

SEMPACK® 0 Thyristor/ Diode Modules

SKKT 15 SKKH 15



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

Symbol	Conditions	SKKT 15 SKKH 15
I _{TAV}	sin. 180; T _{case} = 65 °C T _{case} = 75 °C	17,5 A ²⁾ 15 A ¹⁾
I _D	B2/B6 T _{amb} = 45 °C; P 13A/100	14 A/17 A
I _{RMS}	W1/W3 T _{amb} = 45 °C; P 13A/100	21 A/3 x 12 A
I _{TSM}	T _{vj} = 25 °C; 10 ms T _{vj} = 125 °C; 10 ms	320 A 280 A
i ² t	T _{vj} = 25 °C; 8,3 ... 10 ms T _{vj} = 125 °C; 8,3 ... 10 ms	510 A ² s 390 A ² s
t _{gd}	T _{vj} = 25 °C; I _G = 1 A; di _G /dt = 1 A/μs	1 μs
t _{gr}	V _D = 0,67 · V _{DRM}	1 μs
(di/dt) _{cr}	T _{vj} = 125 °C	100 A/μs
t _q	T _{vj} = 125 °C	typ. 80 μs
I _H	T _{vj} = 25 °C; typ./max.	80 mA/150 mA
I _L	T _{vj} = 25 °C; R _G = 33 Ω; typ./max.	150 mA/300 mA
V _T	T _{vj} = 25 °C; I _T = 75 A	max. 2,45 V
V _{T(TO)}	T _{vj} = 125 °C	1,1 V
r _T	T _{vj} = 125 °C	20 mΩ
I _{DD} ; I _{RD}	T _{vj} = 125 °C; V _{DD} = V _{DRM} ; V _{RD} = V _{RRM}	max. 8 mA
V _{GT}	T _{vj} = 25 °C; d. c.	3 V
I _{GT}	T _{vj} = 25 °C; d. c.	100 mA
V _{GD}	T _{vj} = 125 °C; d. c.	0,25 V
I _{GD}	T _{vj} = 125 °C; d. c.	5 mA
R _{thjc}	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
R _{thch}		
T _{vj}		
T _{stg}		
V _{isol}	a. c. 50 Hz; r.m.s.; 1 s/1 min	3600 V~/3000 V~
M ₁	Case to heatsink; SI units/US units	1,5 Nm/13 lb. in. ± 15 % ³⁾
a		5 · 9,81 m/s ²
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)

¹⁾ Using tin plated connectors with flexible leads of 6 mm² for the main terminals

²⁾ Flexible leads of 6 mm² soldered to the main terminals

³⁾ See the assembly instructions

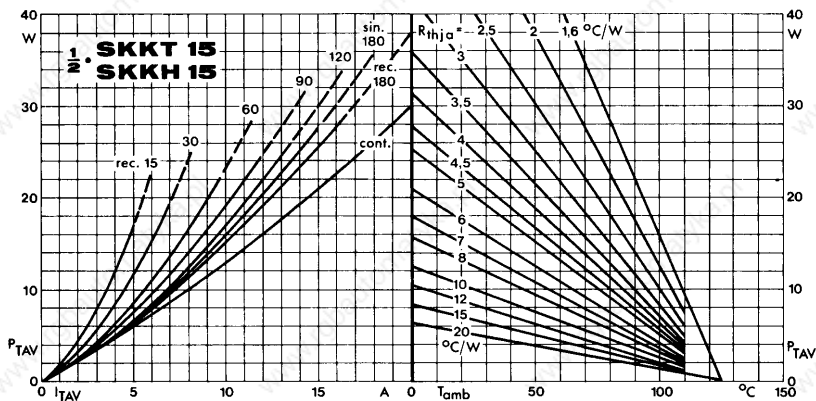


Fig. 1 Power dissipation per thyristor vs. on-state current and ambient temperature

