SKKT 460, SKKH 460

THYRISTOR BRIDGE,SCR,BRIDGE

SEMIPACK ®5

Thyristor / Diode Modules

SKKT 460

SKKH 460

Features

- Heat transfer through aluminium nitride ceramic insulated metal baseplate
- Precious metal pressure contacts for high reliability
- UL recognized, file no. E63532

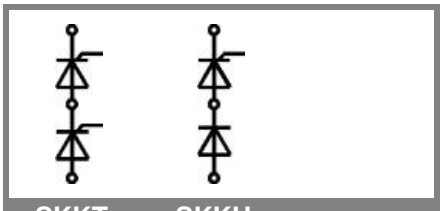
Typical Applications*

- AC motor softstarters
- Input converters for AC inverter drives
- DC motor control (e.g. for machine tools)
- Temperature control (e.g. for ovens , chemical, processes)
- Professionals light dimming (studios, theaters)

1) see assembly instructions

V_{RSM} V	V_{RRM}, V_{DRM} V	I_{TRMS} = 800 A (maximum value for continuous operation) I_{TAV} = 460 A (sin. 180; T_c = 85 °C)		
1700	1600	SKKT 460/16E	SKKH 460/16E	
2300	2200	SKKT 460/22E H4	SKKH 460/22E H4	

Symbol	Conditions	Values	Units
I_{TAV}	sin. 180; T_c = 85 (100) °C;	460 (335)	A
I_{TSM}	T_{vj} = 25 °C; 10 ms	18000	A
	T_{vj} = 130 °C; 10 ms	15500	A
i²t	T_{vj} = 25 °C; 8,3 .. 10 ms	1620000	A²s
	T_{vj} = 130 °C; 8,3 ... 10 ms	1200000	A²s
V_T	T_{vj} = 25 °C; I_T = 1400 A	max. 1,6	V
$V_{T(TO)}$	T_{vj} = 130 °C	max. 0,88	V
r_T	T_{vj} = 130 °C	max. 0,45	mΩ
I_{DD}; I_{RD}	T_{vj} = 130 °C; V_{RD} = V_{RRM}; V_{DD} = V_{DRM}	max. 240	mA
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}	2	µs
$(di/dt)_{cr}$	T_{vj} = 130 °C	max. 250	A/µs
$(dv/dt)_{cr}$	T_{vj} = 130 °C	max. 1000	V/µs
t_q	T_{vj} = 130 °C ,	100 .. 200	µs
I_H	T_{vj} = 25 °C; typ. / max.	150 / 500	mA
I_L	T_{vj} = 25 °C; R_G = 33 Ω; typ. / max.	300 / 2000	mA
V_{GT}	T_{vj} = 25 °C; d.c.	min. 3	V
I_{GT}	T_{vj} = 25 °C; d.c.	min. 200	mA
V_{GD}	T_{vj} = 130 °C; d.c.	max. 0,25	V
I_{GD}	T_{vj} = 130 °C; d.c.	max. 10	mA
$R_{th(j-c)}$	cont.; per thyristor / per module	0,072 / 0,035	K/W
$R_{th(j-c)}$	sin. 180°; per thyristor / per module	0,074 / 0,037	K/W
$R_{th(j-c)}$	rec. 120°; per thyristor / per module	0,078 / 0,039	K/W
$R_{th(c-s)}$	per thyristor / per module	0,02 / 0,01	K/W
T_{vj}		- 40 ... + 130	°C
T_{stg}		- 40 ... + 125	°C
V_{isol}	a.c. 50 Hz; r.m.s.; 1 s / 1 min.	3600 / 3000	V~
V_{isol}	a.c. 50 Hz; r.m.s.; 1 s / 1 min. for SKK...H4	4800 / 4000	V~
M_s	to heatsink	5 ± 15% 1)	Nm
M_t	to terminals	12 ± 15%	Nm
a		5 * 9,81	m/s²
m	approx.	1400	g
Case	SKKT	A 60b	
	SKKH	A 66b	



