

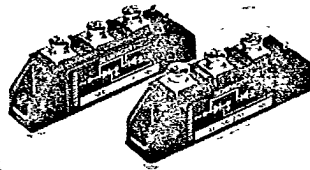
T-25-17

**SEMIKRON**

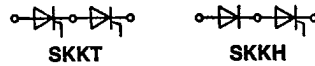
V <sub>RSM</sub>	V <sub>RRM</sub>	(dv/dt) <sub>cr</sub>	I <sub>T</sub> RMS (maximum values for continuous operation)			
			75 A	95 A	75 A	95 A
V	V	V/μs	I <sub>TAV</sub> (sin. 180; T <sub>case</sub> = 74 °C)			
			48 A	60 A	48 A	60 A
500	400	500	SKKT 41/04 D	SKKT 56/04 D	SKKH 41/04 D	SKKH 56/04 D
700	600	500	SKKT 41/06 D	SKKT 56/06 D	SKKH 41/06 D	SKKH 56/06 D
900	800	500	SKKT 41/08 D	SKKT 56/08 D	SKKH 41/08 D	SKKH 56/08 D
1300	1200	500	SKKT 41/12 D	SKKT 56/12 D	SKKH 41/12 D	SKKH 56/12 D
		1000	SKKT 41/12 E	SKKT 56/12 E	-	-
1500	1400	1000	SKKT 41/14 E	SKKT 56/14 E	SKKH 41/14 E	SKKH 56/14 E
1700	1600	1000	SKKT 41/16 E	SKKT 56/16 E	SKKH 41/16 E	SKKH 56/16 E
1900	1800	1000	-	SKKT 56/18 E	-	SKKH 56/18 E
2100	2000	1000	-	SKKT 56/20 E	-	SKKH 56/20 E

**SEMIPACK® 1**  
Thyristor/ Diode Modules

SKKT 41 SKKH 41  
SKKT 56 SKKH 56



Symbol	Conditions	SKKT 41 SKKH 41	SKKT 56 SKKH 56
I <sub>TAV</sub>	sin. 180; (T <sub>case</sub> = ...)	48 A (74 °C) 40 A (85 °C)	60 A (74 °C) 55 A (80 °C)
I <sub>D</sub>	B2/B6   T <sub>amb</sub> = 35 °C; P 3/180F	85 A/110 A	100 A/130 A
I <sub>RMS</sub>	W1/W3   T <sub>amb</sub> = 35 °C; P 3/180F	105 A/3x85 A	130 A/3x100 A
I <sub>TSM</sub>	T <sub>vj</sub> = 25 °C	1000 A	1500 A
i <sup>2</sup> t	T <sub>vj</sub> = 125 °C	850 A	1250 A
	T <sub>vj</sub> = 25 °C	5000 A <sup>2</sup> s	11000 A <sup>2</sup> s
t <sub>gd</sub>	T <sub>vj</sub> = 25 °C; I <sub>G</sub> = 1 A; di <sub>G</sub> /dt = 1 A/μs	1 μs	1 μs
	V <sub>D</sub> = 0,67 · V <sub>DRM</sub>	2 μs	2 μs
(di/dt) <sub>cr</sub>	T <sub>vj</sub> = 125 °C	typ. 100 A/μs	
t <sub>q</sub>	T <sub>vj</sub> = 125 °C	typ. 80 μs	
I <sub>H</sub>	T <sub>vj</sub> = 25 °C	typ. 150 mA; max. 250 mA	
I <sub>L</sub>	T <sub>vj</sub> = 25 °C; R <sub>G</sub> = 33 Ω	typ. 300 mA; max. 600 mA	
V <sub>T</sub>	T <sub>vj</sub> = 25 °C; I <sub>T</sub> = 200 A	max. 1,95 V	max. 1,65 V
V <sub>T(TO)</sub>	T <sub>vj</sub> = 125 °C	1 V	0,9 V
r <sub>T</sub>	T <sub>vj</sub> = 125 °C	4,5 mΩ	3,5 mΩ
I <sub>DD</sub> ; I <sub>RD</sub>	T <sub>vj</sub> = 125 °C; V <sub>DD</sub> = V <sub>DRM</sub> ; V <sub>RD</sub> = V <sub>RRM</sub>	max. 15 mA	max. 15 mA
V <sub>GT</sub>	T <sub>vj</sub> = 25 °C; d. c.	3 V	
I <sub>GT</sub>	T <sub>vj</sub> = 25 °C; d. c.	150 mA	
V <sub>GD</sub>	T <sub>vj</sub> = 125 °C; d. c.	0,25 V	
I <sub>GD</sub>	T <sub>vj</sub> = 125 °C; d. c.	6 mA	
R <sub>thjc</sub>	cont. } per thyristor/per module sin. 180 } (°C/W) rec. 120 }	0,65/0,33 0,69/0,35 0,73/0,37	0,57/0,29 0,60/0,30 0,64/0,32
R <sub>thch</sub>		0,2/0,1 °C/W	
T <sub>vj</sub>		-40 ... +125 °C	
T <sub>stg</sub>		-40 ... +125 °C	
V <sub>isol</sub>	a. c. 50 Hz; r.m.s.; 1 s/1 min	3000 V ~ /2500 V ~	
M <sub>1</sub>	Case to heatsink	5 Nm/44 lb. in. ± 15 % <sup>1)</sup>	
M <sub>2</sub>	Busbars to terminals	3 Nm/26 lb. in. ± 15 %	
a		5 · 9,81 m/s <sup>2</sup>	
w	approx.	120 g	
Case	→ page B 1-85	A 5 (SKKT 41) A 6 (SKKH 41)	A 5 (SKKT 56) A 6 (SKKH 56)



