

Features

- Heat transfer through aluminium oxide ceramic isolated metal
- Hard soldered joints for high reliability
- Space and weight savings

Typical Applications

- Various rectifiers
- AC/DC Motor drives
- DC supply for PWM inverter



Symbol	$I_{RMS}=250A$ (maximum value for continuous operation) $I_{TAV}=160A$ (sin.180; $T_c=83^\circ C$)						Units
	SKKT162/08E	SKKT162/12E	SKKT162/16E	SKKT162/18E	SKKH162/08E	SKKH162/18E	
V_{RRM}, V_{DRM}	800	1200	1600	1800	800	1800	V
V_{RSM}	900	1300	1700	1900	900	1900	V

Electrical characteristics

Symbol	Conditions	Values	Units
I_{TAV}	sin.180; $T_c=85(100)^\circ C$;	156(110)	A
I_D	P3/180; $T_a=35^\circ C$; B2/B6	190/230	A
	P3/200F; $T_a=35^\circ C$; B2/B6	190/260	A
I_{RMS}	P3/180F; $T_a=35^\circ C$; W1/W3	265/3 x 185	A
I_{TSM}	$T_{vj}=25^\circ C$; 10ms	5400	A
	$T_{vj}=125^\circ C$; 10ms	5000	A
I^2t	$T_{vj}=25^\circ C$; 8.3...10ms	145000	A ² s
	$T_{vj}=130^\circ C$; 8.3...10ms	125000	A ² s
V_T	$T_{vj}=25^\circ C$, $I_T=500A$	max.1.6	V
$V_{T(TO)}$	$T_{vj}=125^\circ C$	max.0.85	V
r_T	$T_{vj}=125^\circ C$	max.1.5	mΩ
I_{DD}, I_{RD}	$T_{vj}=125^\circ C$, $V_{RD}=V_{RRM}$, $V_{DD}=V_{DRM}$	max.40	mA
t_{gd}	$T_{vj}=25^\circ C$; $I_G=1A$; $di_G/dt=1A/\mu s$	1	μs
t_{gr}	$V_D=0.67 \cdot V_{DRM}$	2	μs
$(dv/dt)_{cr}$	$T_{vj}=125^\circ C$	max.1000	V/μs
$(di/dt)_{cr}$	$T_{vj}=125^\circ C$	max.200	A/μs
t_q	$T_{vj}=125^\circ C$	50...150	μs
I_H	$T_{vj}=25^\circ C$; typ./max.	150/400	mA
I_L	$T_{vj}=25^\circ C$; $R_G=33\Omega$; typ./max.	300/1000	mA

V_{GT}	$T_{vj}=25^{\circ}\text{C};\text{d.c}$	min.2	V
I_{GT}	$T_{vj}=25^{\circ}\text{C};\text{d.c}$	min.150	mA
V_{GD}	$T_{vj}=125^{\circ}\text{C};\text{d.c}$	max.0.25	V
I_{GD}	$T_{vj}=125^{\circ}\text{C};\text{d.c}$	max.10	mA
$R_{th(j-c)}$	cont.per thyristor/per module	0.17/0.085	K/W
$R_{th(j-c)}$	sin.180;per thyristor/per module	0.18/0.09	K/W
$R_{th(j-c)}$	rec.120;per thyristor/per module	0.2/0.1	K/W
$R_{th(j-s)}$	per thyristor/per module	0.2/0.1	K/W
T_{vj}		-40...+125	$^{\circ}\text{C}$
T_{stg}		-40...+125	$^{\circ}\text{C}$
V_{isol}	a.c.50Hz; r.m.s; 1s/1min.	3600/3000	V~
M_s	to heatsink	$5 \pm 15\%$ ¹⁾	Nm
M_t	to terminals	$5 \pm 15\%$	Nm
a		$5 \cdot 9.81$	m/s^2
m	approx.	165	g

