

# SKKT 27, SKKT 27B, SKKH 27



**SEMIPACK® 1**

## Thyristor / Diode Modules

**SKKT 27**  
**SKKT 27B**  
**SKKH 27**

### Features

- Heat transfer through aluminium oxide ceramic isolated metal baseplate
- Hard soldered joints for high reliability
- UL recognized, file no. E 63 532

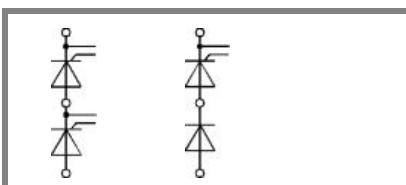
### Typical Applications\*

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

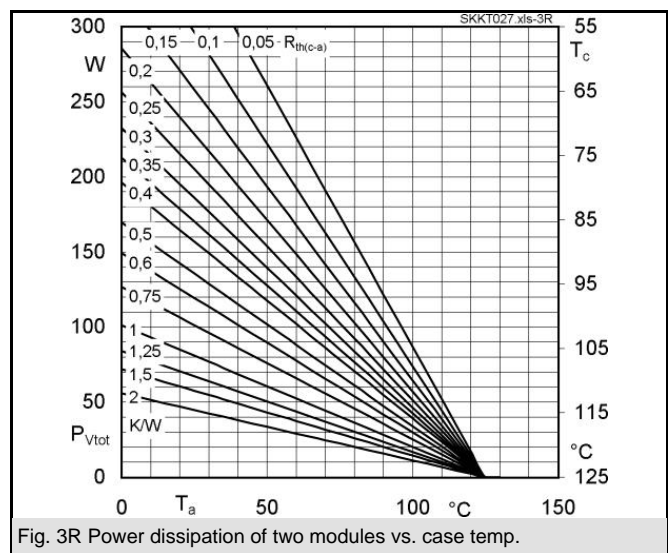
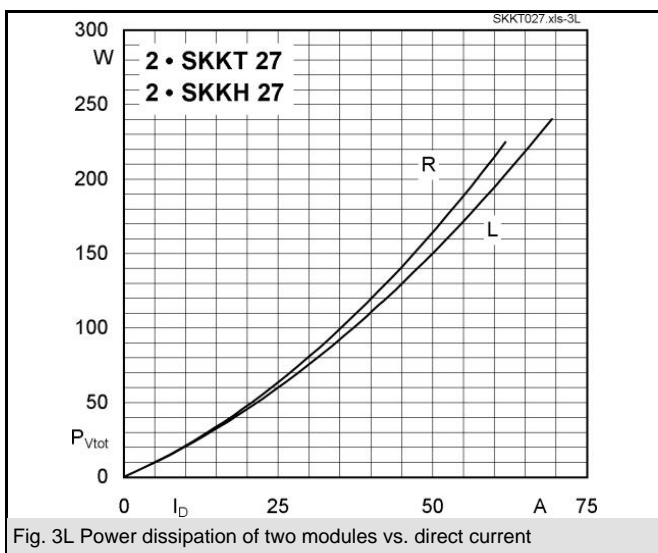
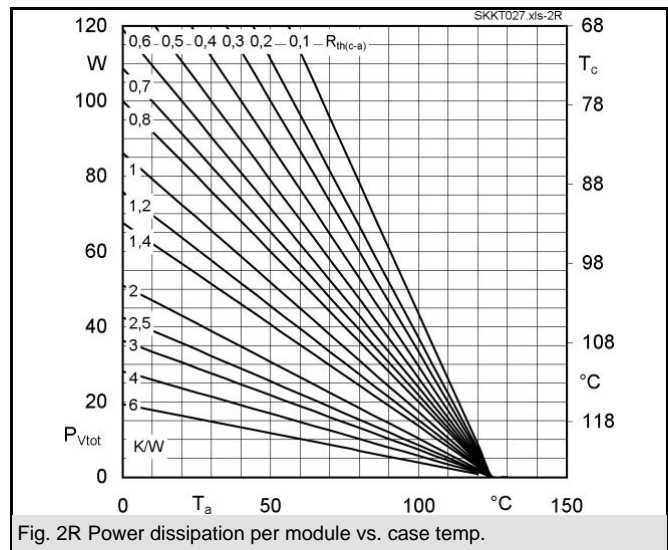
