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
2) The screws must be lubricated

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 400/08D		
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	0,92	V
r_T	T_{vj} = 130 °C	0,3	mΩ
I_{DD}; I_{RD}	T_{vj} = 130 °C; V_{RD} = V_{RRM}; V_{DD} = V_{DRM}	max. 80	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 ; SKET ...D / SKET ...E	max. 500 / 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 %[2)]	Nm
a		5 * 9,81	m/s²
m	approx.	940	g
Case		A 36	

SKET

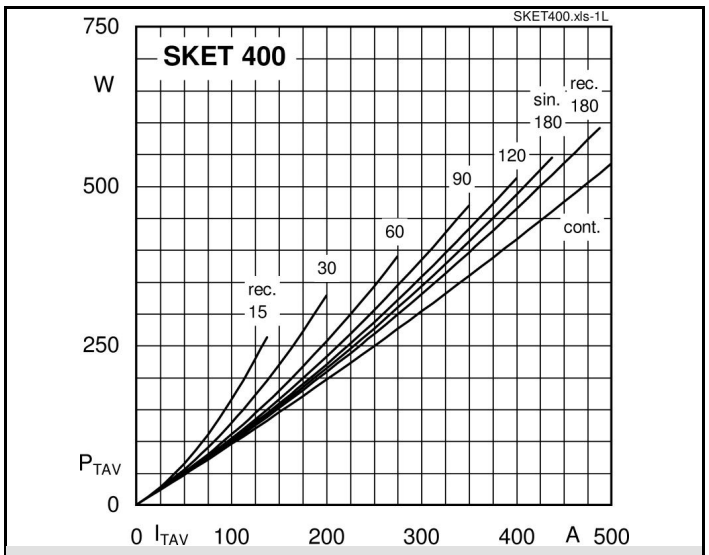


Fig. 1L Power dissipation per thyristor vs. on-state current

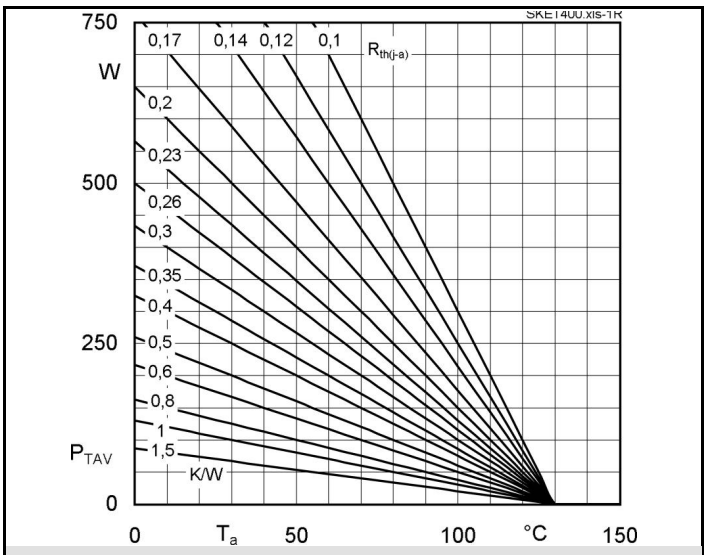


Fig. 1R Power dissipation per thyristor vs. ambient temp.