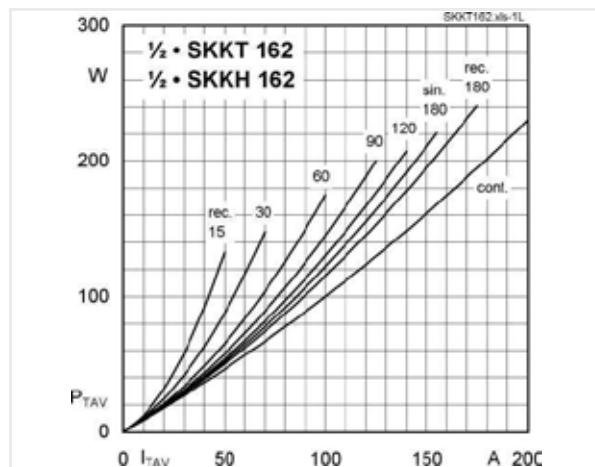


Fig. 1L Power dissipation per thyristor vs. on-state current

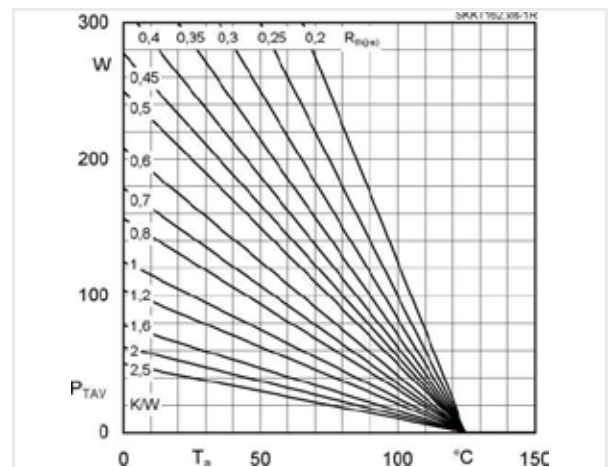


Fig. 1R Power dissipation per thyristor vs. ambient temp.

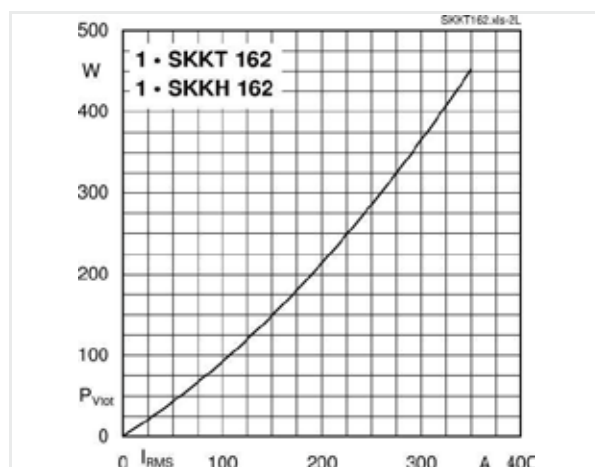


Fig. 2L Power dissipation per module vs. rms current

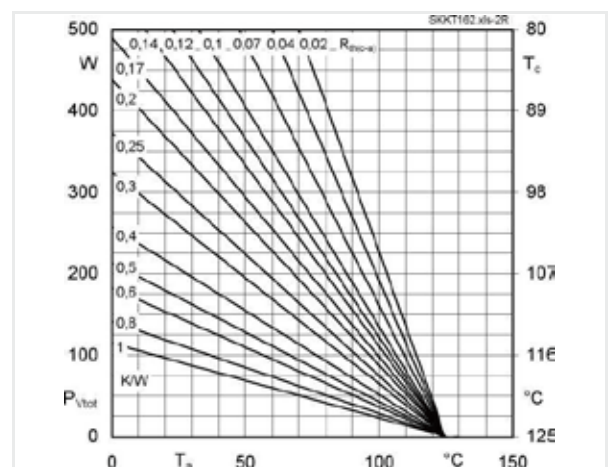


Fig. 2R Power dissipation per module vs. case temp.

