



## SEMIPACK® 1

### Thyristor / Diode Modules

SKKT 72 H4

SKKH 72 H4

#### Features

- Heat transfer through aluminium oxide ceramic isolated metal baseplate
- Hard soldered joints for high reliability
- UL recognized, file no. E 63532

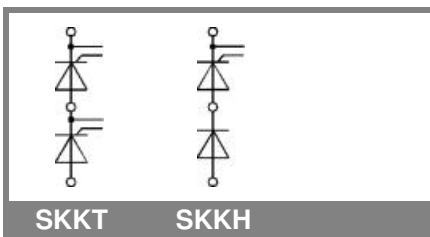
#### Typical Applications\*

- 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

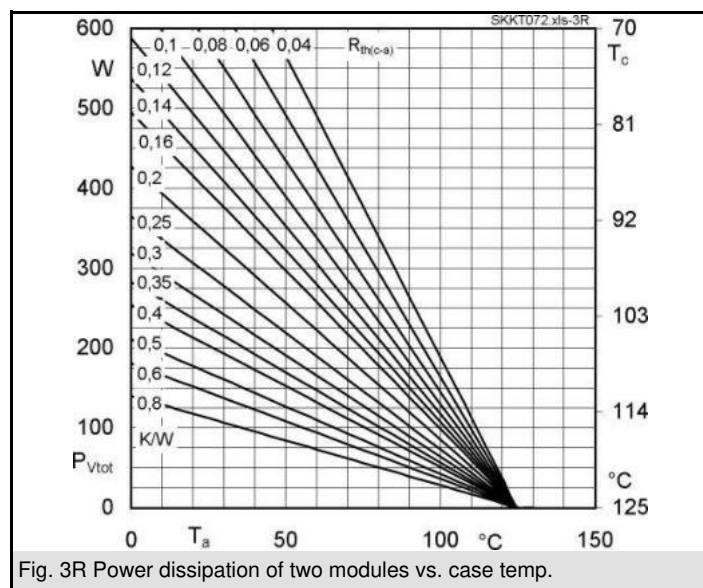
