

SKKT 273; SKKH 273



SEMIPACK® 3

Thyristor / Diode Modules

SKKT 273
SKKH 273

Features

- Industrial standard package
- Electrically insulated base plate
- Heat transfer through aluminum oxide ceramic insulated metal base plate
- Chip soldered on direct copper bonded Al₂O₃ ceramic
- Thyristor with center gate
- UL recognition applied for file no. E63532

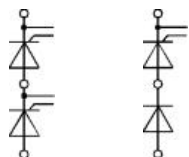
Typical Applications*

- DC motor control (e. g. for machine tools)
- Temperature control (e. g. for ovens, chemical processes)
- Professional light dimming (studios, theaters)

1) See the assembly instructions

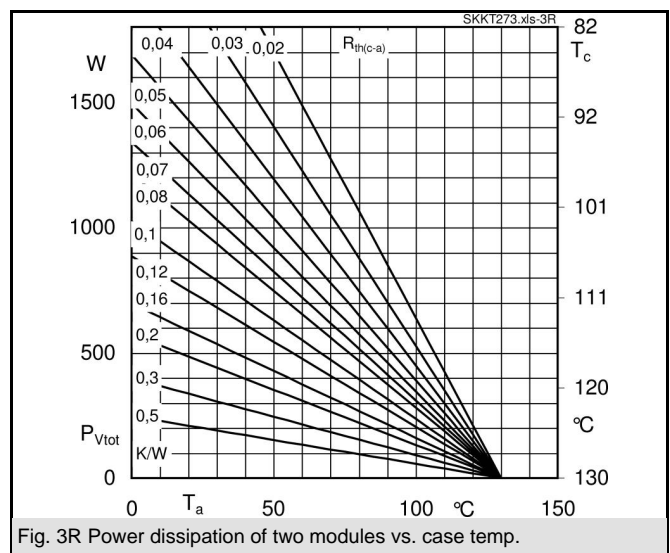
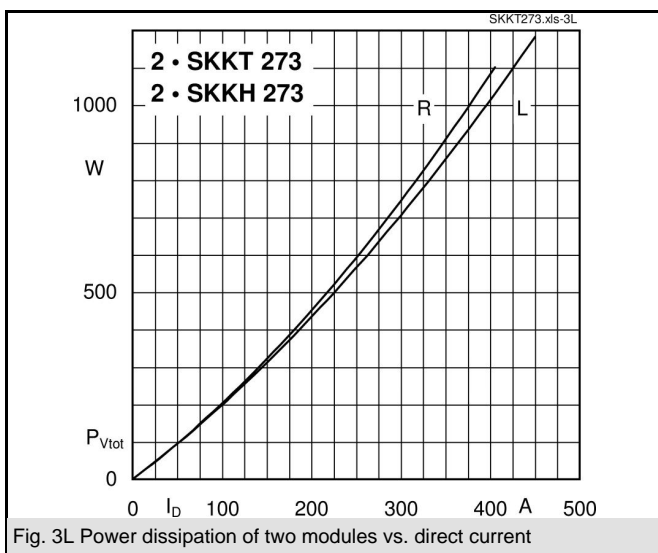
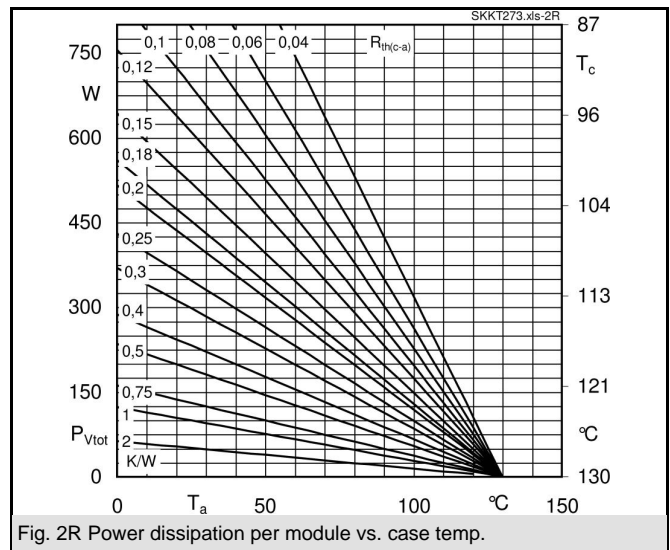
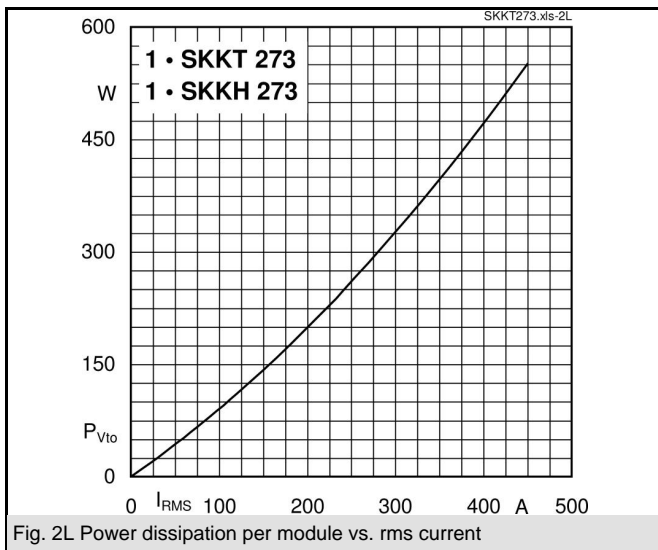
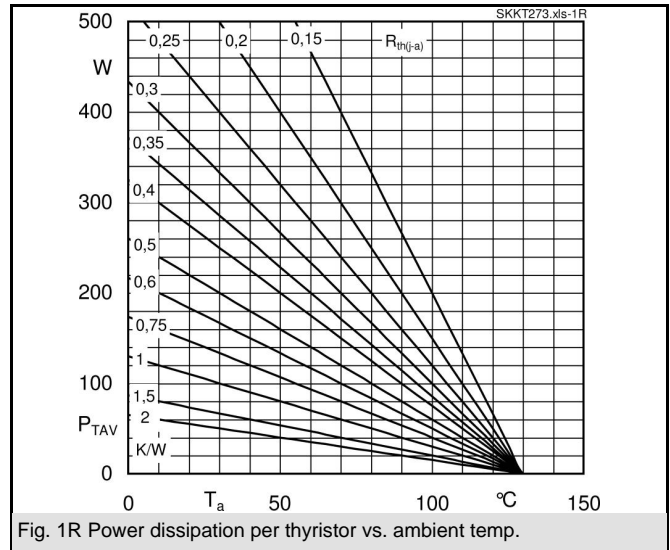
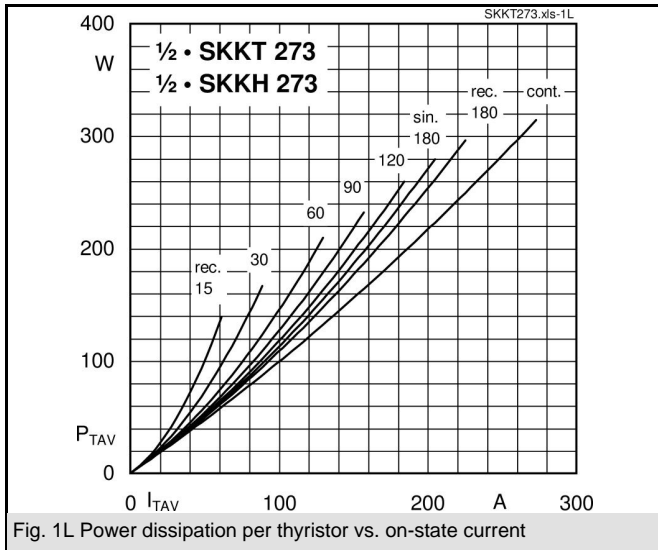
V_{RSM} V	$V_{RRM}; V_{DRM}$ V	$I_{TRMS} = 450$ A (maximum value for continuous operation) $I_{TAV} = 273$ A (sin. 180; $T_c = 85$ °C)	
1300	1200	SKKT 273/12E	SKKH 273/12E
1700	1600	SKKT 273/16E	SKKH 273/16E
1900	1800	SKKT 273/18E	SKKH 273/18E