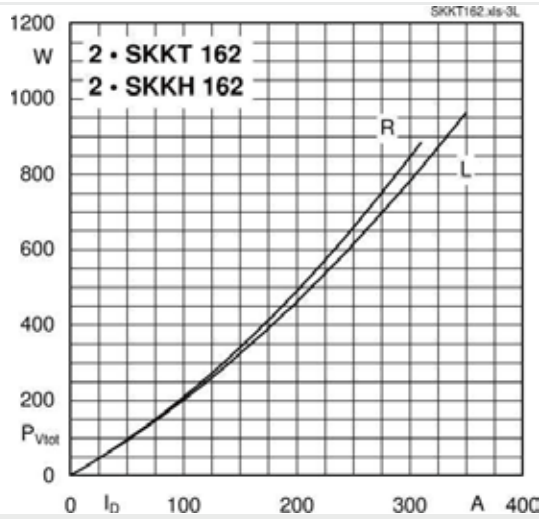


Fig. 3L Power dissipation of two modules vs. direct current

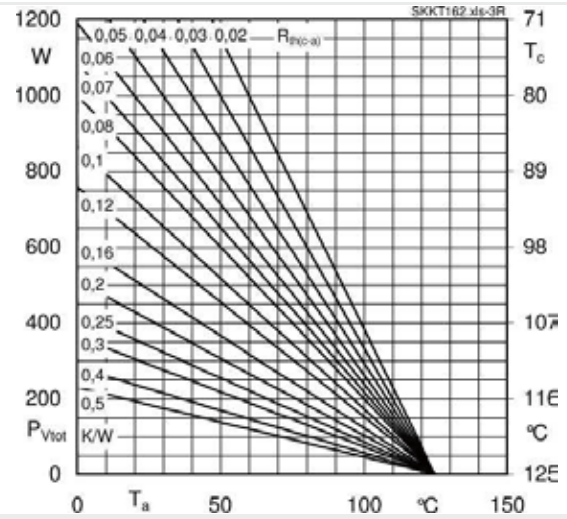


Fig. 3R Power dissipation of two modules vs. case temp.

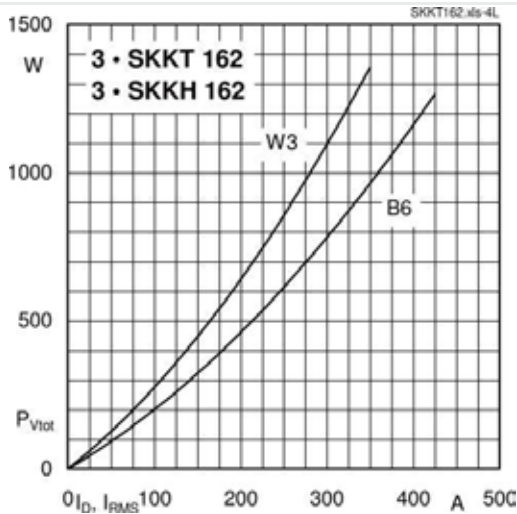


Fig. 4L Power dissipation of three modules vs. direct and rms current

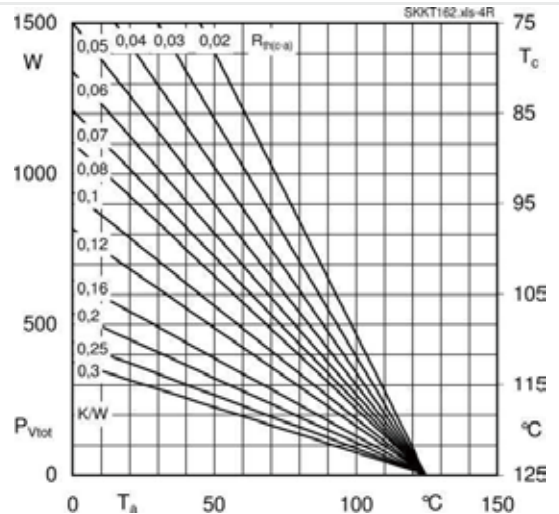


Fig. 4R Power dissipation of three modules vs. case temp.