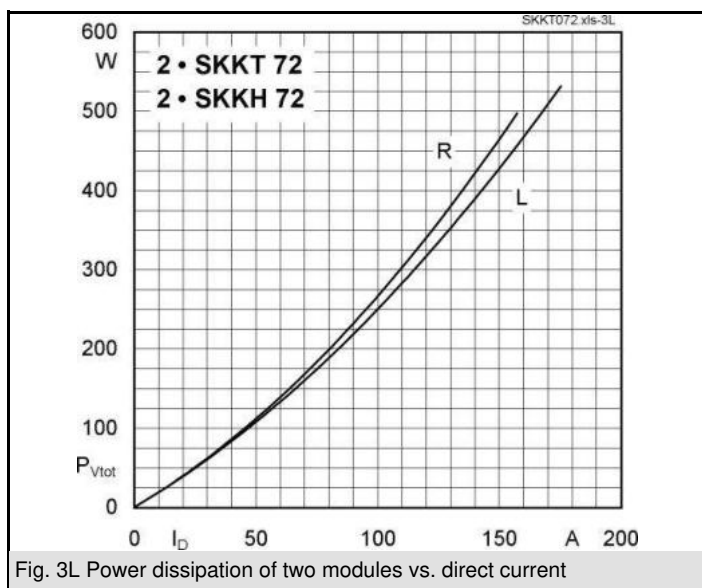
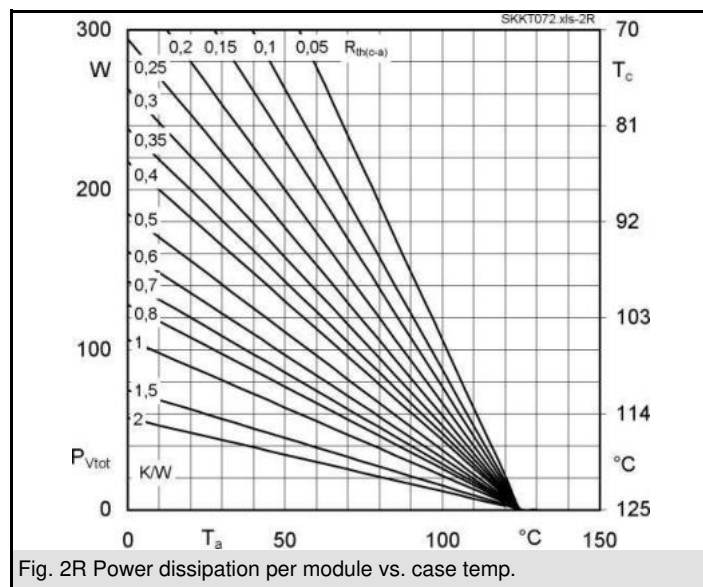
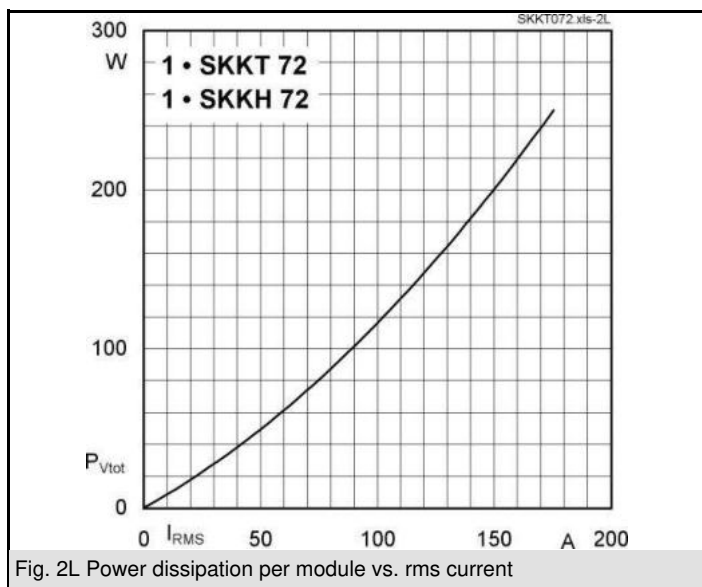
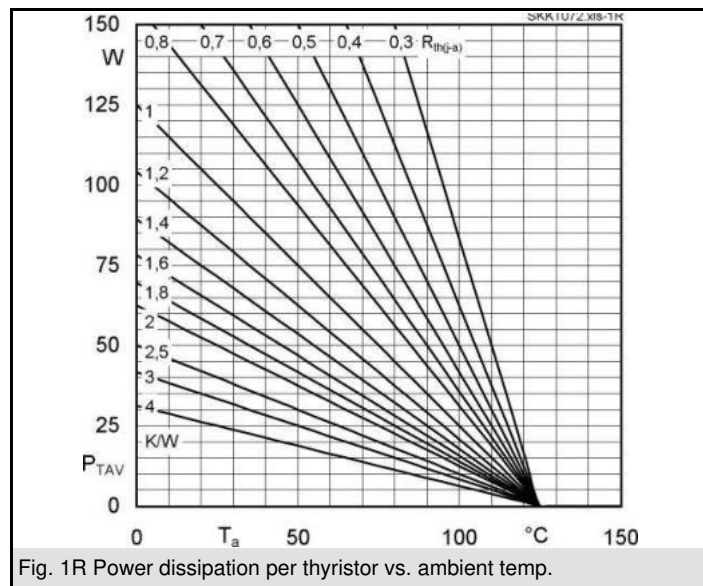
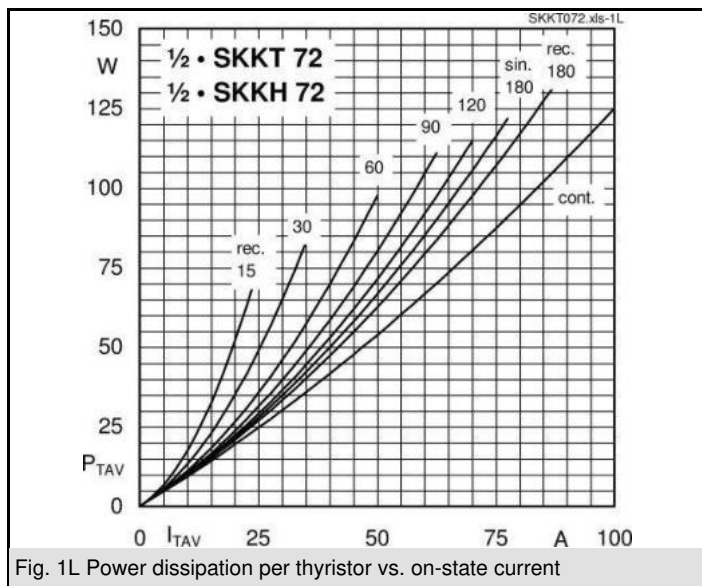
$V_{RSM}$ V	$V_{RRM}, V_{DRM}$ V	$I_{TRMS} = 125$ A (maximum value for continuous operation) $I_{TAV} = 70$ A (sin. 180; $T_c = 85$ °C)		
2100 2300	2000 2200	SKKT 72/20E H4 SKKT 72/22E H4	SKKH 72/20E H4 SKKH 72/22E H4	

