SKET 400

SEMIPACK® 4

Thyristor Modules

SKET 400

Features

- Heat transfer through aluminium nitride ceramic isolated metal baseplate
- Precious metal pressure contacts for high reliability
- Thyristor with amplifying gate
- UL recognized, file no. E 63 532

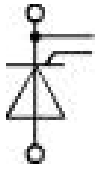
Typical Applications*

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

1) See the assembly instructions

V_{RSM} V	V_{RRM}, V_{DRM} V	I_{TRMS} = 700 A (maximum value for continuous operation) I_{TAV} = 400 A (sin. 180; T_c = 84 °C)		
900	800	SKET 400/08E		
1300	1200	SKET 400/12E		
1500	1400	SKET 400/14E		
1700	1600	SKET 400/16E		
1900	1800	SKET 400/18E		

Symbol	Conditions	Values	Units
I_{TAV}	sin. 180; T_c = 85 (100) °C;	392 (280)	A
I_D	P16/300F; T_a = 35 °C; B2 / B6	700 / 880	A
I_{RMS}	P16/400F; T_a = 35 °C; W1 / W3	905 / 3 * 720	A
I_{TSM}	T_{vj} = 25 °C; 10 ms	14000	A
	T_{vj} = 130 °C; 10 ms	12000	A
i²t	T_{vj} = 25 °C; 8,3 ... 10 ms	980000	A²s
	T_{vj} = 130 °C; 8,3 ... 10 ms	720000	A²s
V_T	T_{vj} = 25 °C; I_T = 2400 A	max. 1,7	V
$V_{T(TO)}$	T_{vj} = 130 °C	max. 0,92	V
r_T	T_{vj} = 130 °C	max. 0,3	mΩ
I_{DD}; I_{RD}	T_{vj} = 130 °C; V_{RD} = V_{RRM}; V_{DD} = V_{DRM}	max. 130	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. 125	A/µs
$(dv/dt)_{cr}$	T_{vj} = 130 °C	max. 1000	V/µs
t_q	T_{vj} = 130 °C ,	150 ... 200	µs
I_H	T_{vj} = 25 °C; typ. / max.	150 / 500	mA
I_L	T_{vj} = 25 °C; R_G = 33 Ω; typ. / max.	500 / 2000	mA
V_{GT}	T_{vj} = 25 °C; d.c.	min. 3	V
I_{GT}	T_{vj} = 25 °C; d.c.	min. 200	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.	0,09	K/W
$R_{th(j-c)}$	sin. 180	0,095	K/W
$R_{th(j-c)}$	rec. 120	0,11	K/W
$R_{th(c-s)}$		0,02	K/W
T_{vj}		- 40 ... + 130	°C
T_{stg}		- 40 ... + 130	°C
V_{isol}	a. c. 50 Hz; r.m.s.; 1s / 1 min.	3600 / 3000	V~
M_s	to heatsink	5 ± 15 %[1)]	Nm
M_t	to terminal	17 ± 15 %	Nm
a		5 * 9,81	m/s²
m	approx.	940	g
Case		A 36	