Symbol	Conditions	Values	Units
I_{TAV}	sin. 180; $T_c = 85$ (100) °C;	273 (202)	A
I_{TSM}	$T_{vj} = 25$ °C; 10 ms $T_{vj} = 130$ °C; 10 ms	9000 8000	A
i^2t	$T_{vj} = 25$ °C; 8,3 ... 10 ms $T_{vj} = 130$ °C; 8,3 ... 10 ms	405000 320000	A ² s
V_T	$T_{vj} = 25$ °C; $I_T = 750$ A	max. 1,6	V
$V_{T(TO)}$	$T_{vj} = 130$ °C	max. 0,9	V
r_T	$T_{vj} = 130$ °C	max. 0,92	mΩ
$I_{DD}; I_{RD}$	$T_{vj} = 130$ °C; $V_{RD} = V_{RRM}; V_{DD} = V_{DRM}$	max. 100	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. 130	A/μs
$(dv/dt)_{cr}$	$T_{vj} = 130$ °C	max. 1000	V/μs
t_q	$T_{vj} = 130$ °C, typ.	150	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. 2	V
I_{GT}	$T_{vj} = 25$ °C; d.c.	min. 150	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	0,104 / 0,052	K/W
$R_{th(j-c)}$	sin. 180; per thyristor / per module	0,108 / 0,054	K/W
$R_{th(j-c)}$	rec. 120; per thyristor / per module	0,122 / 0,061	K/W
$R_{th(c-s)}$	per thyristor / per module	0,08 / 0,04	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~
M_s	to heatsink	5 ± 15 % ¹⁾	Nm
M_t	to terminals	9 ± 15 %	Nm
a		5 * 9,81	m/s ²
m	approx.	410	g
Case	SKKT SKKH	A 43a A 56a	