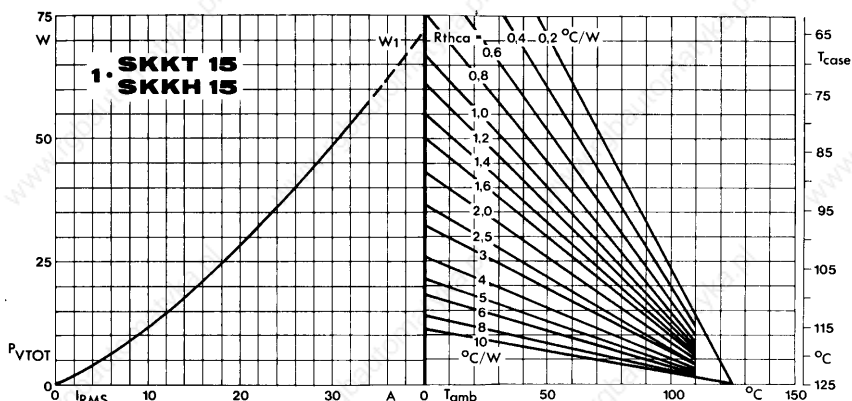


Fig. 2 Power dissipation per module vs. rms current and case temperature

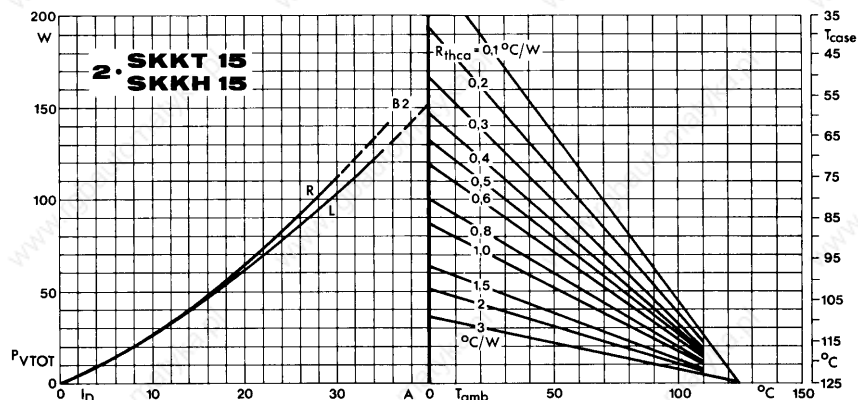


Fig. 3 Power dissipation of two modules vs. direct current and case temperature

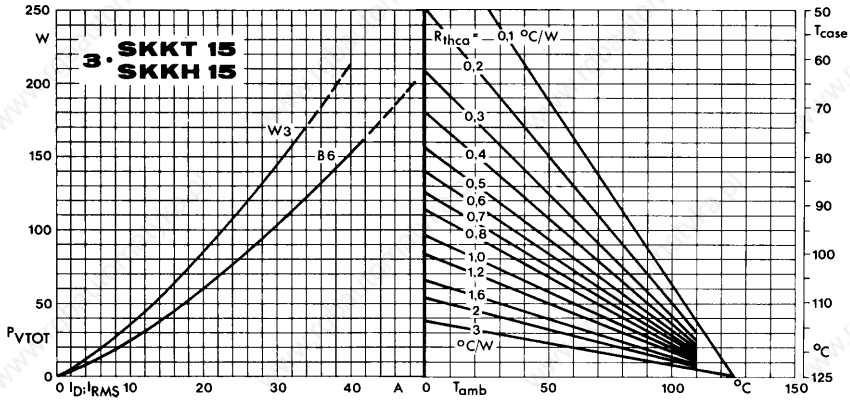


Fig. 4 Power dissipation of three modules vs. direct and rms current and case temperature