SKET

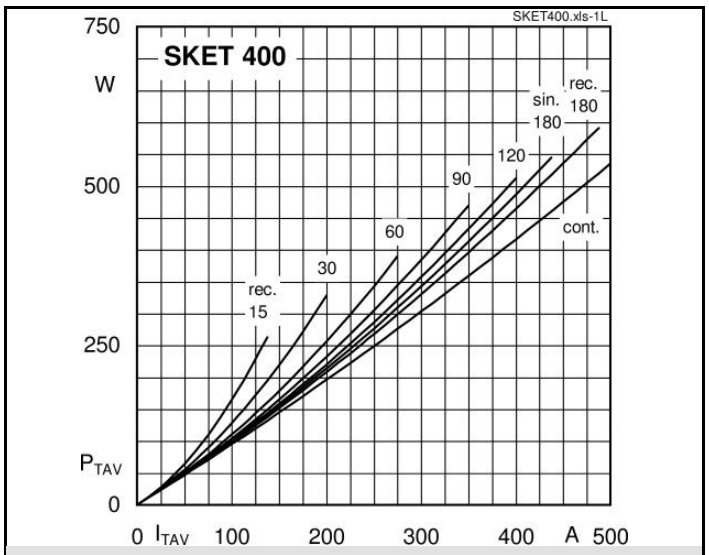


Fig. 1L Power dissipation per thyristor vs. on-state current

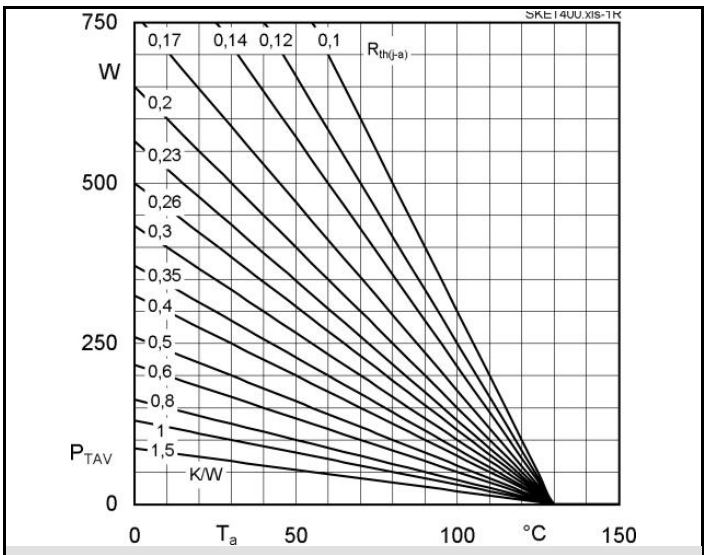


Fig. 1R Power dissipation per thyristor vs. ambient temp.