Symbol	Conditions	Values	Units
$I_{TAV}$	sin. 180; $T_c = 85$ (100) °C;	70 (50)	A
$I_D$	P3/180; $T_a = 45$ °C; B2 / B6	62 / 75	A
	P3/180F; $T_a = 35$ °C; B2 / B6	115 / 145	A
$I_{RMS}$	P3/180F; $T_a = 35$ °C; W1 / W3	155 / 3 * 115	A
$I_{TSM}$	$T_{vj} = 25$ °C; 10 ms	1600	A
	$T_{vj} = 125$ °C; 10 ms	1450	A
$i^2t$	$T_{vj} = 25$ °C; 8,3 ... 10 ms	13000	A²s
	$T_{vj} = 125$ °C; 8,3 ... 10 ms	10500	A²s
$V_T$	$T_{vj} = 25$ °C; $I_T = 300$ A	max. 1,9	V
$V_{T(TO)}$	$T_{vj} = 125$ °C	max. 0,9	V
$r_T$	$T_{vj} = 125$ °C	max. 3,5	mΩ
$I_{DD}, I_{RD}$	$T_{vj} = 125$ °C; $V_{RD} = V_{RRM}, V_{DD} = V_{DRM}$	max. 30	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.	150 / 250	mA
$I_L$	$T_{vj} = 25$ °C; $R_G = 33$ Ω; typ. / max.	300 / 600	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. 6	mA
$R_{th(j-c)}$	cont.; per thyristor / per module	0,35 / 0,18	K/W
	sin. 180; per thyristor / per module	0,37 / 0,19	K/W
	rec. 120; per thyristor / per module	0,39 / 0,2	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.	4800 / 4000	V~
$M_s$	to heatsink	$5 \pm 15$ % <sup>1)</sup>	Nm
$M_t$	to terminals	$3 \pm 15$ %	Nm
$a$		$5 * 9,81$	m/s²
$m$	approx.	95	g
Case	SKKT	A 46	
	SKKH	A 47	