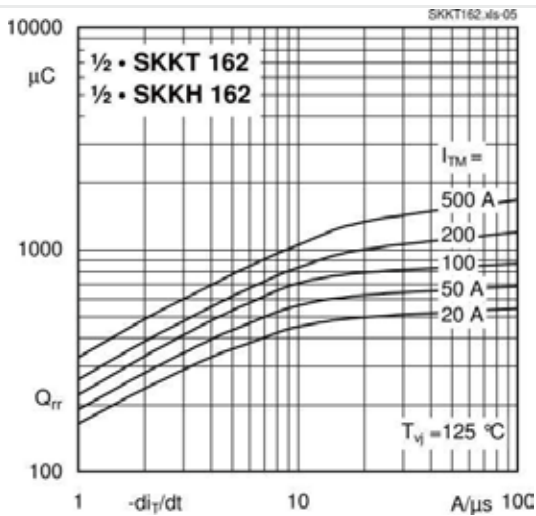


Fig. 5 Recovered charge vs. current decrease

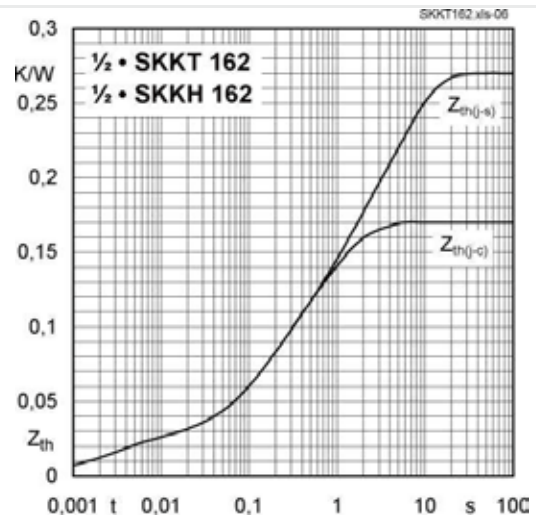


Fig. 6 Transient thermal impedance vs. time

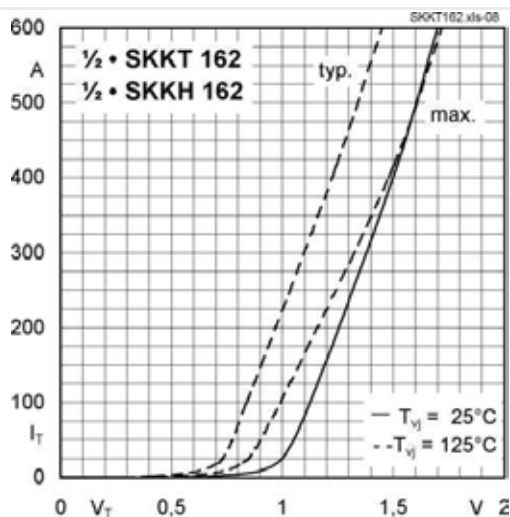


Fig. 7 On-state characteristics

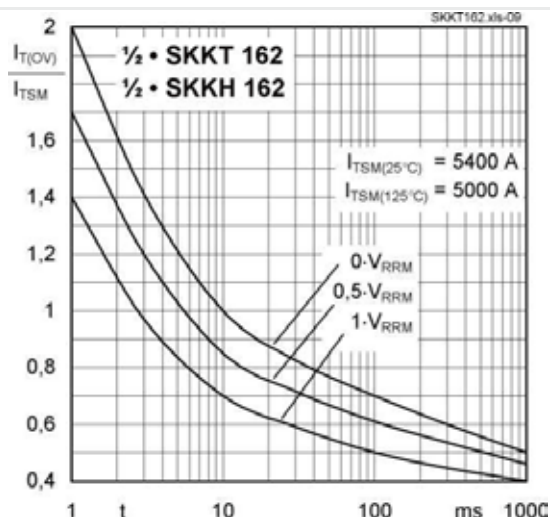