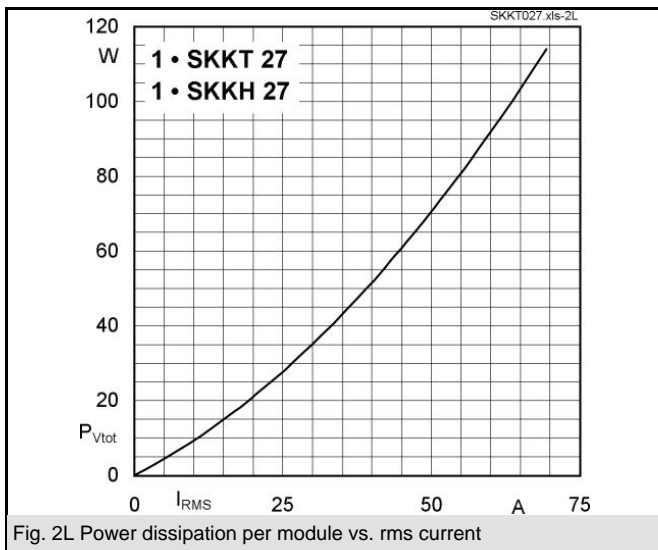
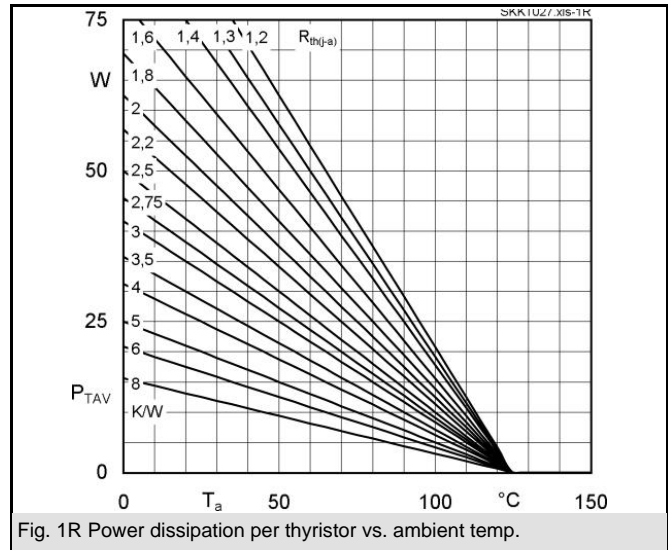
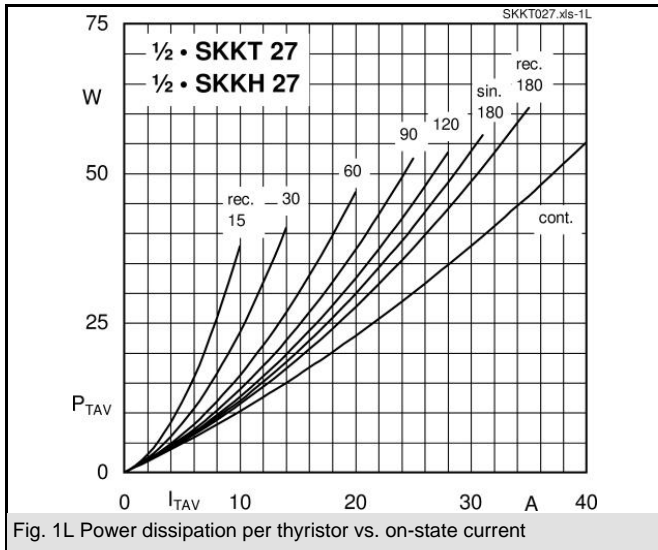
1) See the assembly instructions

$V_{RSM}$ V	$V_{RRM}, V_{DRM}$ V	$I_{TRMS} = 50$ A (maximum value for continuous operation) $I_{TAV} = 27$ A (sin. 180; $T_c = 82$ °C)		
900	800	SKKT 27/08E	SKKT 27B08E	SKKH 27/08E
1300	1200	SKKT 27/12E	SKKT 27B12E	SKKH 27/12E
1500	1400	SKKT 27/14E	SKKT 27B14E	SKKH 27/14E
1700	1600	SKKT 27/16E	SKKT 27B16E	SKKH 27/16E
1900	1800			SKKH 27/18E