**Features**

- Heat transfer through 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)

<sup>1)</sup> See the assembly instructions

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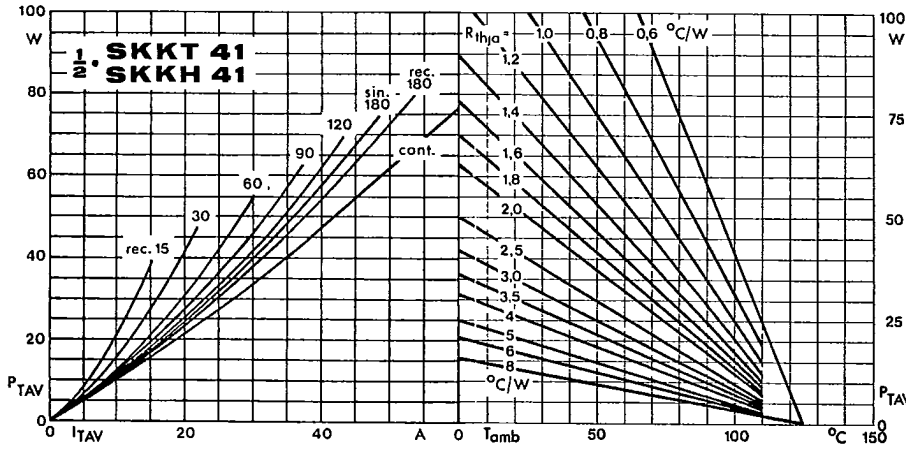


Fig. 1 a Power dissipation per thyristor vs. on-state current and ambient temperature

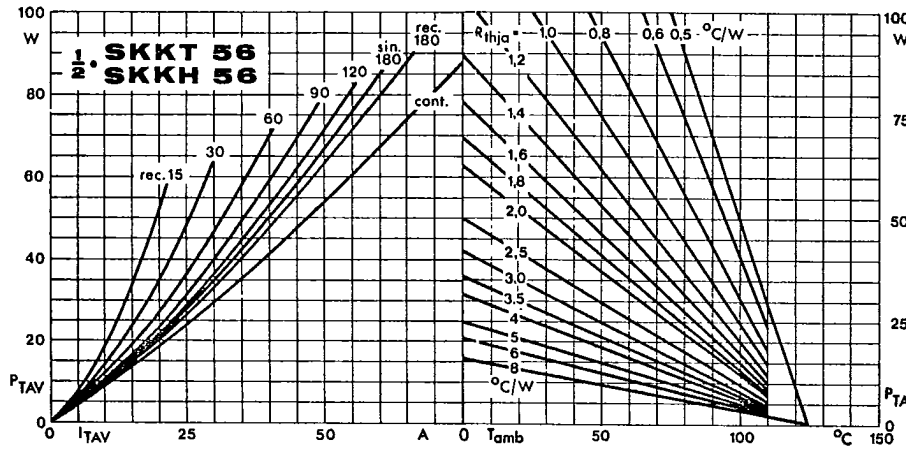


Fig. 1 b Power dissipation per thyristor vs. on-state current and ambient temperature