SKKT SKKH

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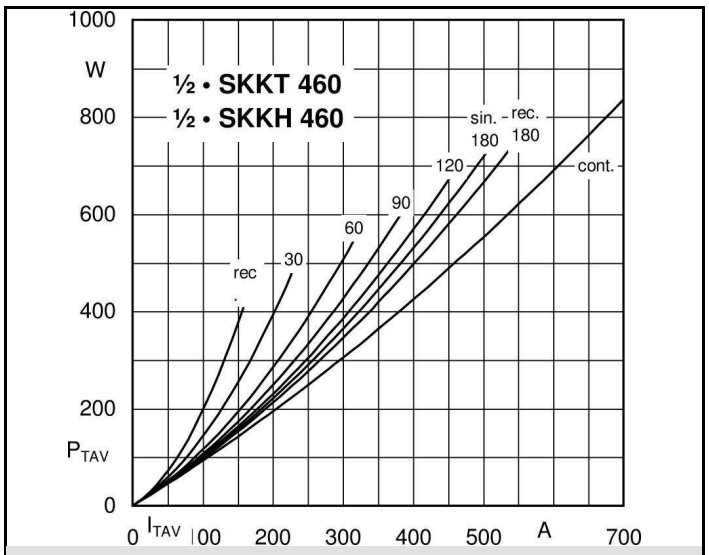