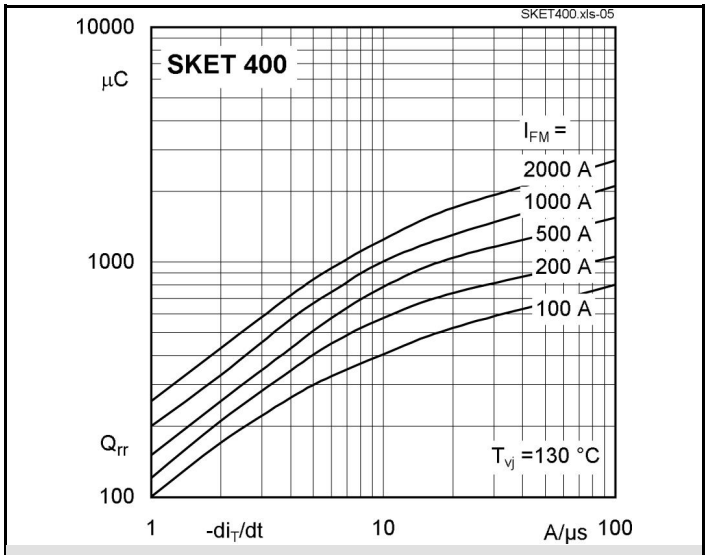


Fig. 5 Recovered charge vs. current decrease

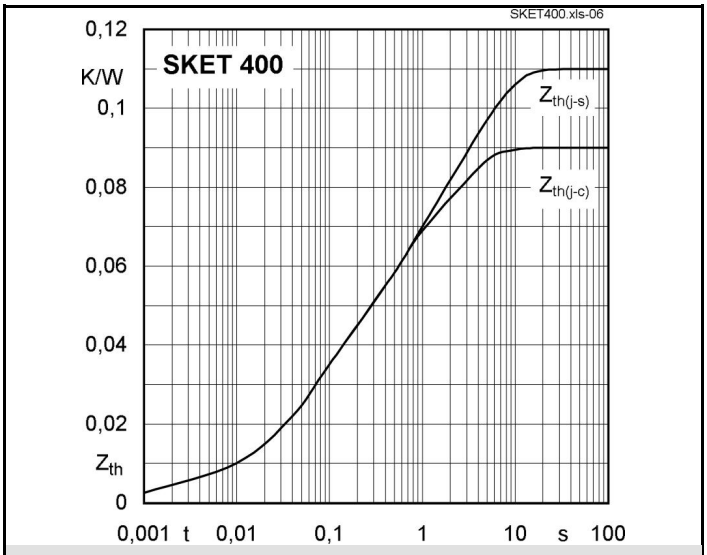


Fig. 6 Transient thermal impedance vs. time

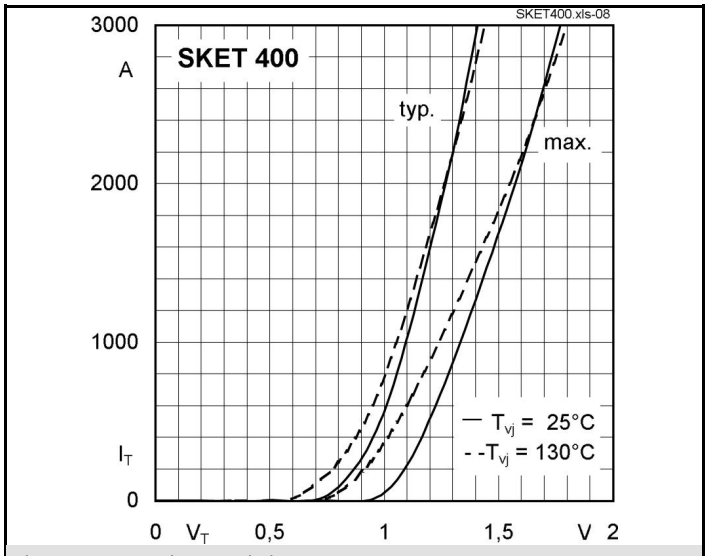


Fig. 7 On-state characteristics