Fig. 8 Surge overload current vs. time

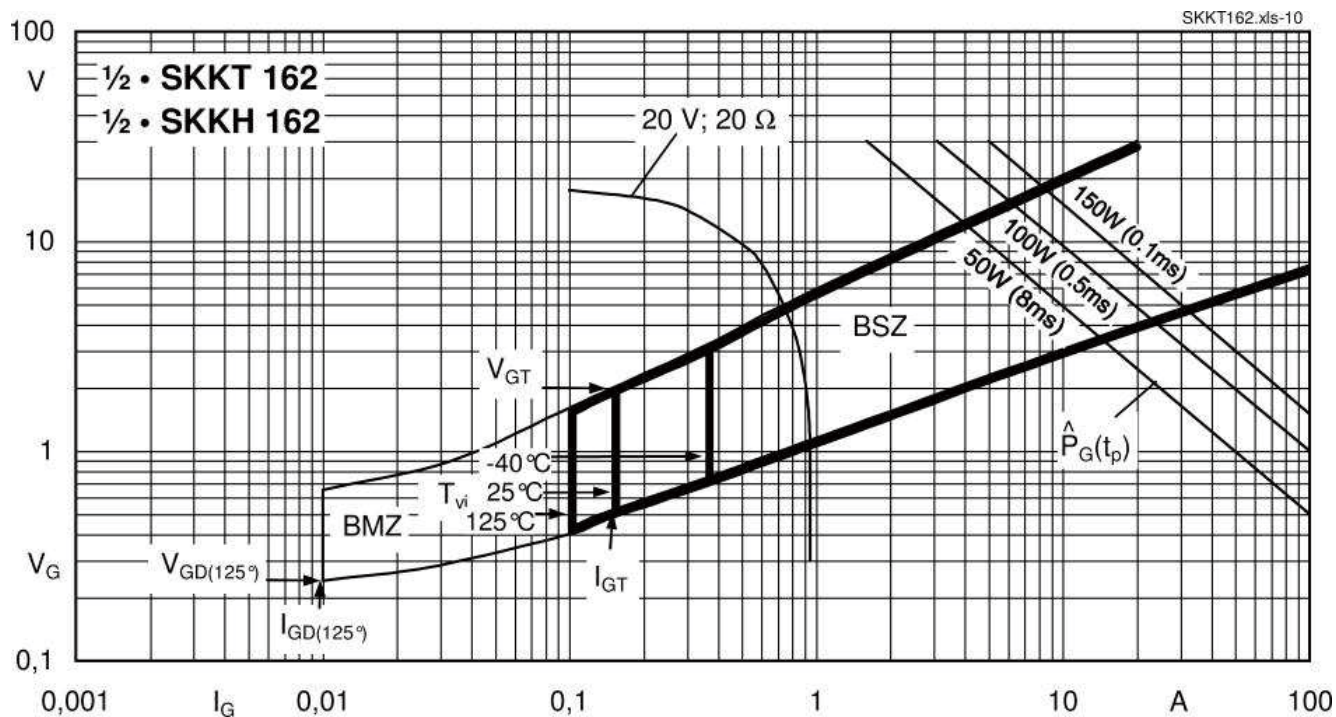
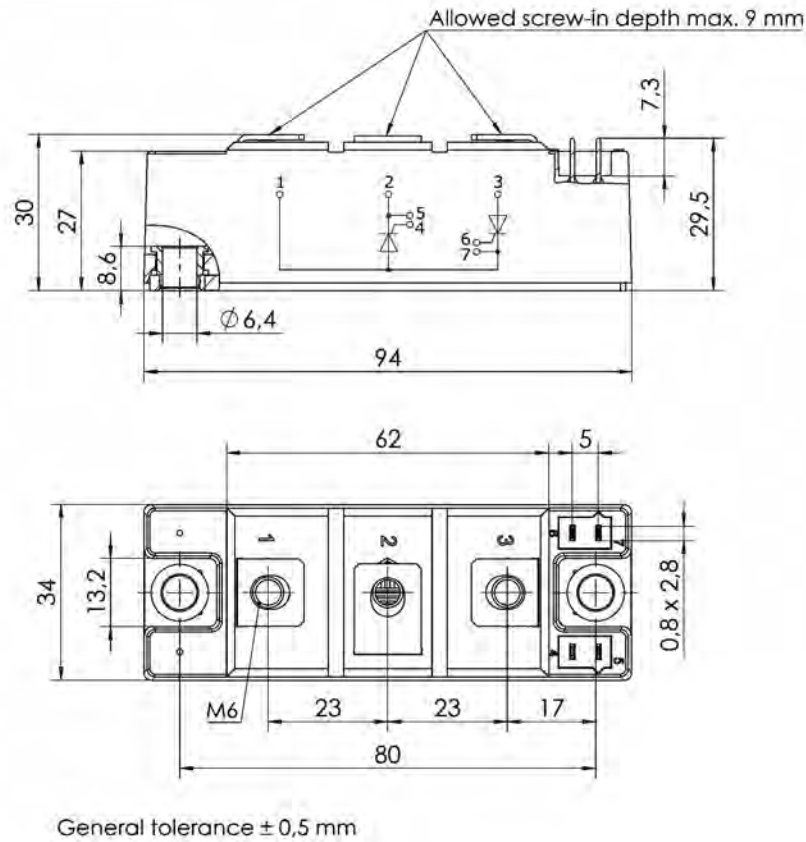


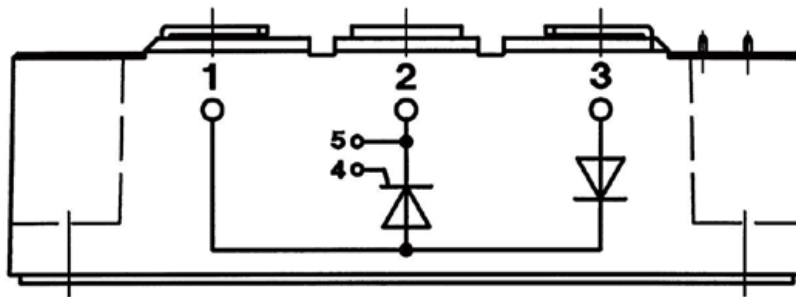
Fig. 9 Gate trigger characteristics

Dimensions in mm

05



Case A 21 (SKKT)



Case A 22

SKKH