Symbol	Conditions	Values	Units
$I_{TAV}$	sin. 180; $T_c = 85$ (100) °C;	25 (18)	A
$I_D$	P3/180; $T_a = 45$ °C; B2 / B6 P3/180F; $T_a = 35$ °C; B2 / B6	38 / 50 60 / 77	A
$I_{RMS}$	P3/180; $T_a = 45$ °C; W1 / W3	52 / 3 x 37	A
$I_{TSM}$	$T_{vj} = 25$ °C; 10 ms $T_{vj} = 125$ °C; 10 ms	550 480	A
$i^2t$	$T_{vj} = 25$ °C; 8,3 ... 10 ms $T_{vj} = 125$ °C; 8,3 ... 10 ms	1500 1150	A <sup>2</sup> s
$V_T$	$T_{vj} = 25$ °C; $I_T = 75$ A	max. 1,8	V
$V_{T(TO)}$	$T_{vj} = 125$ °C	max. 0,9	V
$r_T$	$T_{vj} = 125$ °C	max. 12	mΩ
$I_{DD}, I_{RD}$	$T_{vj} = 125$ °C; $V_{RD} = V_{RRM}$ ; $V_{DD} = V_{DRM}$	max. 10	mA
$t_{gd}$	$T_{vj} = 25$ °C; $I_G = 1$ A; $di_G/dt = 1$ A/μs	1	μs
$t_{gr}$	$V_D = 0,67 * V_{DRM}$	1	μs
$(di/dt)_{cr}$	$T_{vj} = 125$ °C	max. 150	A/μs
$(dv/dt)_{cr}$	$T_{vj} = 125$ °C	max. 1000	V/μs
$t_q$	$T_{vj} = 125$ °C	80	μs
$I_H$	$T_{vj} = 25$ °C; typ. / max.	100 / 200	mA
$I_L$	$T_{vj} = 25$ °C; $R_G = 33$ Ω; typ. / max.	250 / 400	mA
$V_{GT}$	$T_{vj} = 25$ °C; d.c.	min. 3	V
$I_{GT}$	$T_{vj} = 25$ °C; d.c.	min. 150	mA
$V_{GD}$	$T_{vj} = 125$ °C; d.c.	max. 0,25	V
$I_{GD}$	$T_{vj} = 125$ °C; d.c.	max. 5	mA
$R_{th(j-c)}$	cont.; per thyristor / per module	0,9 / 0,45	K/W
$R_{th(j-c)}$	sin. 180; per thyristor / per module	0,95 / 0,48	K/W
$R_{th(j-c)}$	rec. 120; per thyristor / per module	1 / 0,5	K/W
$R_{th(c-s)}$	per thyristor / per module	0,2 / 0,1	K/W
$T_{vj}$		- 40 ... + 125	°C
$T_{stg}$		- 40 ... + 125	°C
$V_{isol}$	a. c. 50 Hz; r.m.s.; 1 s / 1 min. to heatsink	3600 / 3000	V~
$M_s$	to terminals	5 ± 15 % <sup>1)</sup>	Nm
$M_t$		3 ± 15 %	Nm
$a$		5 * 9,81	m/s <sup>2</sup>
$m$	approx.	95	g
Case	SKKT	A 46	
	SKKT ...B	A 48	
	SKKH	A 47	