SKKT

SKKH



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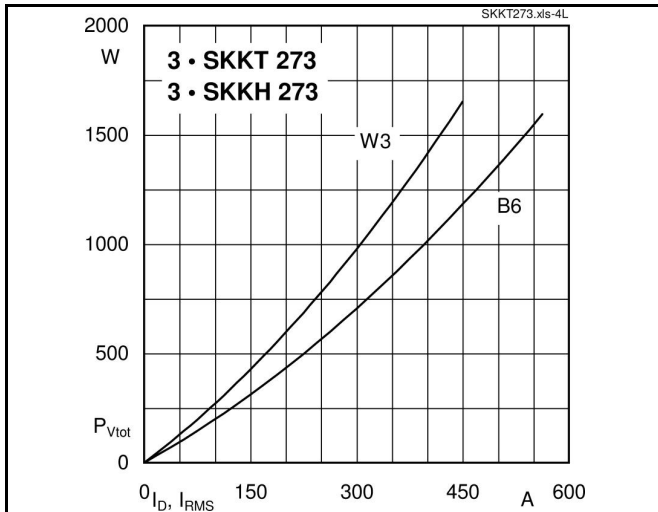


Fig. 4L Power dissipation of three modules vs. direct and rms current

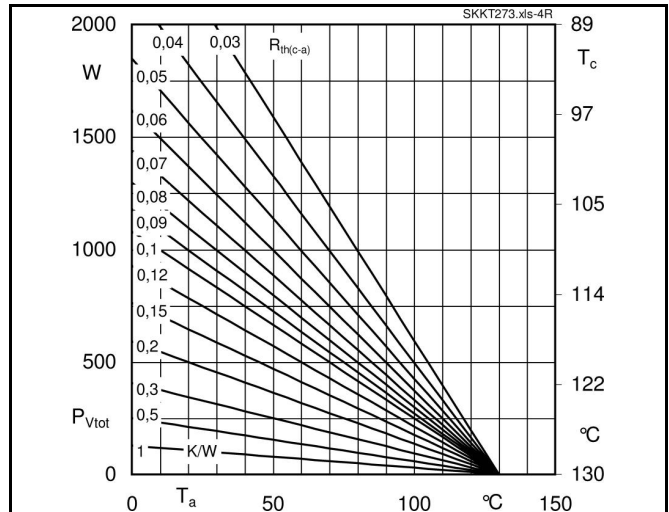


Fig. 4R Power dissipation of three modules vs. case temp.