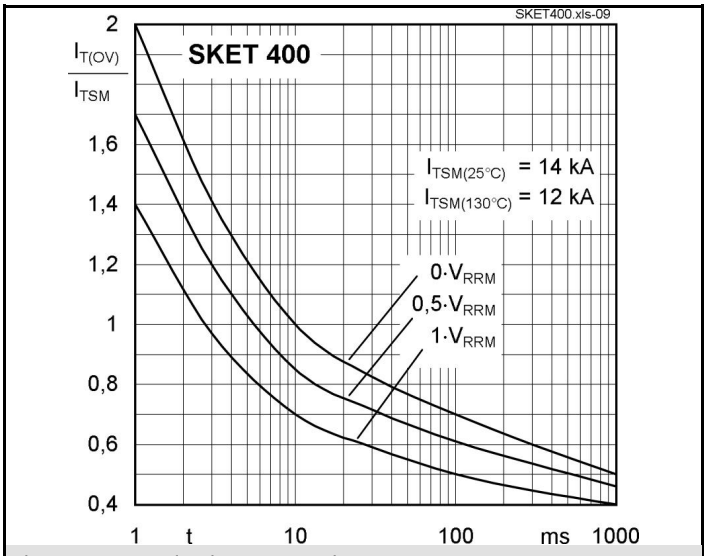


Fig. 8 Surge overload current vs. time

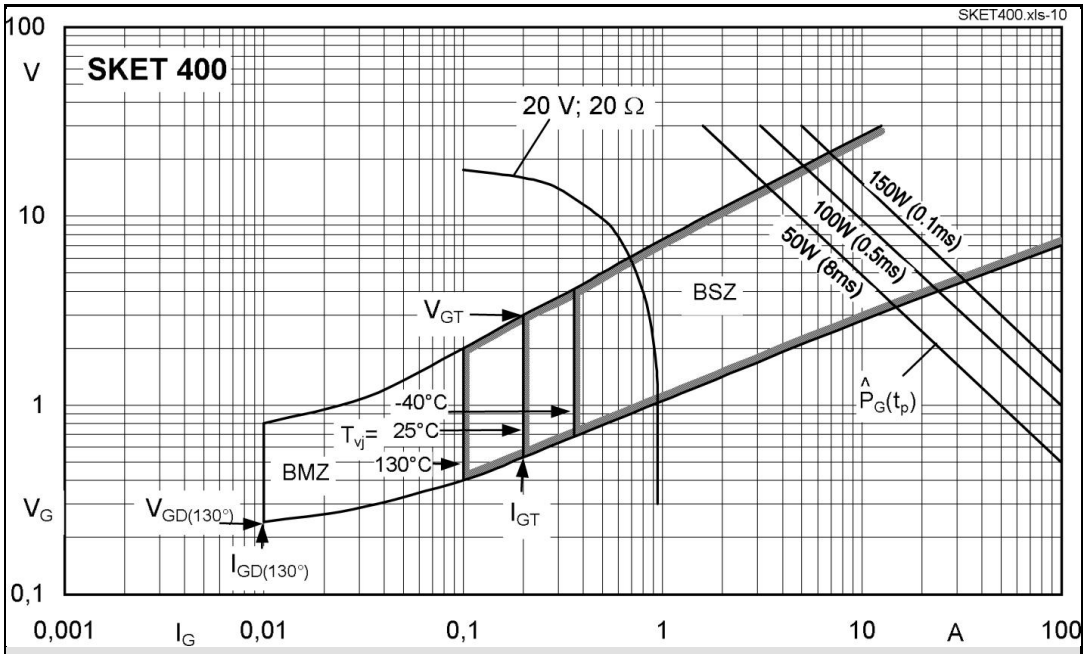
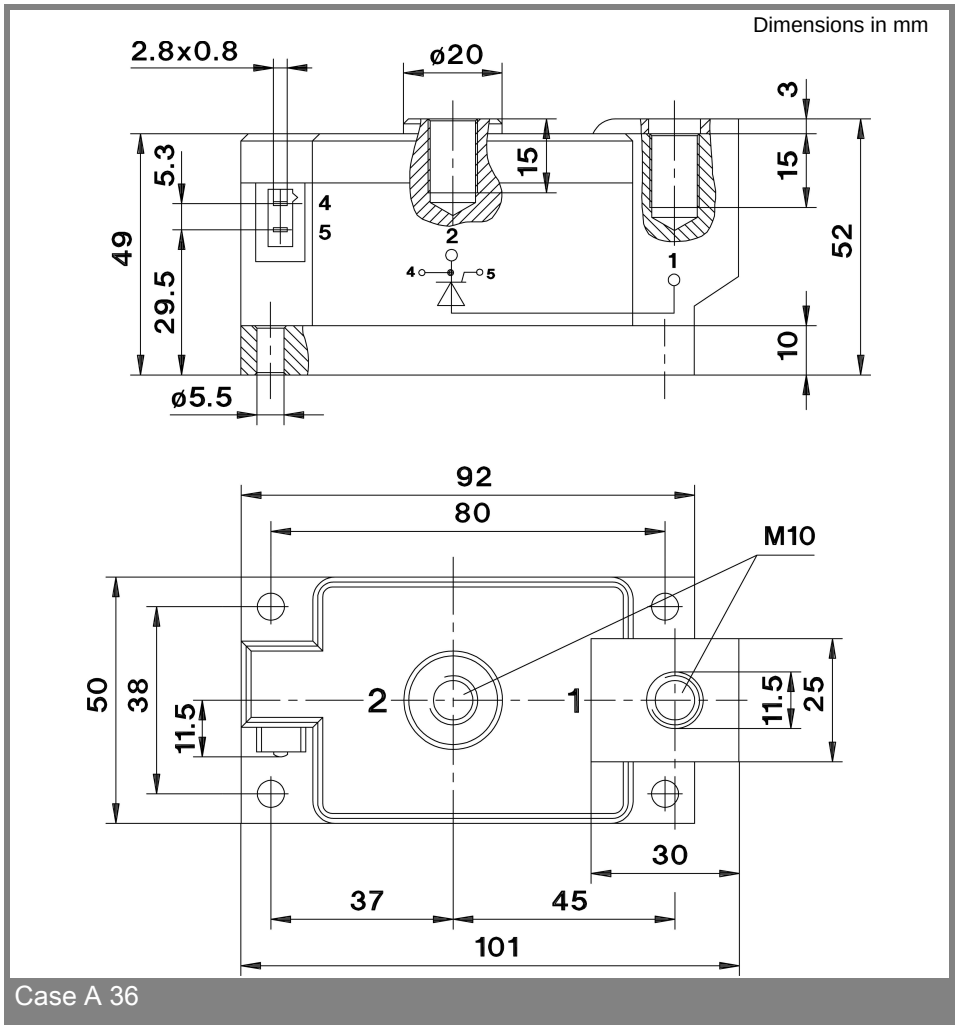


Fig. 9 Gate trigger characteristics



Case A 36

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