Fig. 1l Power dissipation per thyristor vs. on-state current

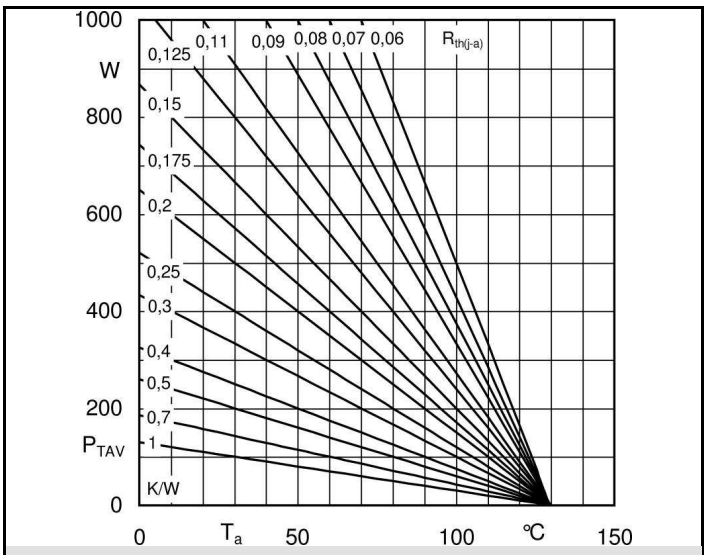

Fig. 1r Power dissipation per thyristor vs. ambient temperature

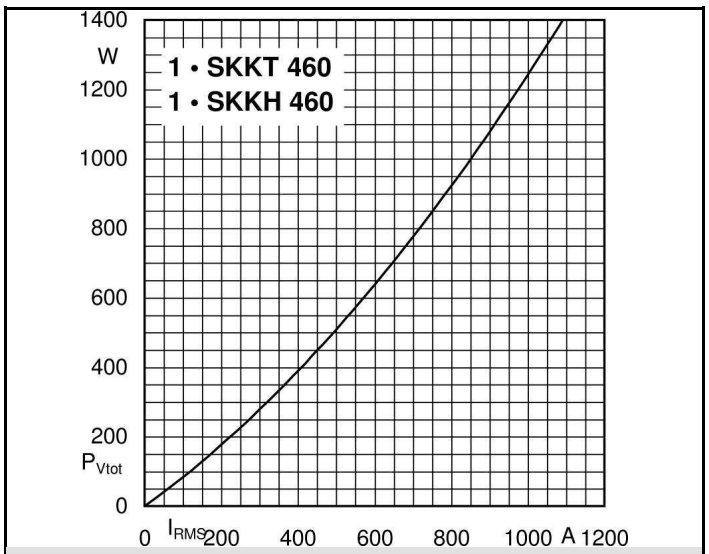

Fig. 2l Power dissipation per module vs. rms current

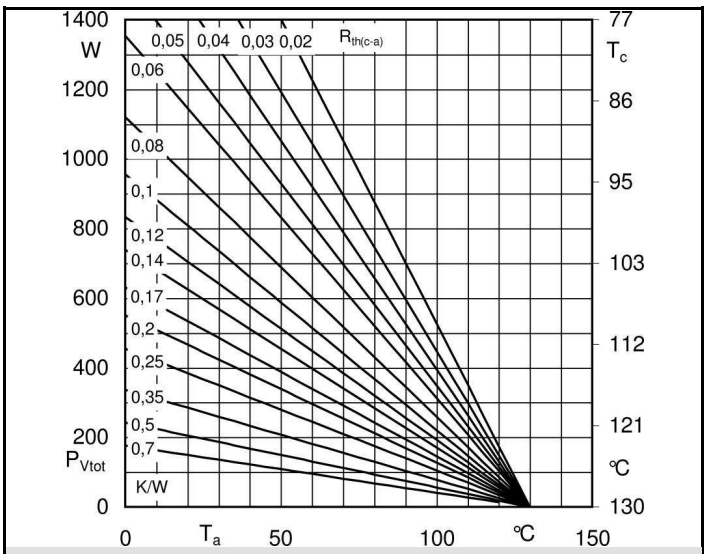

Fig. 2R Power dissipation per modules vs. case temp.

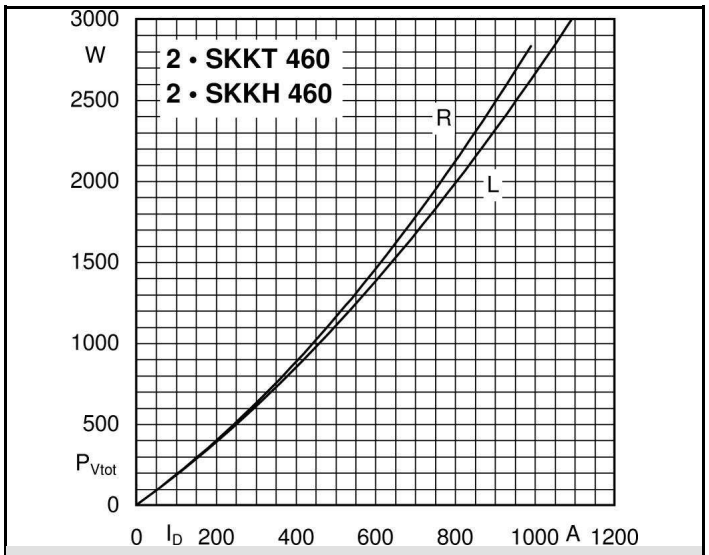

Fig. 3L Power dissipation of two modules vs. direct current

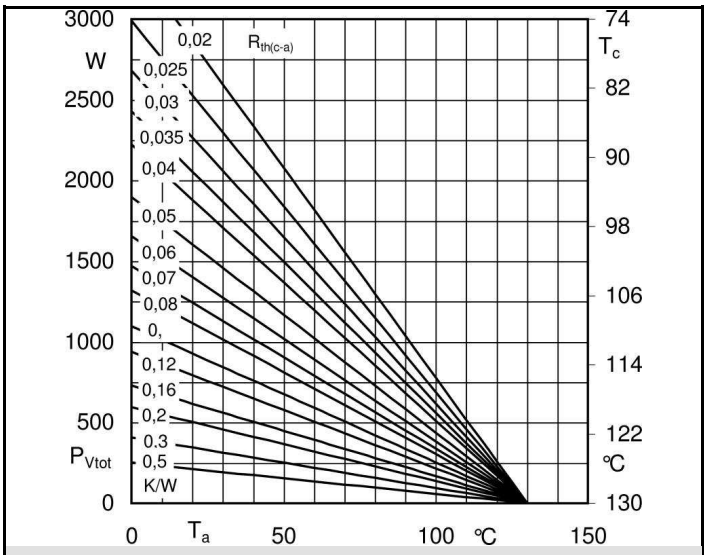

Fig. 3R Power dissipation of two modules vs. case temp.