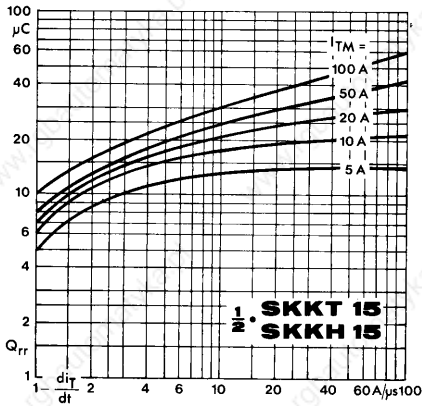


Fig. 5 Recovered charge vs. current decrease

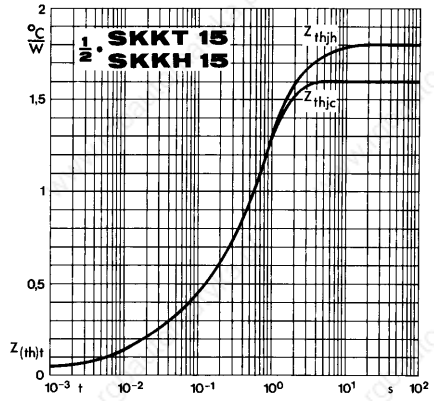


Fig. 6 Transient thermal impedance vs. time

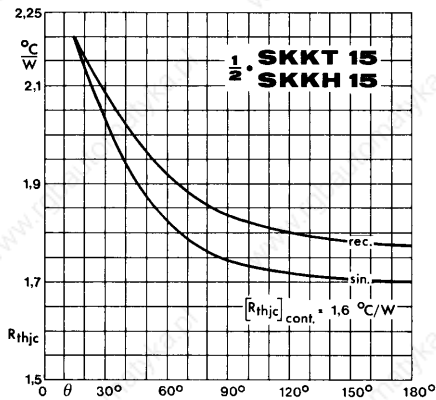


Fig. 7 Thermal resistance vs. conduction angle

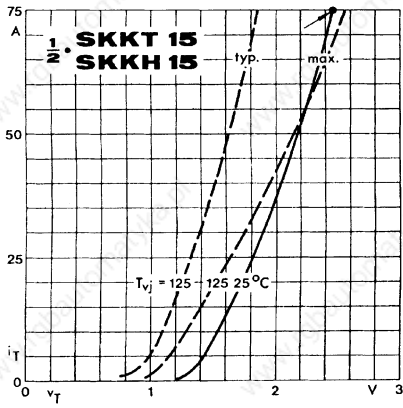


Fig. 8 On-state characteristics

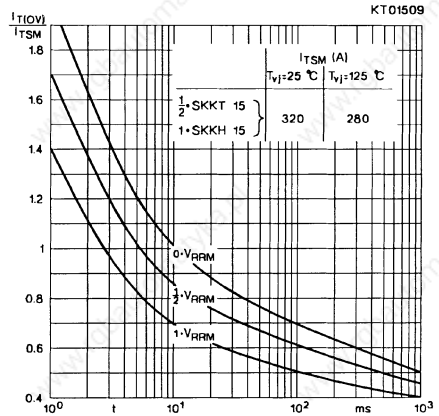


Fig. 9 Surge overload current vs. time

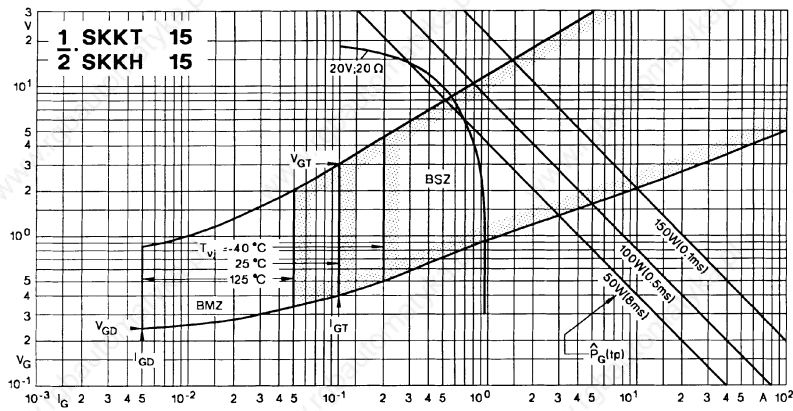


Fig. 10 Gate trigger characteristics