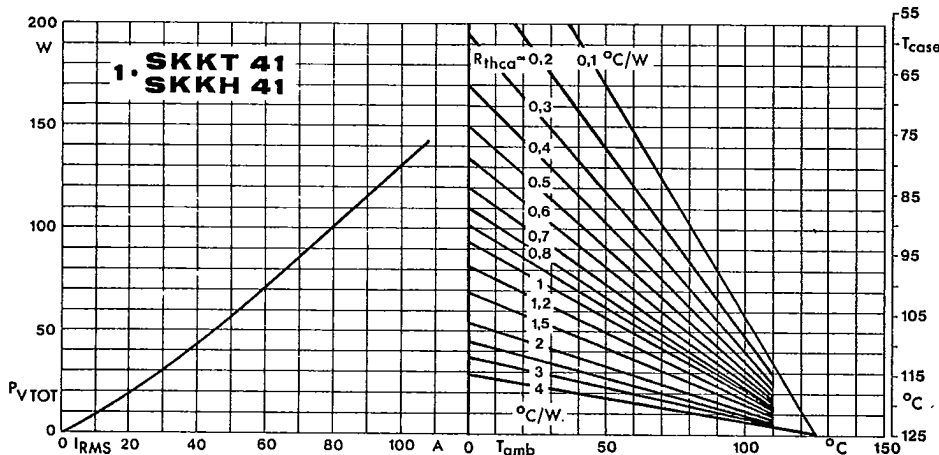


Fig. 2 a Power dissipation per module vs. rms current and case temperature

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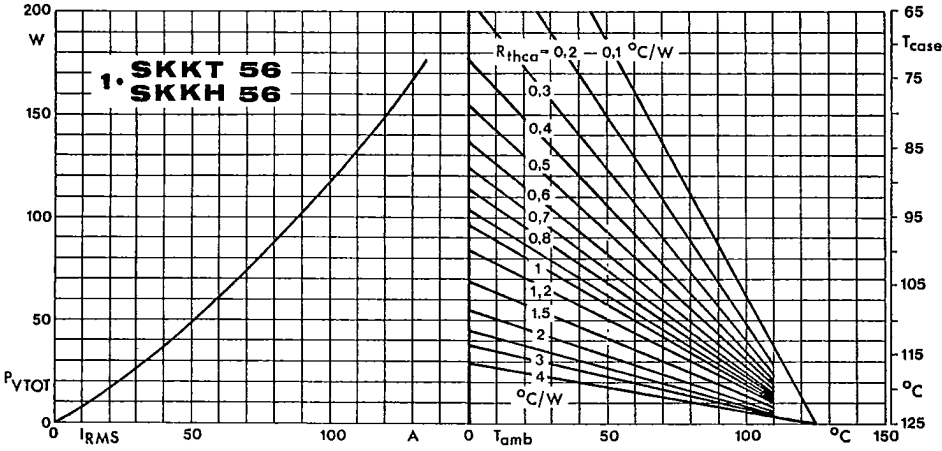


Fig. 2 b Power dissipation per module vs. rms current and case temperature

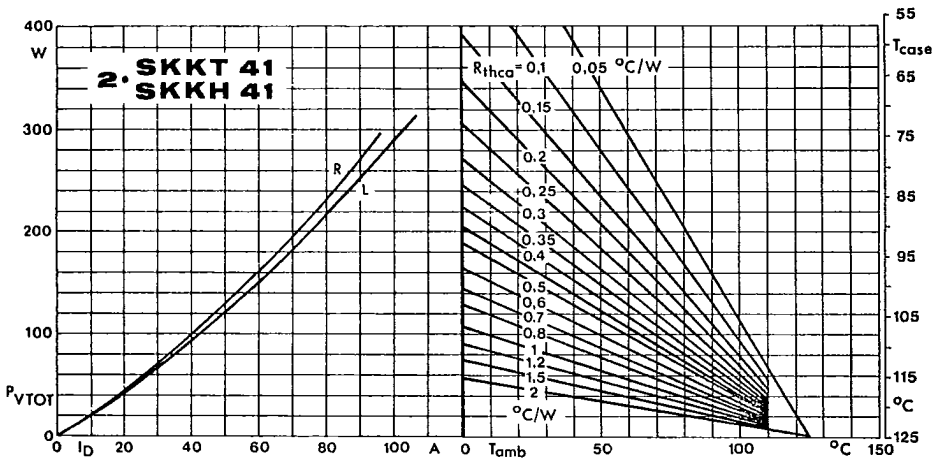


Fig. 3 a Power dissipation of two modules vs. direct current and case temperature

