ\text{C}/\text{W}$
$R_{thch}$		0,2 / 0,1	$^\circ\text{C}/\text{W}$
$T_{vj}$		- 40 ... + 125	$^\circ\text{C}$
$T_{stg}$		- 40 ... + 125	$^\circ\text{C}$
$V_{isol}$	a. c. 50 Hz; r.m.s.; 1 s/1 min	3600 / 3000	V~
$M_1$	Case to heatsink; SI (US) units	1,5 (13 lb. in.) $\pm 15\%$ <sup>3)</sup>	Nm
$a$		5 - 9,81	m/s <sup>2</sup>
$w$	approx.	50	g
Case	→ page B 1 – 30	SKKT 15: A 1 SKKH 15: A 2	

### 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)

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

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

3) See the assembly instructions

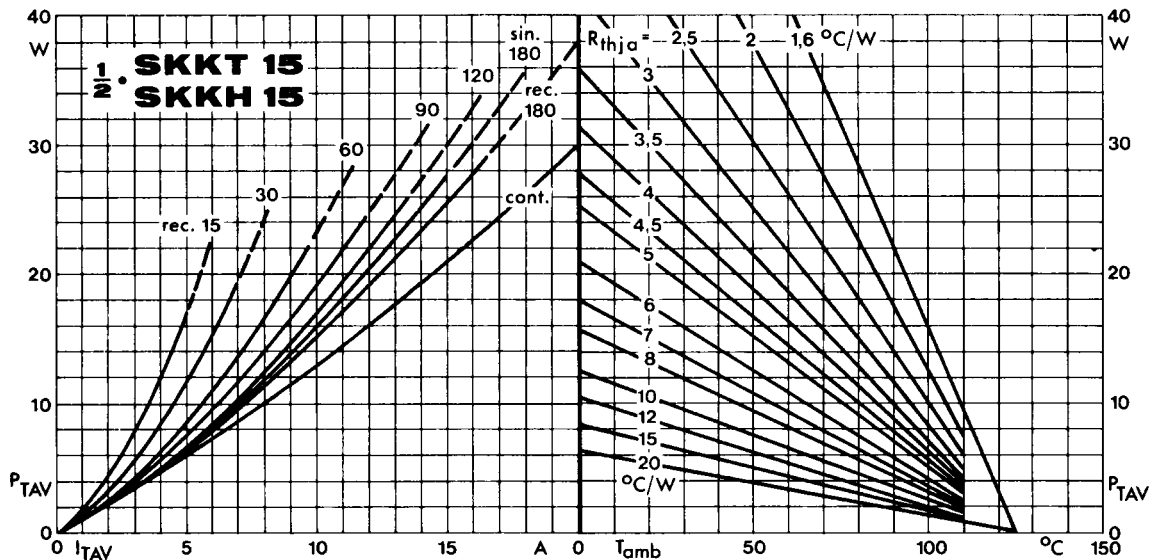


Fig. 1 Power dissipation per thyristor vs. on-state current and ambient temperature