**SKKT**      **SKKH**



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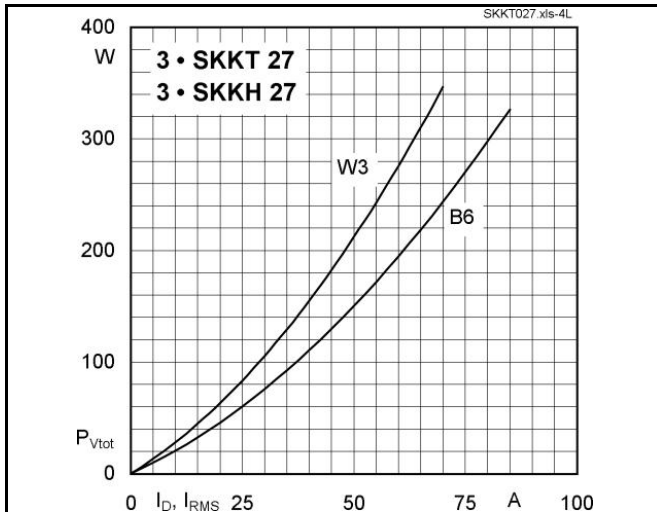


Fig. 4L Power dissipation of three modules vs. direct and rms current

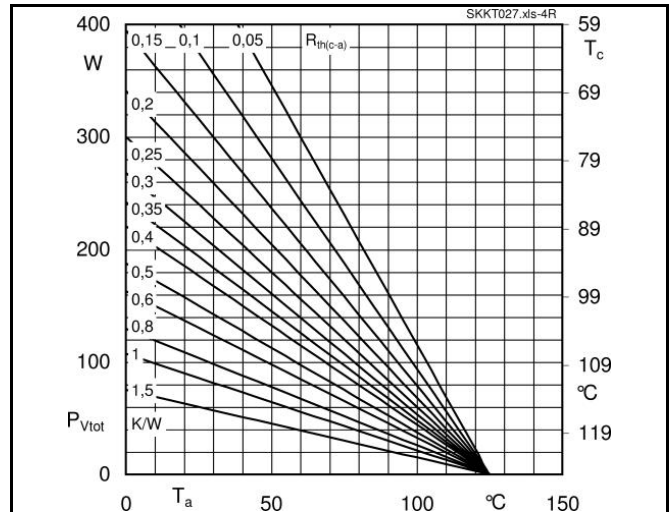


Fig. 4R Power dissipation of three modules vs. case temp.