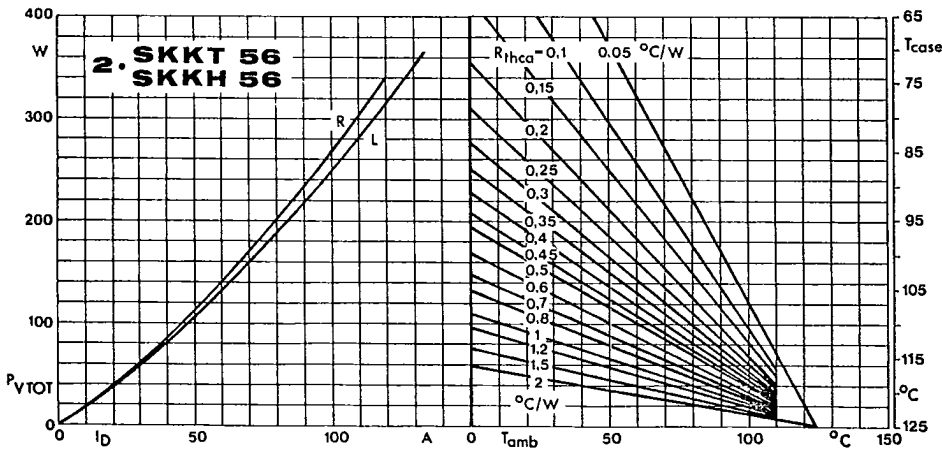


Fig. 3 b Power dissipation of two modules vs. direct current and case temperature

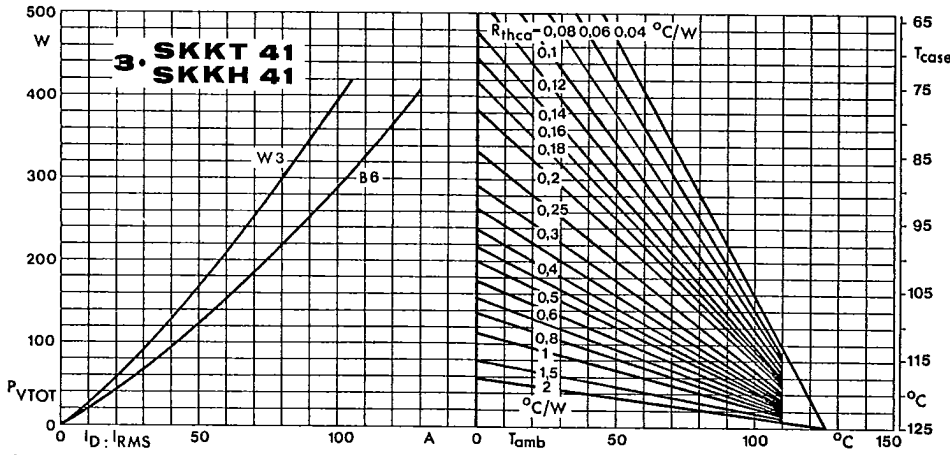


Fig. 4 a Power dissipation of three modules vs. direct and rms current and case temperature

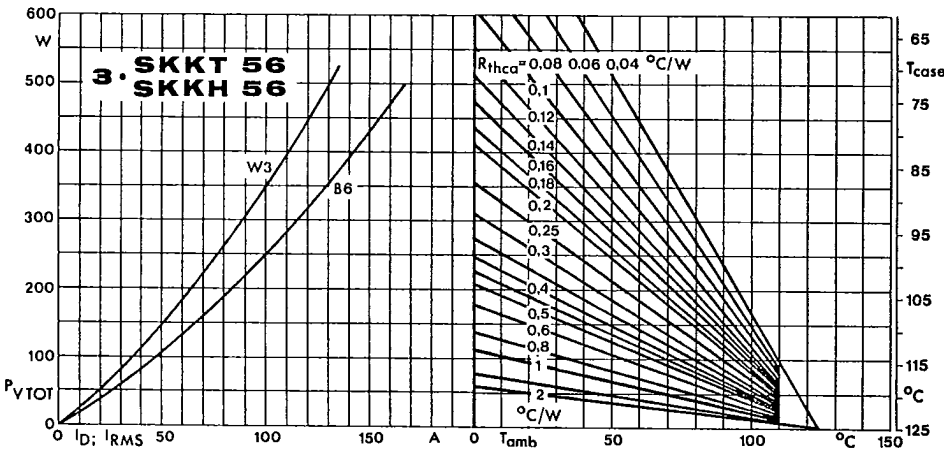


Fig. 4 b Power dissipation of three modules vs. direct and rms current and case temperature