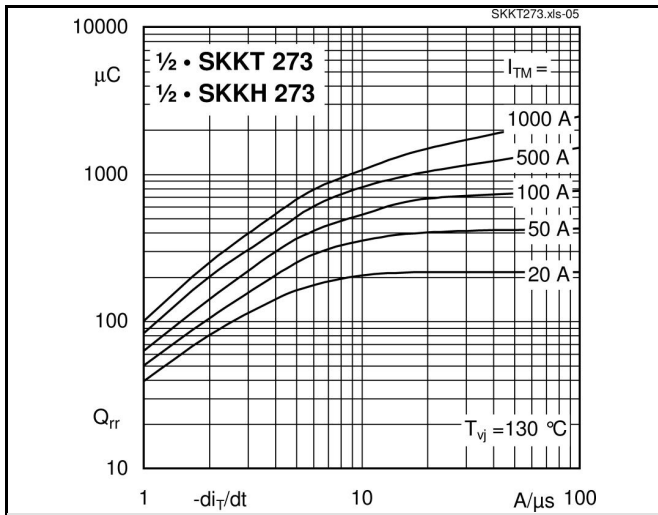


Fig. 5 Recovered charge vs. current decrease

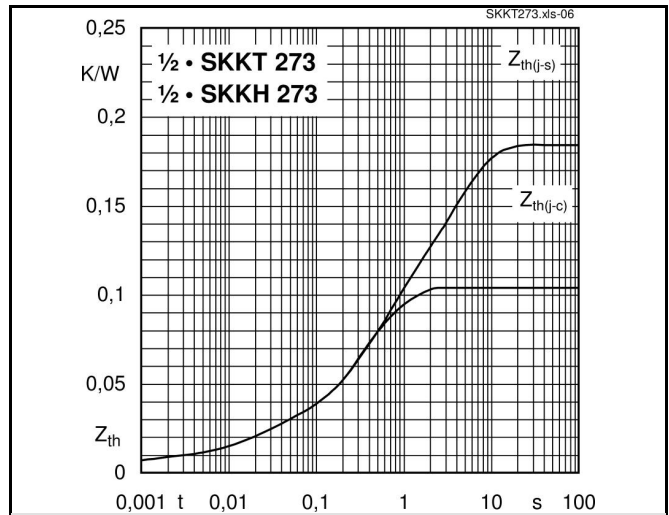


Fig. 6 Transient thermal impedance vs. time

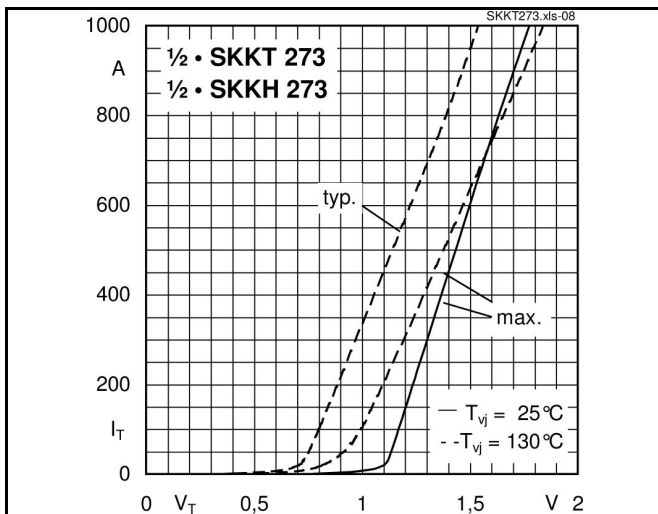


Fig. 7 On-state characteristics