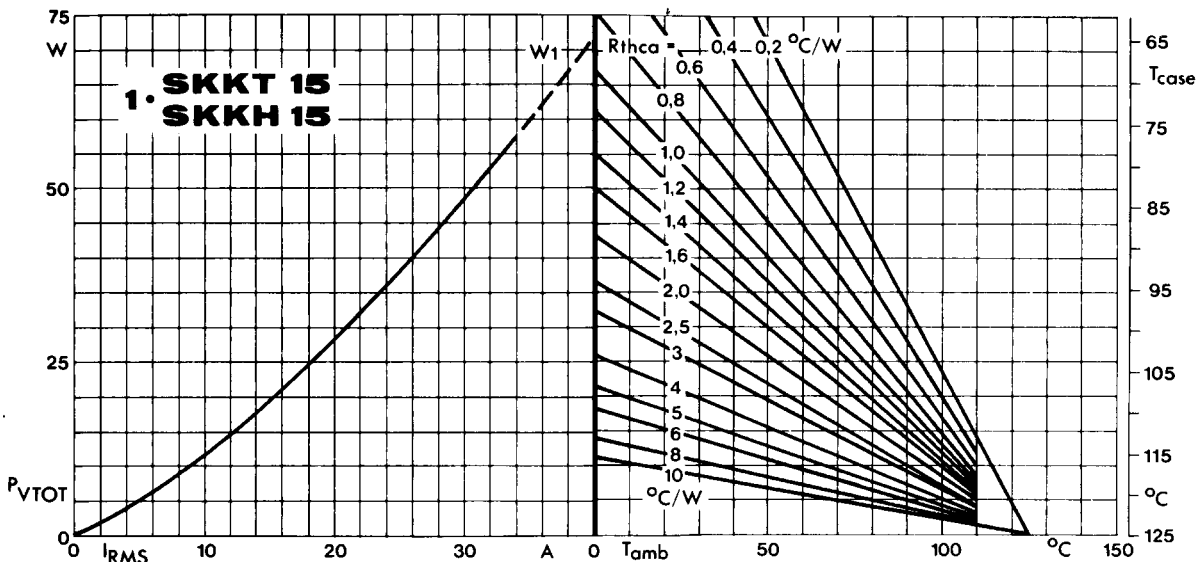


Fig. 2 Power dissipation per module vs. rms current and case temperature

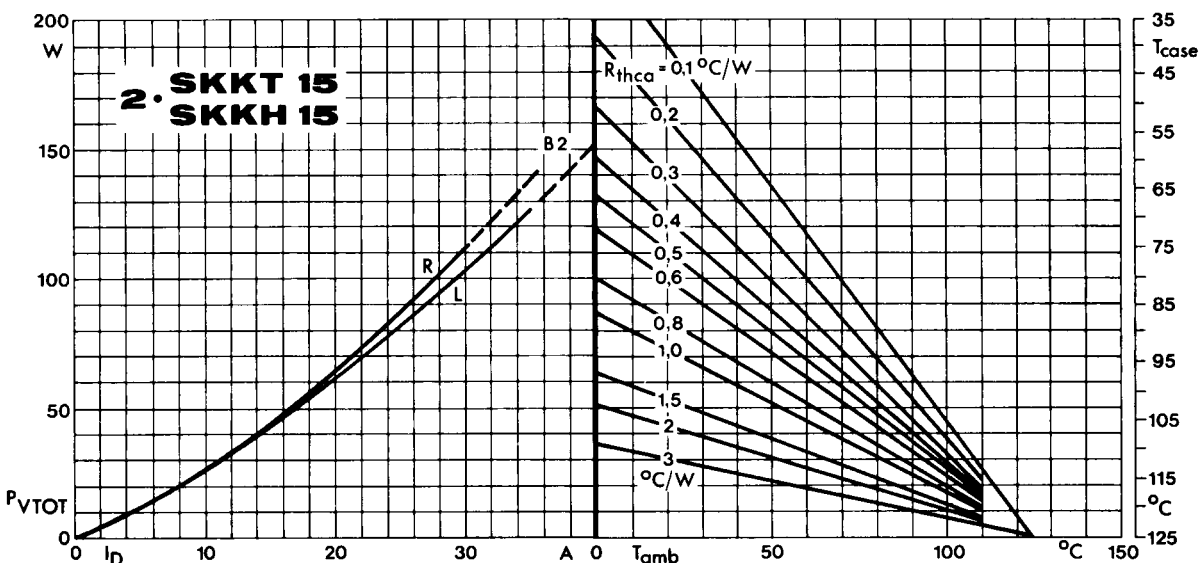


Fig. 3 Power dissipation of two modules vs. direct current and case temperature

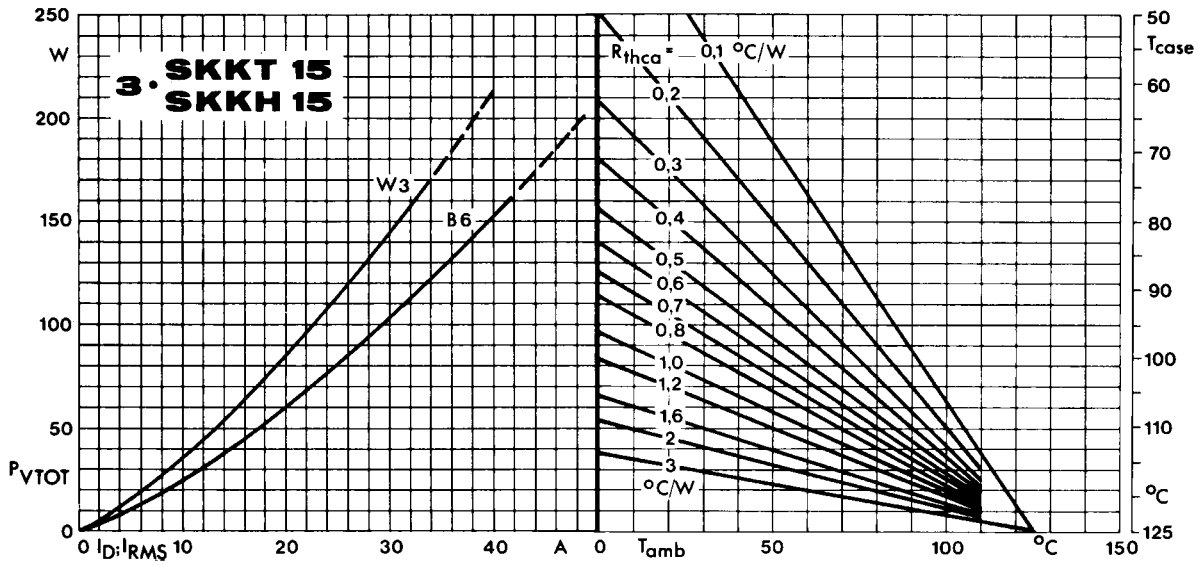


Fig. 4 Power dissipation of three modules vs. direct and rms current and case temperature