SKKT

SKKH



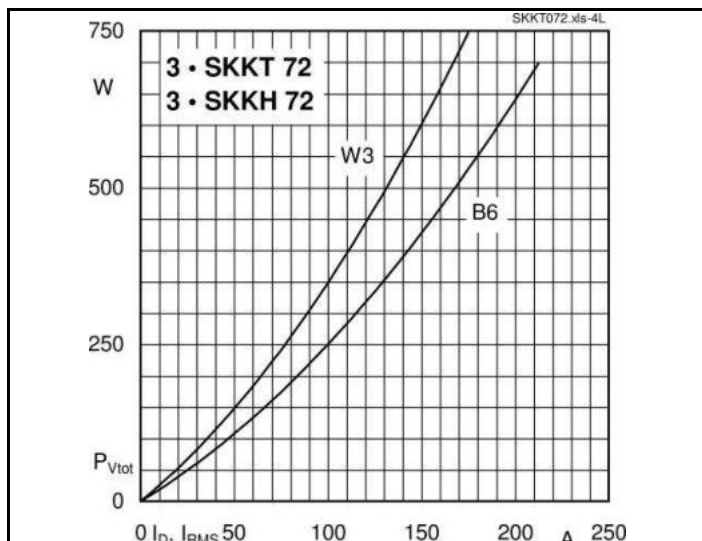


Fig. 4L Power dissipation of three modules vs. direct and rms current

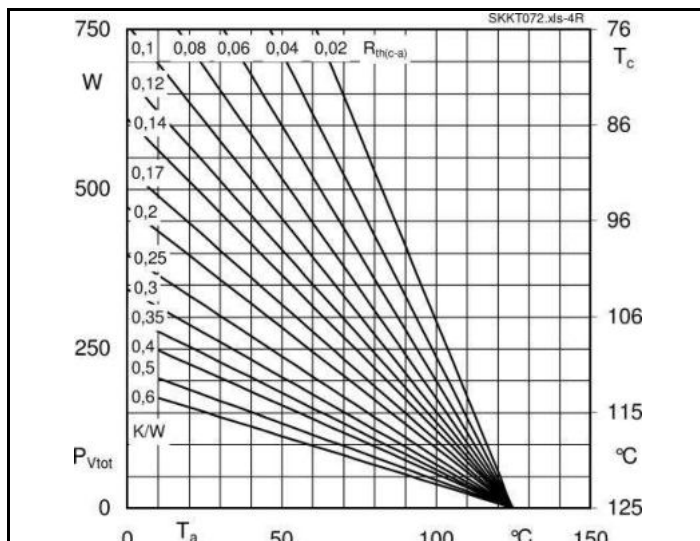


Fig. 4R Power dissipation of three modules vs. case temp.