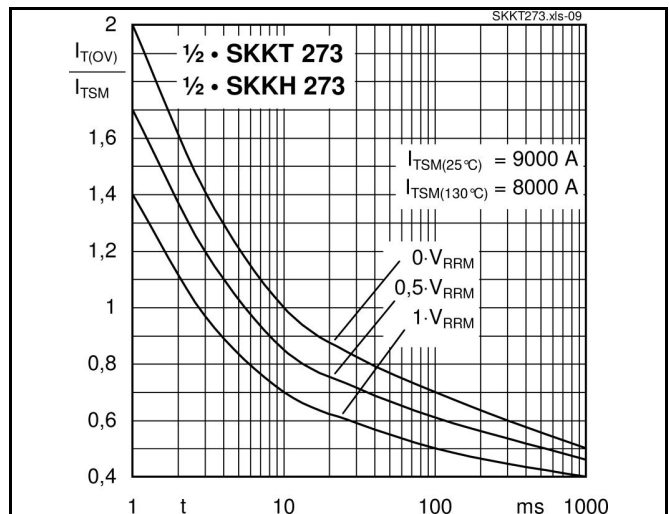
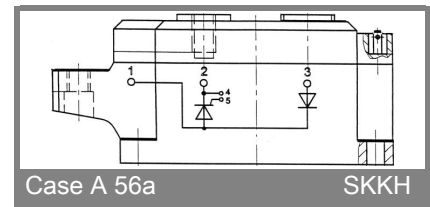
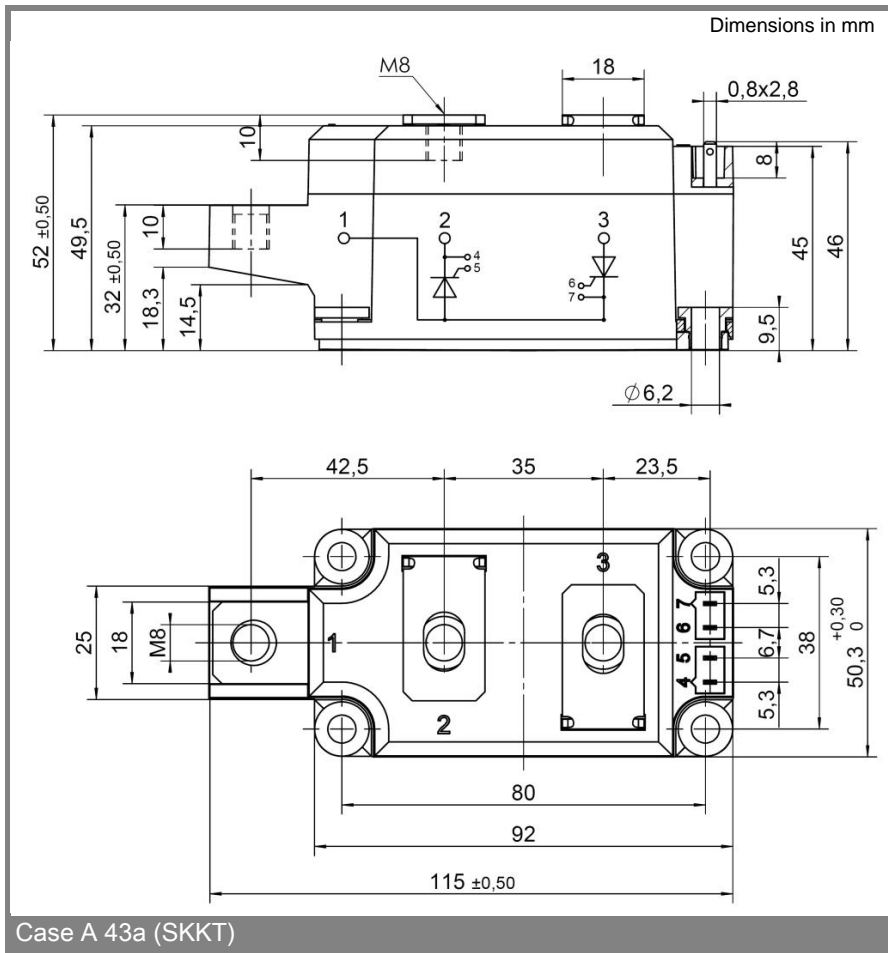
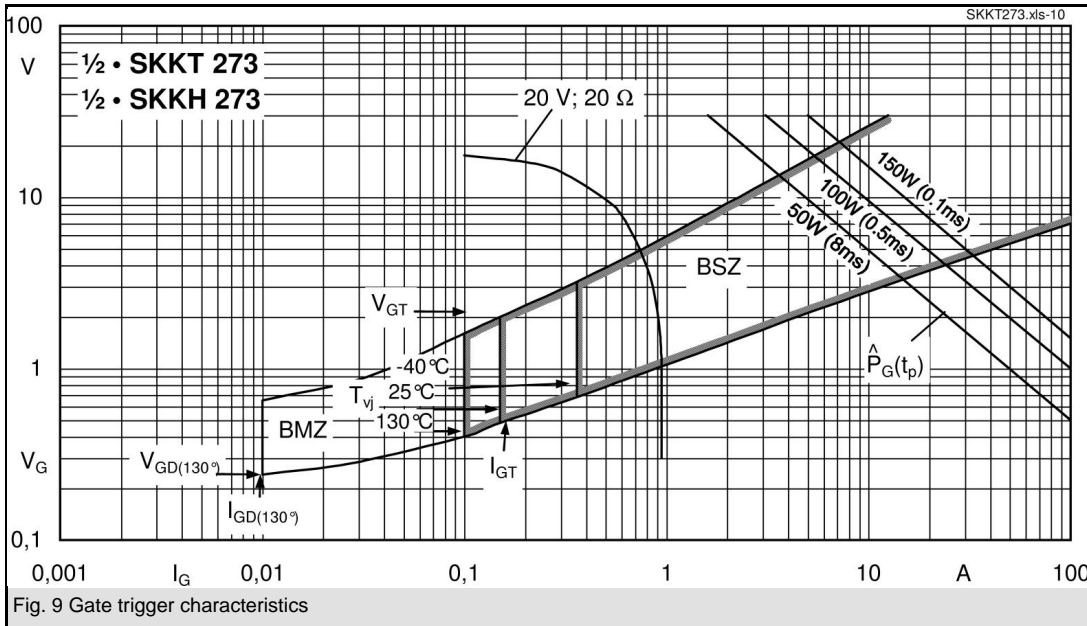


Fig. 8 Surge overload current vs. time



* 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 personal.