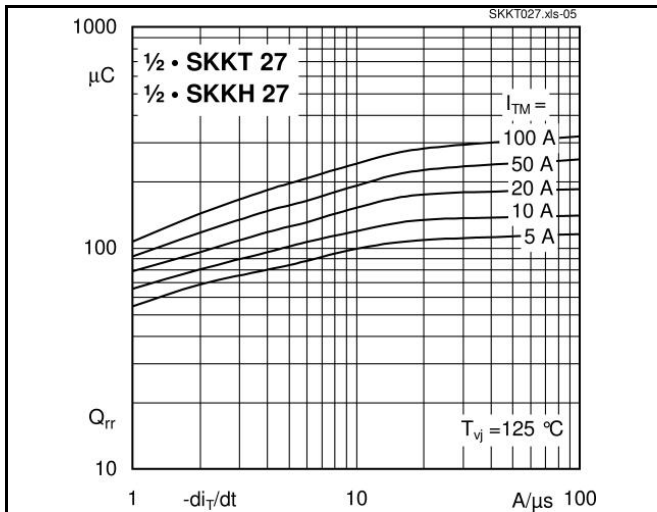


Fig. 5 Recovered charge vs. current decrease

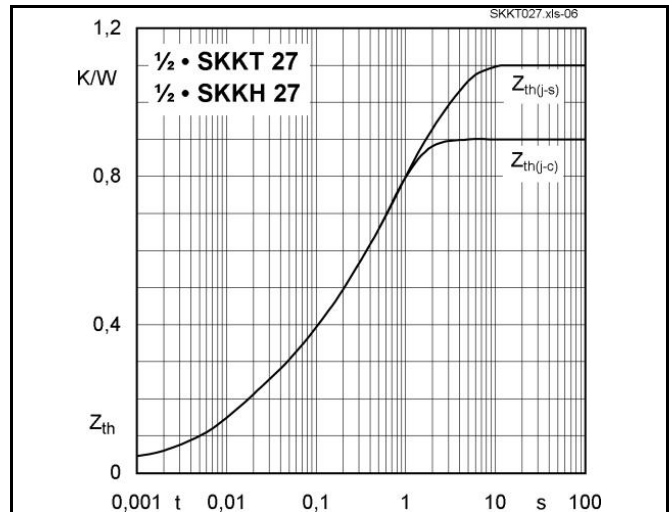


Fig. 6 Transient thermal impedance vs. time

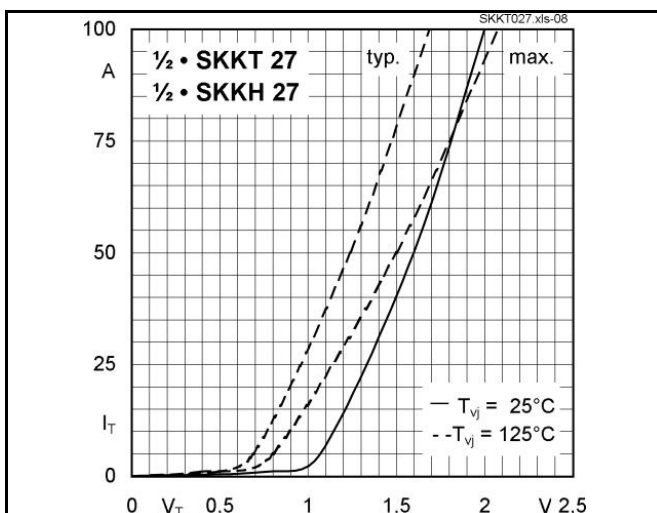


Fig. 7 On-state characteristics

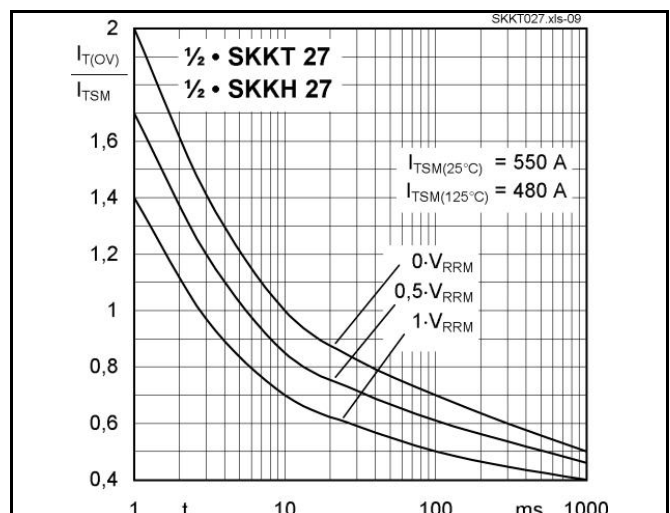


Fig. 8 Surge overload current vs. time