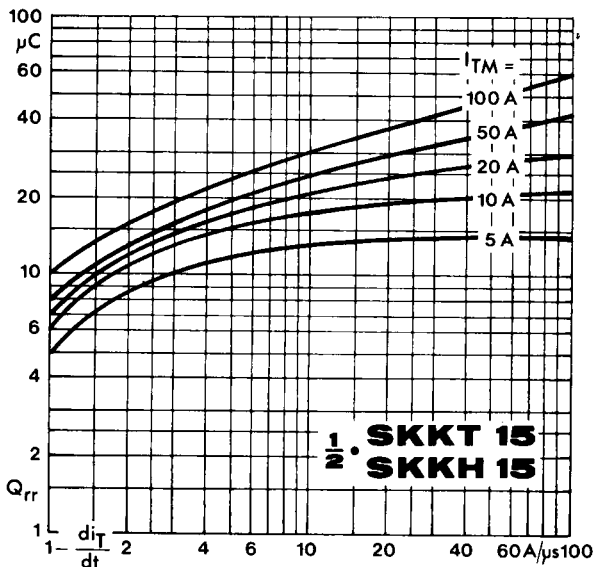


Fig. 5 Recovered charge vs. current decrease

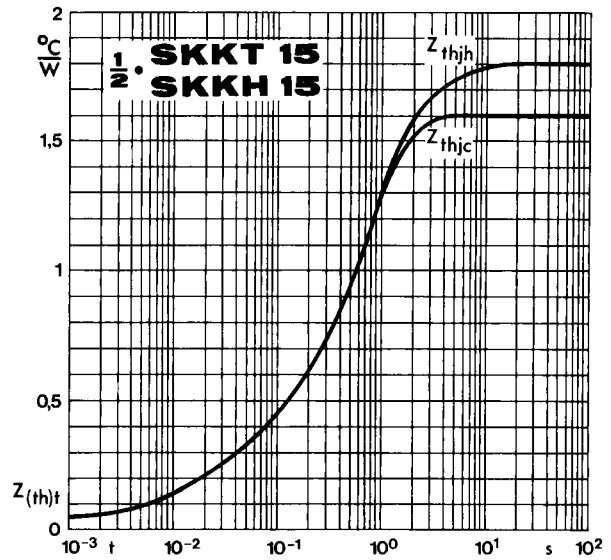


Fig. 6 Transient thermal impedance vs. time

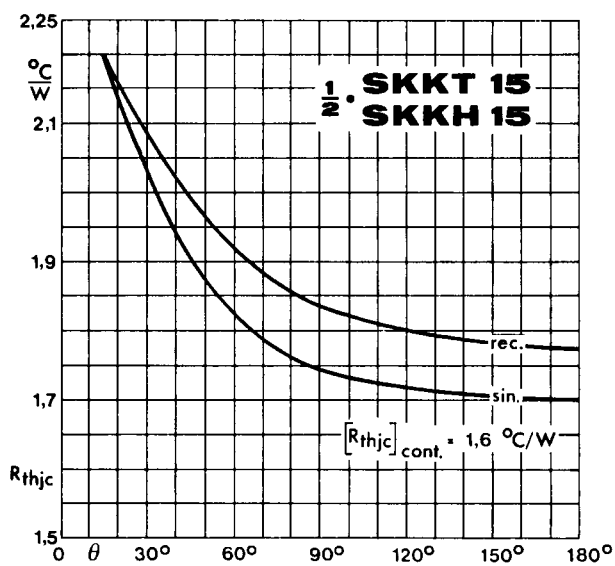


Fig. 7 Thermal resistance vs. conduction angle