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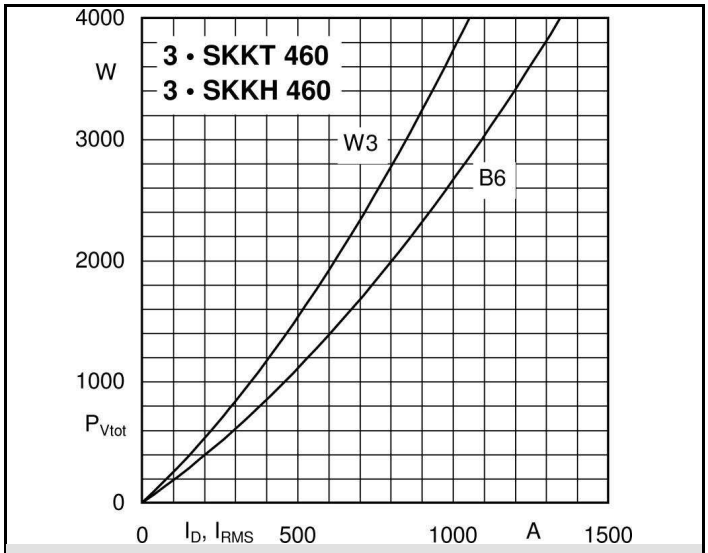

Fig. 4L Power dissipation of three modules vs. direct and rms current

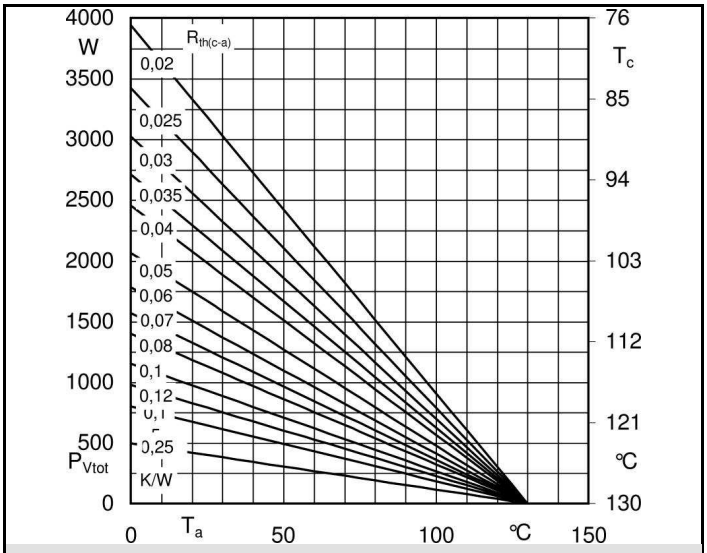

Fig. 4R Power dissipation of three modules vs. case temp.