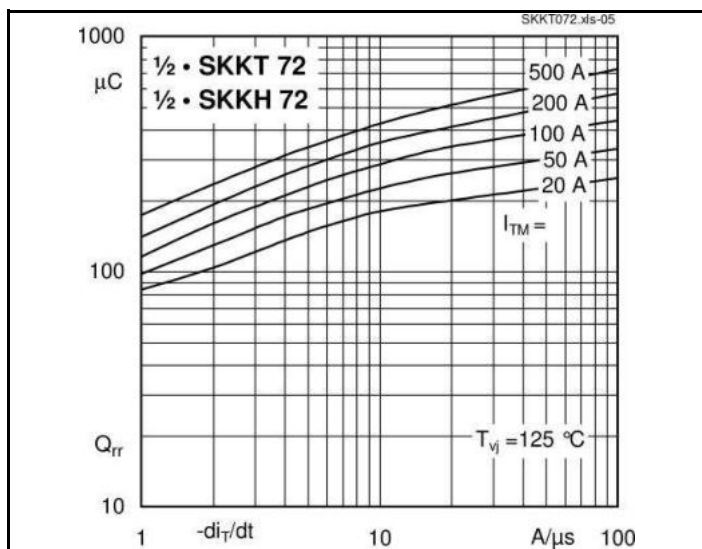


Fig. 5 Recovered charge vs. current decrease

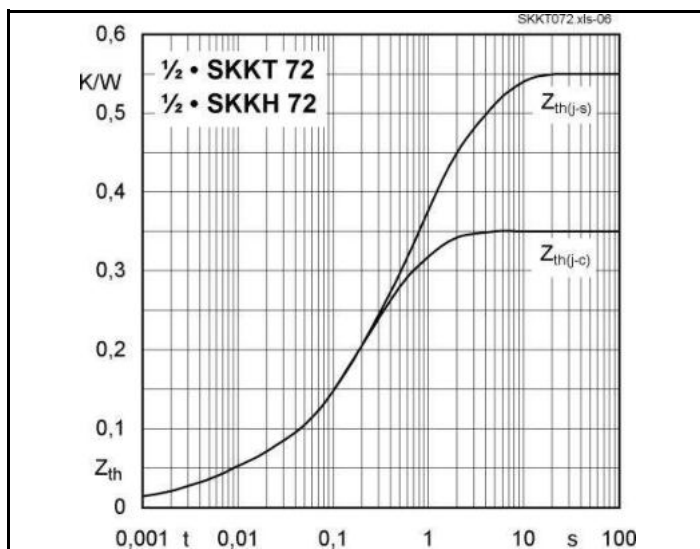


Fig. 6 Transient thermal impedance vs. time

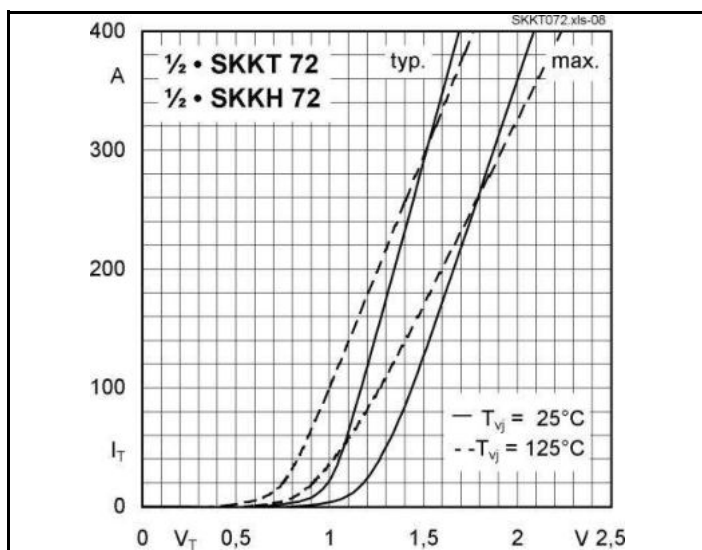


Fig. 7 On-state characteristics

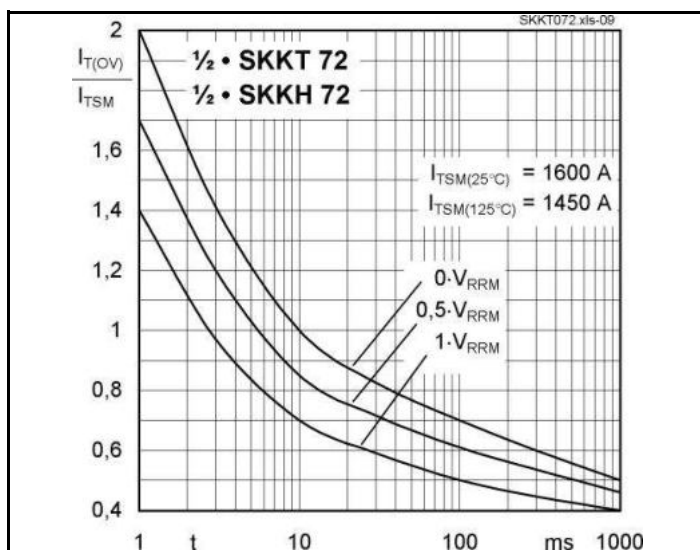