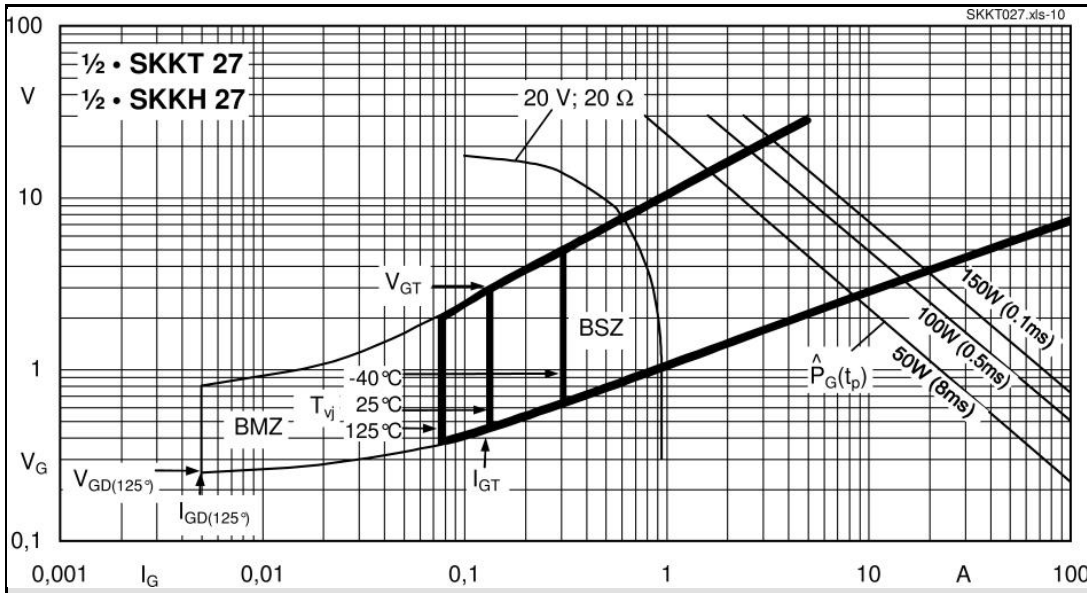
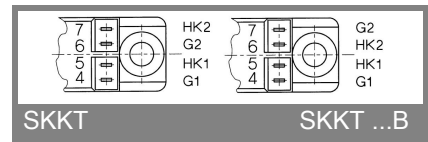
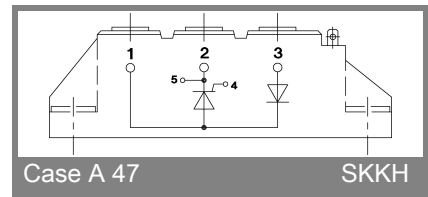
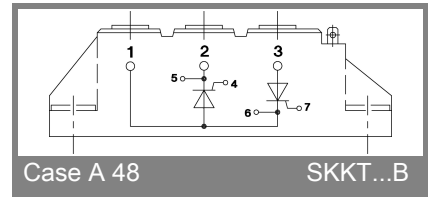
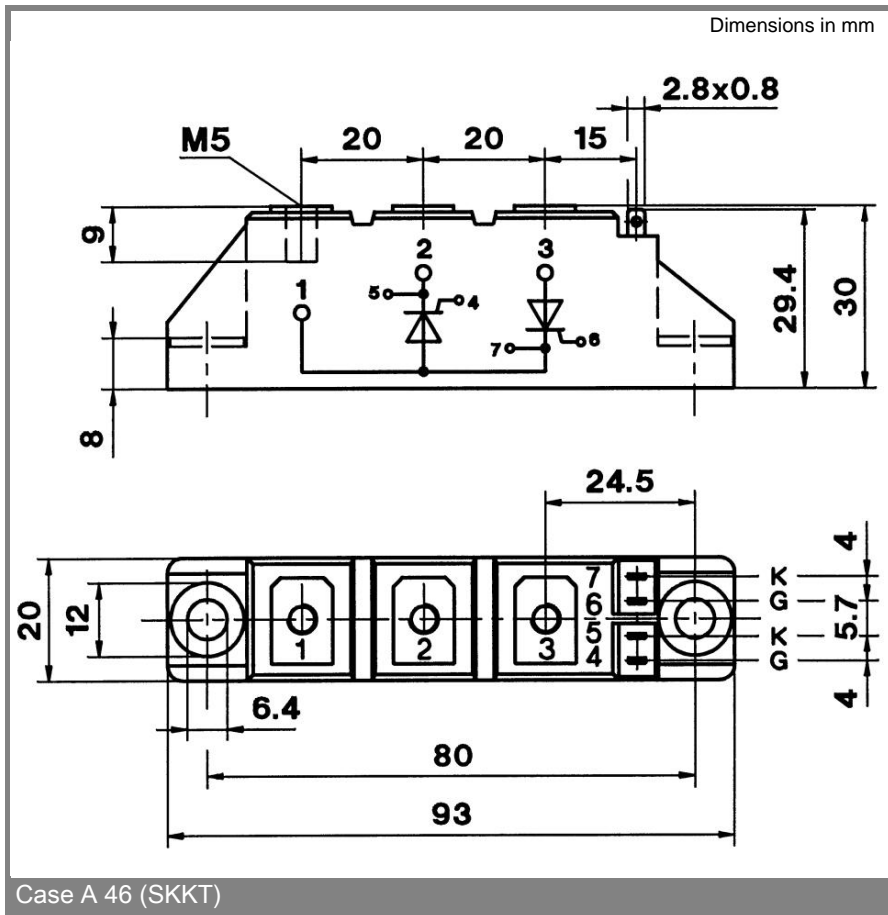


Fig. 9 Gate trigger characteristics



\* 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.