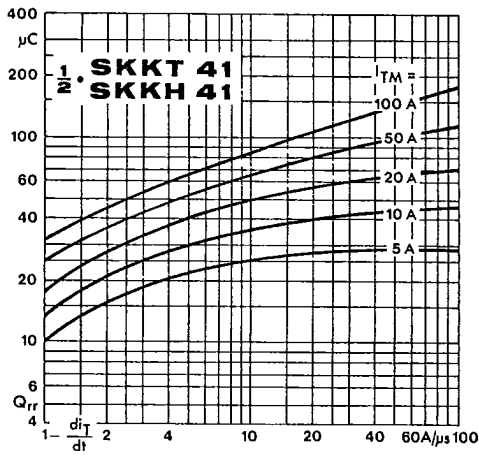


Fig. 5 a Recovered charge vs. current decrease

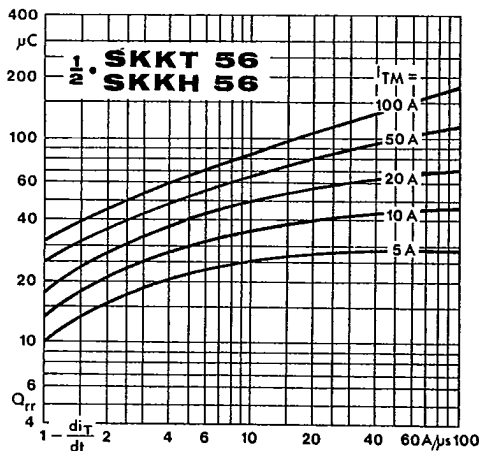


Fig. 5 b Recovered charge vs. current decrease

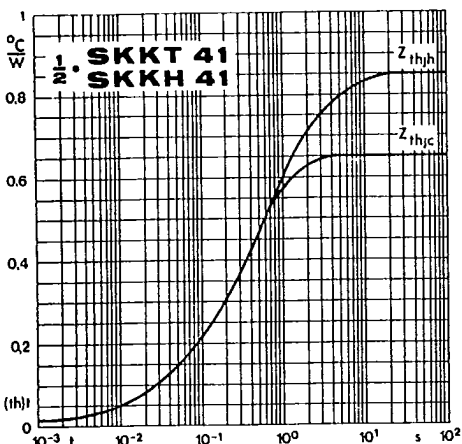


Fig. 6 a Transient thermal impedance vs. time

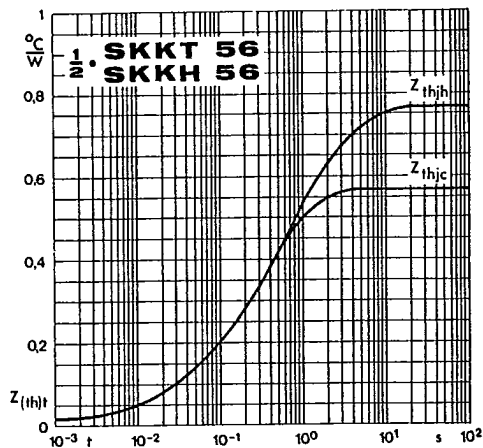


Fig. 6 b Transient thermal impedance vs. time

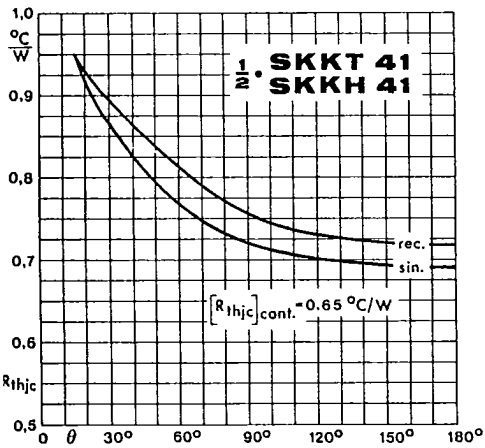


Fig. 7 a Thermal resistance vs. conduction angle