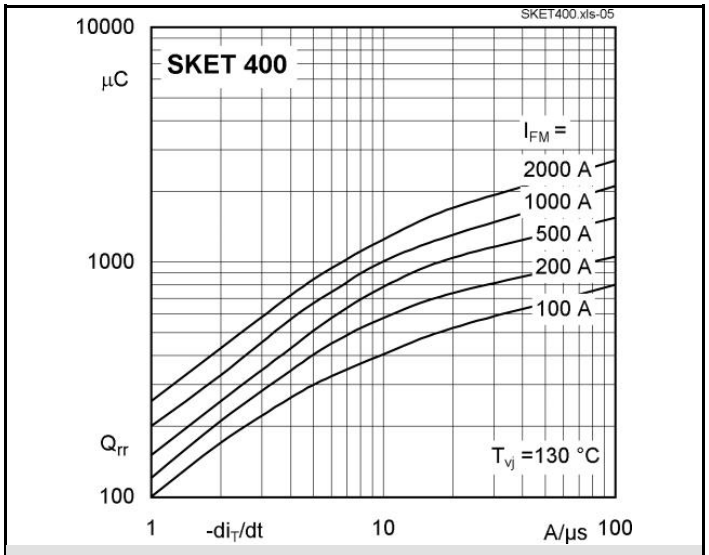


Fig. 5 Recovered charge vs. current decrease

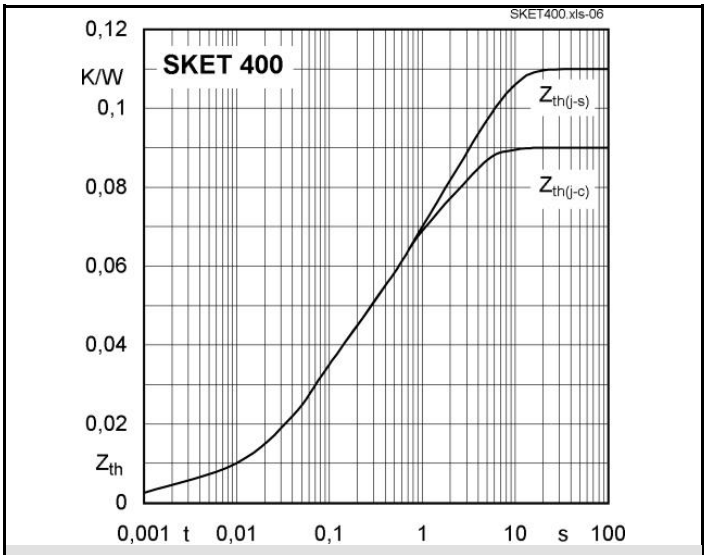


Fig. 6 Transient thermal impedance vs. time

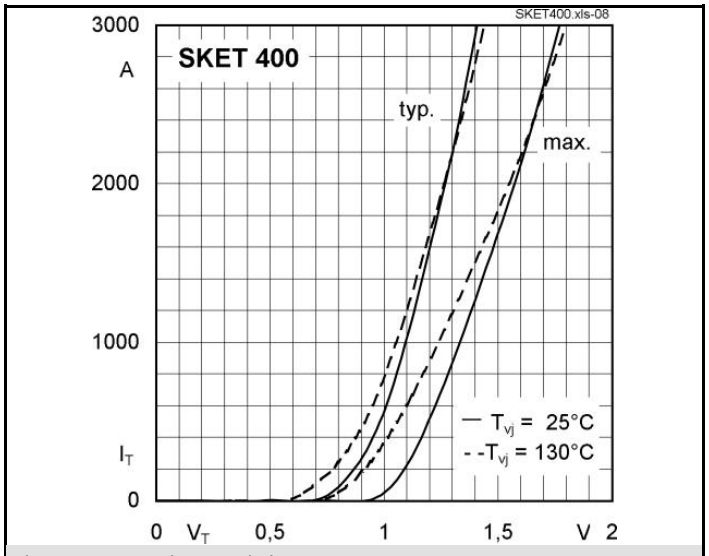


Fig. 7 On-state characteristics

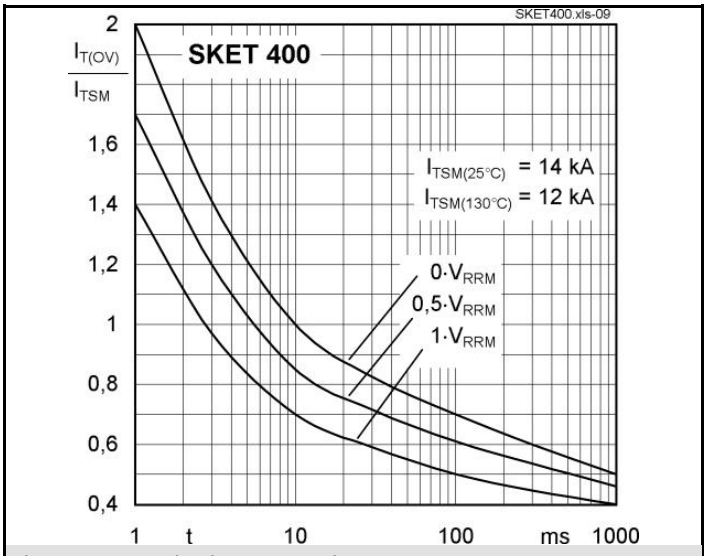