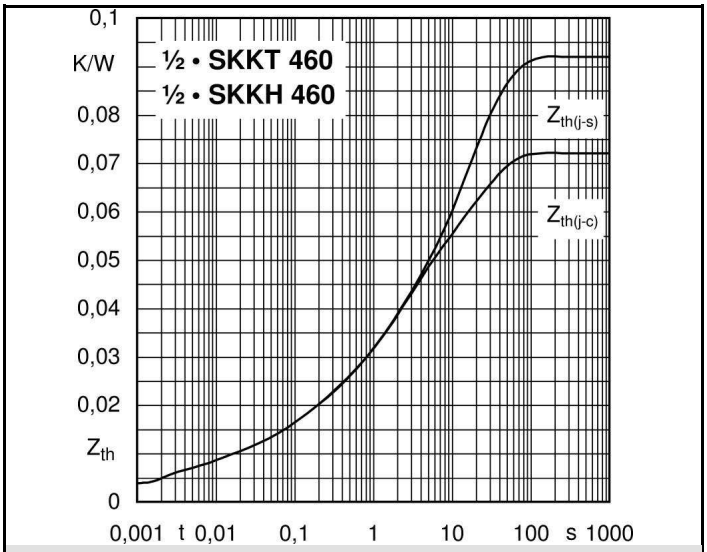

Fig. 6 Transient thermal impedance vs. time

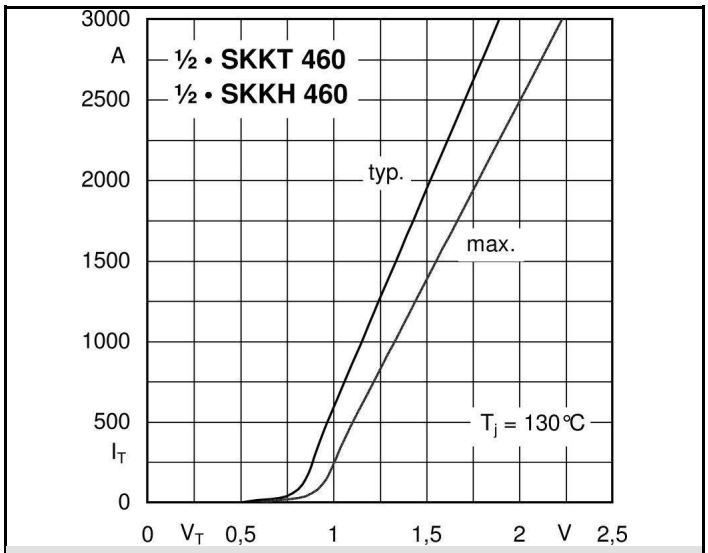

Fig. 7 On-state characteristics

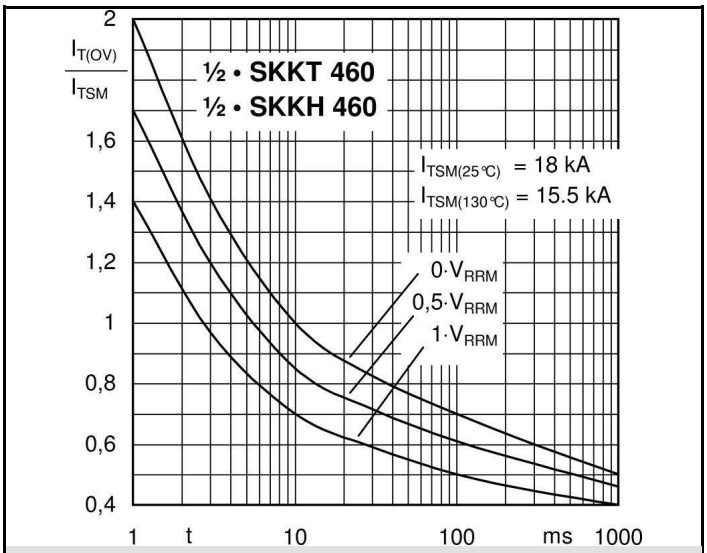

Fig. 8 Surge overload current vs. time

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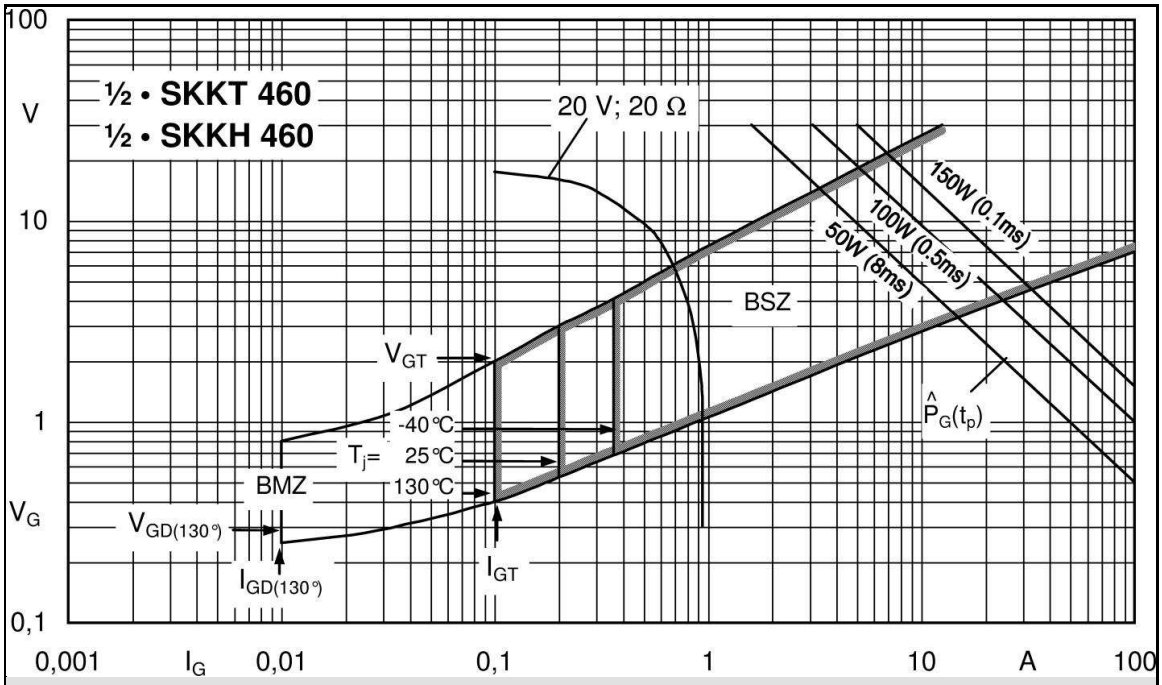
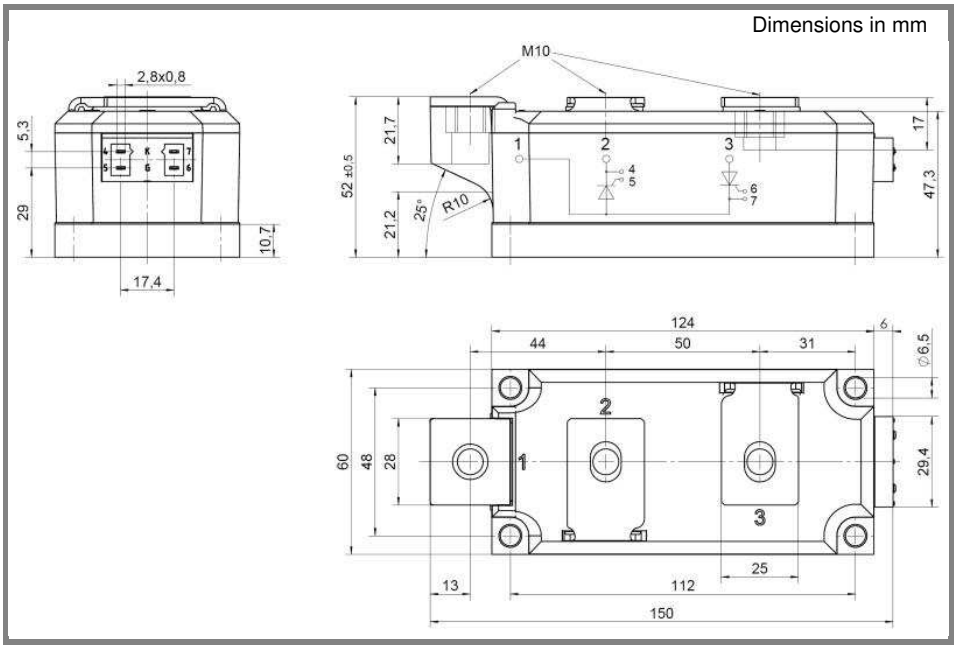
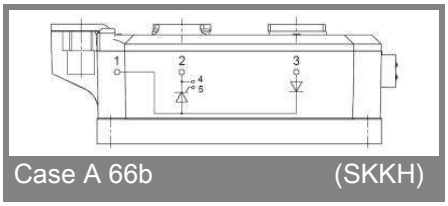


Fig. 9 Gate trigger characteristics



Case A 60b (SKKT)


Case A 66b (SKKH)

* The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON products in life support appliances and systems is subject to prior specification and written approval by SEMIKRON. We therefore strongly recommend prior consultation of our staff.

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