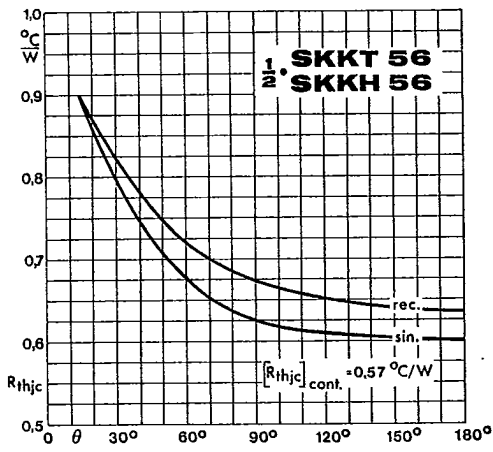


Fig. 7 b Thermal resistance vs. conduction angle

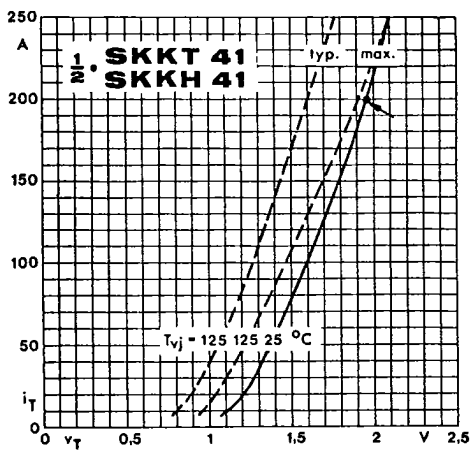


Fig. 8 a On-state characteristics

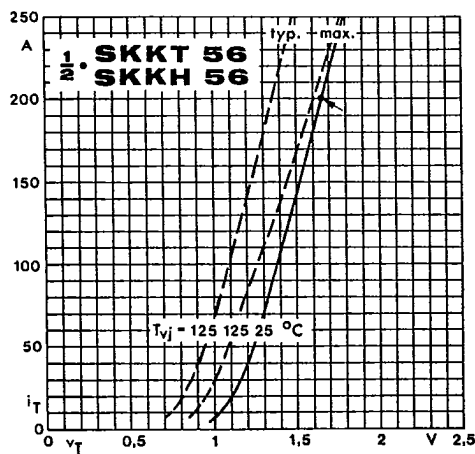


Fig. 8 b On-state characteristics

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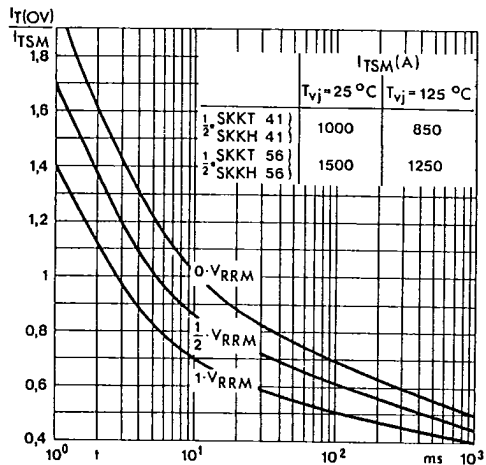


Fig. 9 Surge overload current vs. time

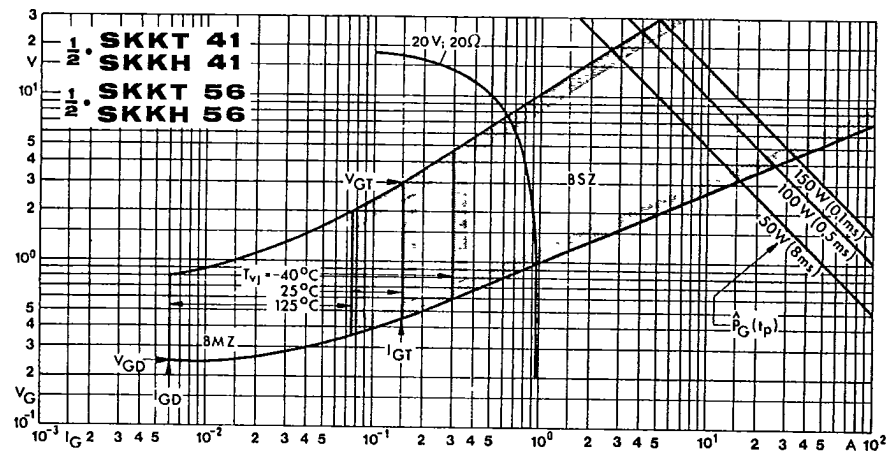


Fig. 10 Gate trigger characteristics