Fig. 8 Surge overload current vs. time

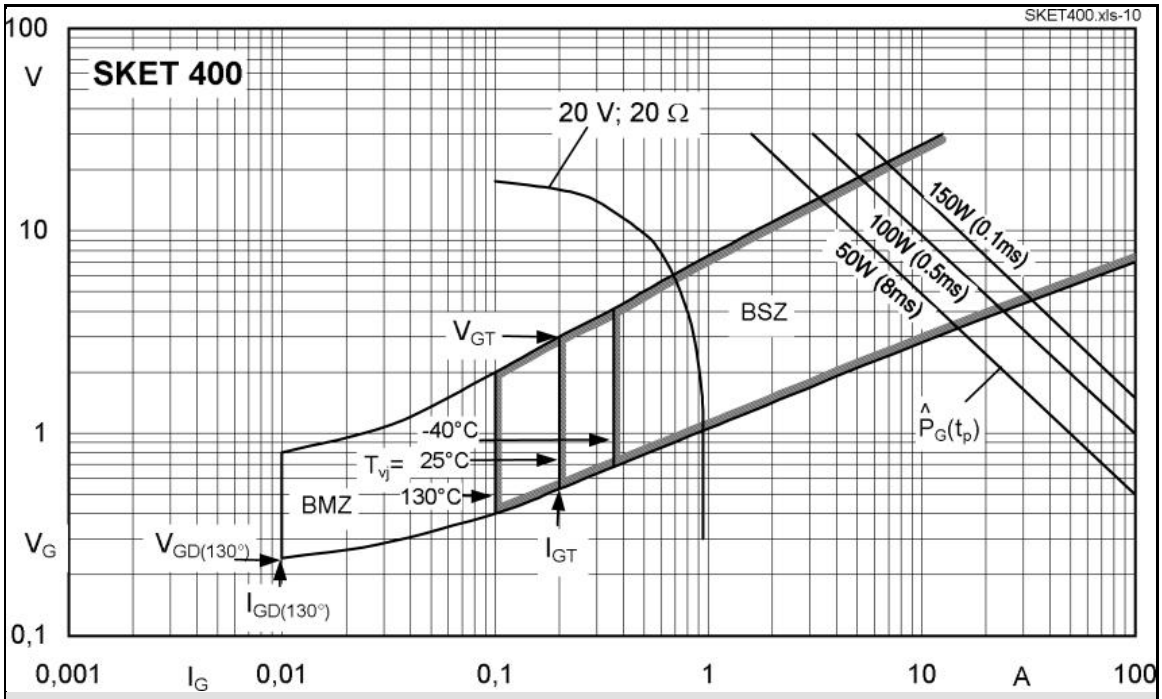
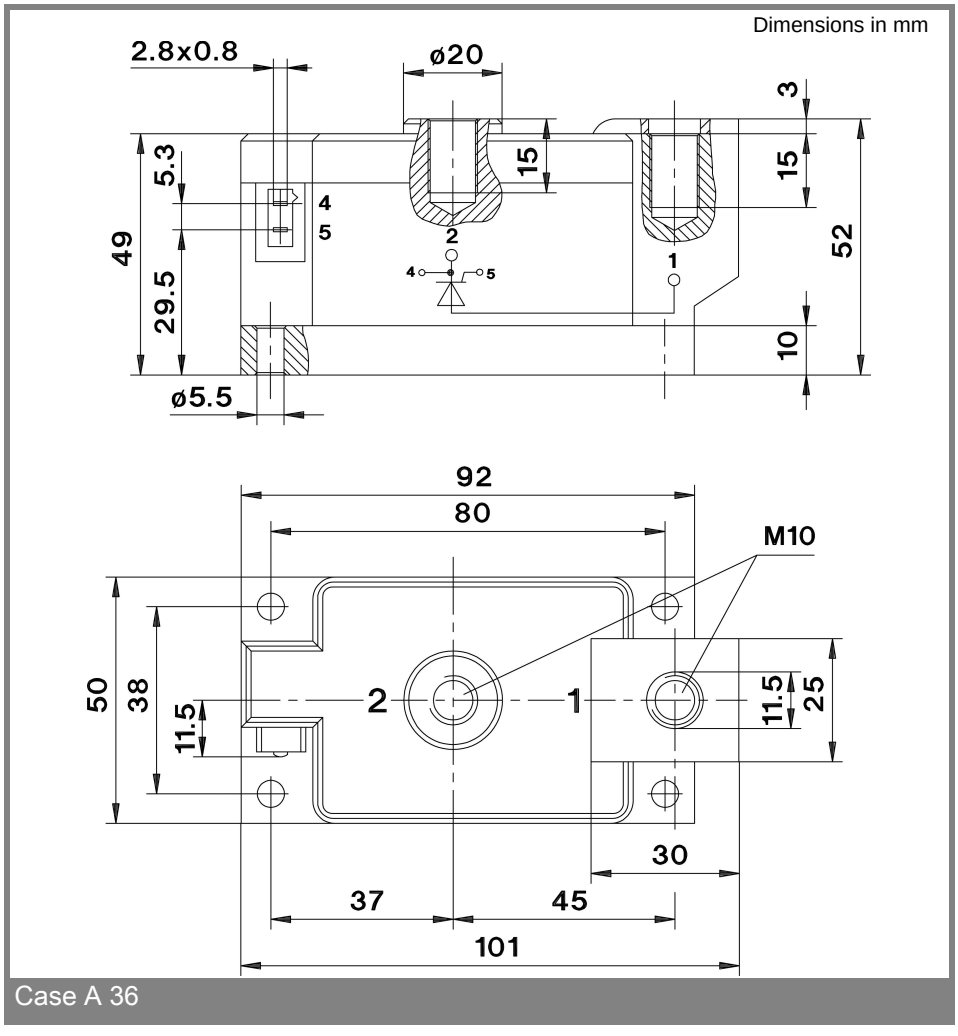


Fig. 9 Gate trigger characteristics



Case A 36

* 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 staff.

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