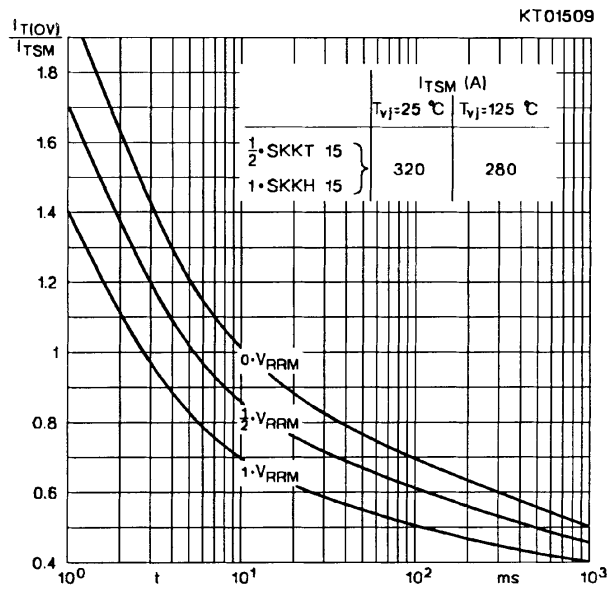
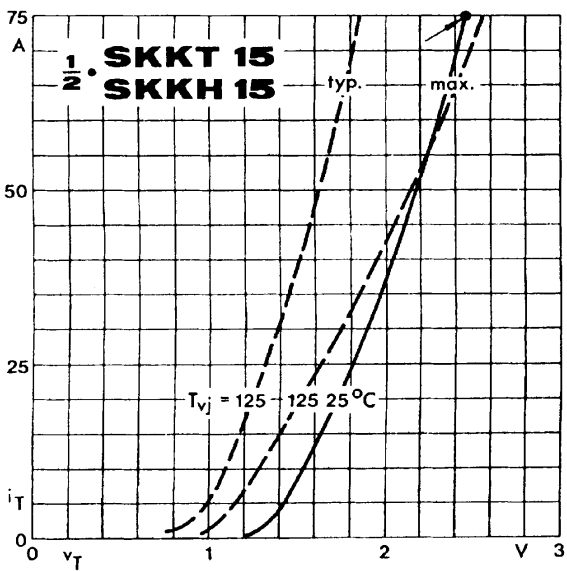


Fig. 8 On-state characteristics

Fig. 9 Surge overload current vs. time

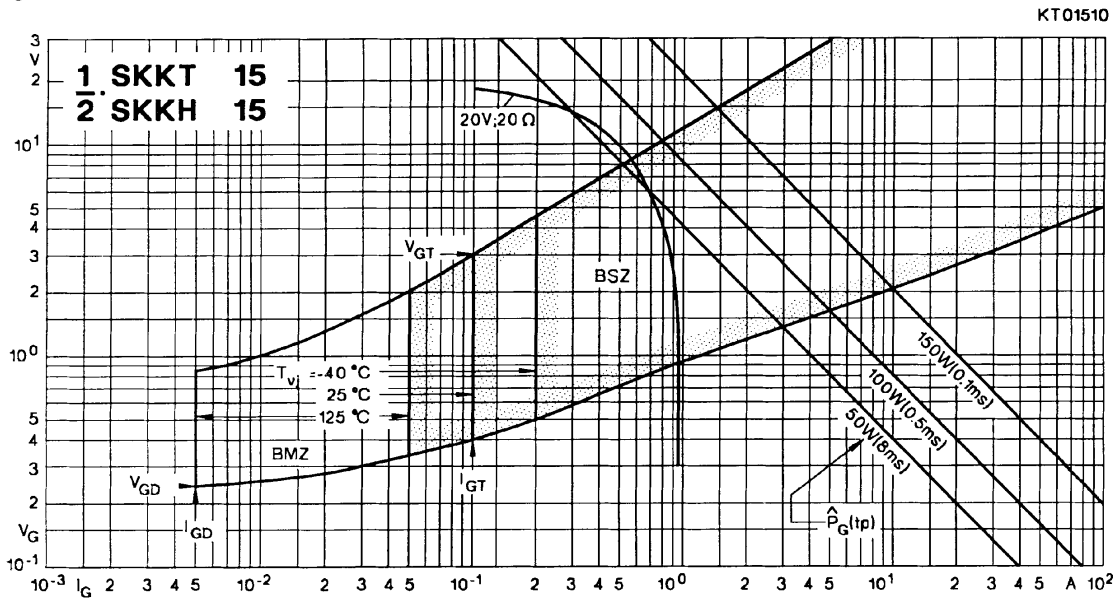


Fig. 10 Gate trigger characteristics