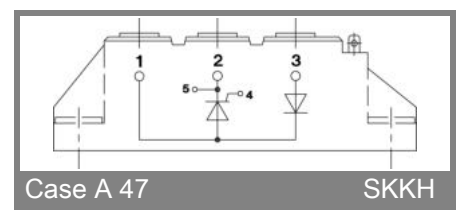
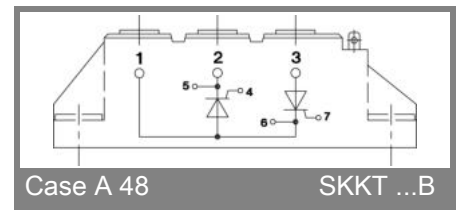
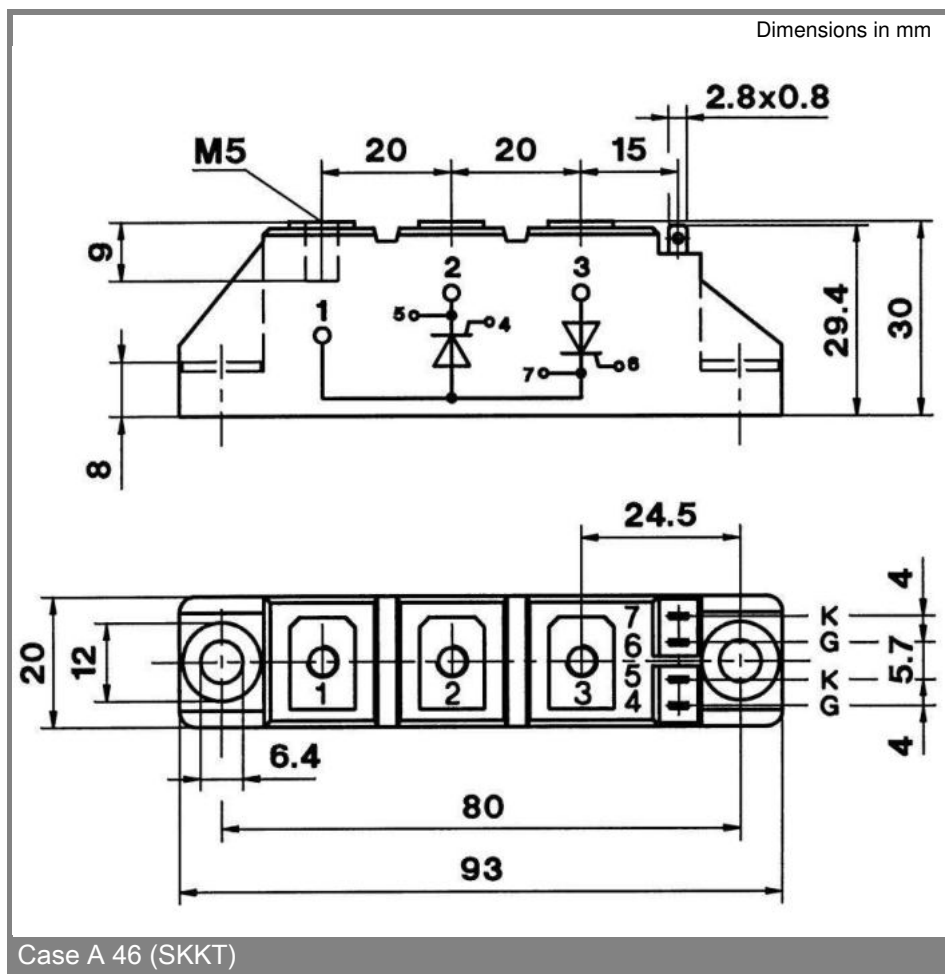
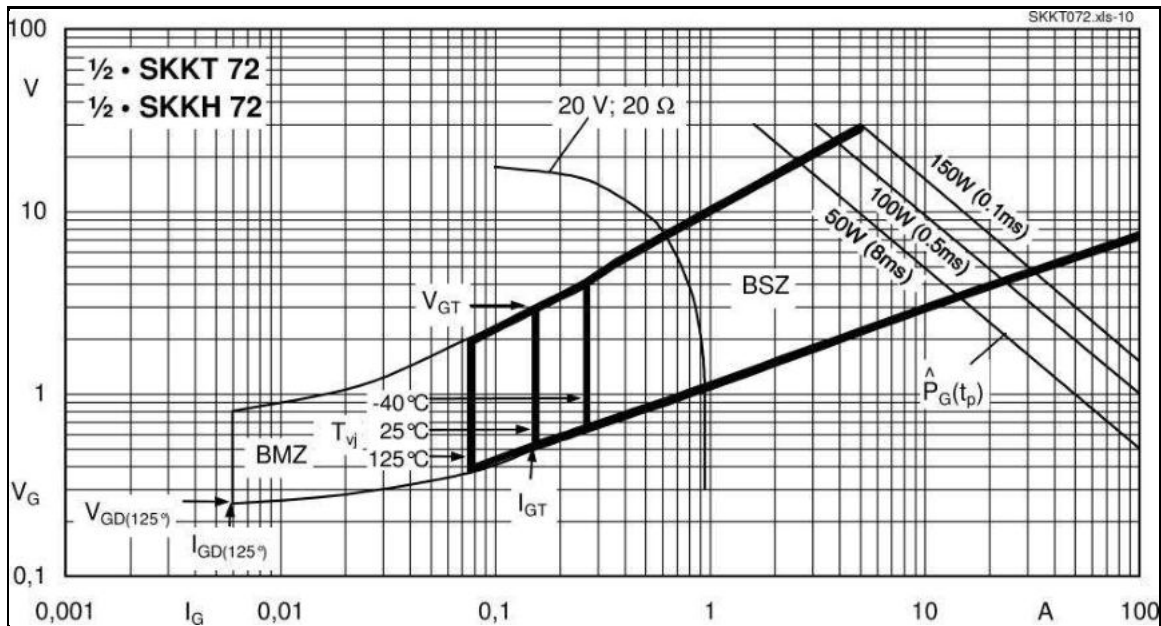


Fig. 8 Surge overload current vs. time



\* 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.