



Capsule Thyristor

Line Thyristor

SKT 2400

Features

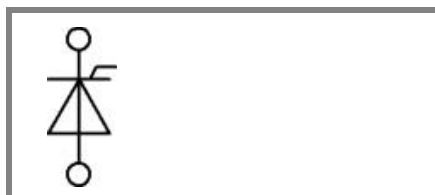
- Hermetic metal case with ceramic insulator
- Capsule package for double sided cooling
- Shallow design with single sided cooling
- Off-state and reverse voltages up to 1800 V
- Amplifying gate

Typical Applications*

- DC motor control (e. g. for machine tools)
- Controlled rectifiers (e. g. for battery charging)
- AC controllers (e. g. for temperature control)
- Soft starters for AC motors
- Recommended snubber network e. g. for $V_{VRMS} \leq 400$ V:
 $R = 33 \Omega / 32$ W, $C = 1 \mu F$

V_{RSM} V	V_{RRM}, V_{DRM} V	$I_{TRMS} = 5700$ A (maximum value for continuous operation) $I_{TAV} = 2400$ A (sin. 180; DSC; $T_c = 76$ °C)	
1300	1200	SKT 2400/12E	
1500	1400	SKT 2400/14E	
1700	1600	SKT 2400/16E	
1900	1800	SKT 2400/18E	

Symbol	Conditions	Values	Units
I_{TAV}	sin. 180; $T_c = 100$ (85) °C;	1520 (2100)	A
I_D	2 x N4/250; $T_a = 45$ °C; B2 / B6	2650 / 3700	A
I_{RMS}	2 x N4/250; $T_a = 45$ °C; W1C	3000	A
I_{TSM}	$T_{vj} = 25$ °C; 10 ms	55000	A
	$T_{vj} = 125$ °C; 10 ms	47000	A
i^2t	$T_{vj} = 25$ °C; 8,3 ... 10 ms	15125000	A ² s
	$T_{vj} = 125$ °C; 8,3 ... 10 ms	11000000	A ² s
V_T	$T_{vj} = 25$ °C; $I_T = 3000$ A	max. 1,37	V
$V_{T(TO)}$	$T_{vj} = 125$ °C	max. 0,88	V
r_T	$T_{vj} = 125$ °C	max. 0,164	mΩ
I_{DD}, I_{RD}	$T_{vj} = 125$ °C; $V_{RD} = V_{RRM}; V_{DD} = V_{DRM}$	max. 100	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
$(di/dt)_{cr}$	$T_{vj} = 125$ °C	max. 150	A/μs
$(dv/dt)_{cr}$	$T_{vj} = 125$ °C	max. 1000	V/μs
t_q	$T_{vj} = 125$ °C	200 ... 300	μs
I_H	$T_{vj} = 25$ °C; typ. / max.	500 / 1000	mA
I_L	$T_{vj} = 25$ °C; typ. / max.	2000 / 5000	mA
V_{GT}	$T_{vj} = 25$ °C; d.c.	min. 3	V
I_{GT}	$T_{vj} = 25$ °C; d.c.	min. 300	mA
V_{GD}	$T_{vj} = 125$ °C; d.c.	max. 0,25	V
I_{GD}	$T_{vj} = 125$ °C; d.c.	max. 10	mA
$R_{th(j-c)}$	cont.; DSC	0,0105	K/W
$R_{th(j-c)}$	sin. 180; DSC / SSC	0,011 / 0,024	K/W
$R_{th(j-c)}$	rec. 120; DSC / SSC	0,0118 / 0,025	K/W
$R_{th(c-s)}$	DSC / SSC	0,002 / 0,004	K/W
T_{vj}		- 40 ... + 125	°C
T_{stg}		- 40 ... + 130	°C
V_{isol}		-	V~
F	mounting force	37 ... 47	kN
a			m/s ²
m	approx.	1000	g
Case		B 20	



SKT

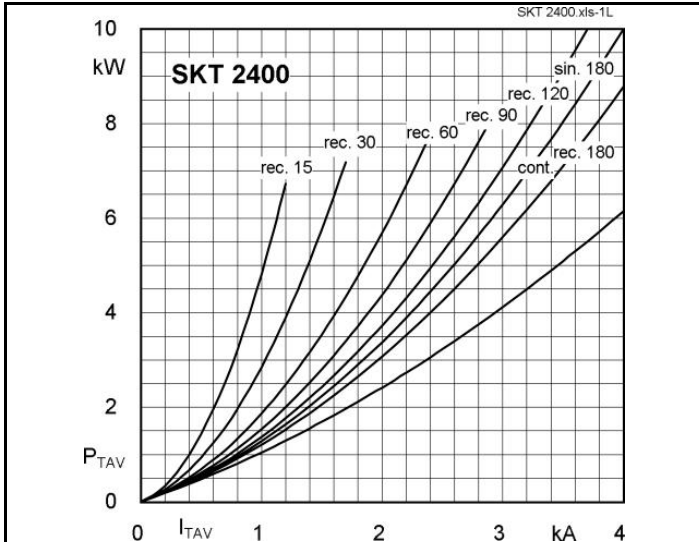


Fig. 1L Power dissipation vs. on-state current

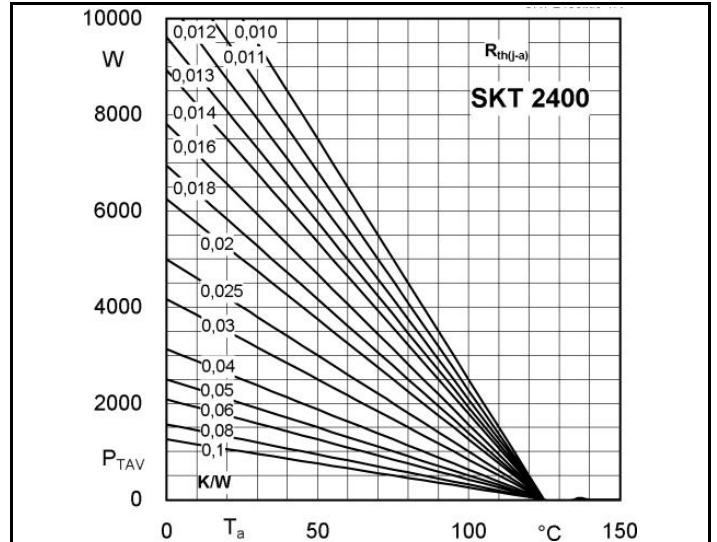


Fig. 1R Power dissipation vs. ambient temperature

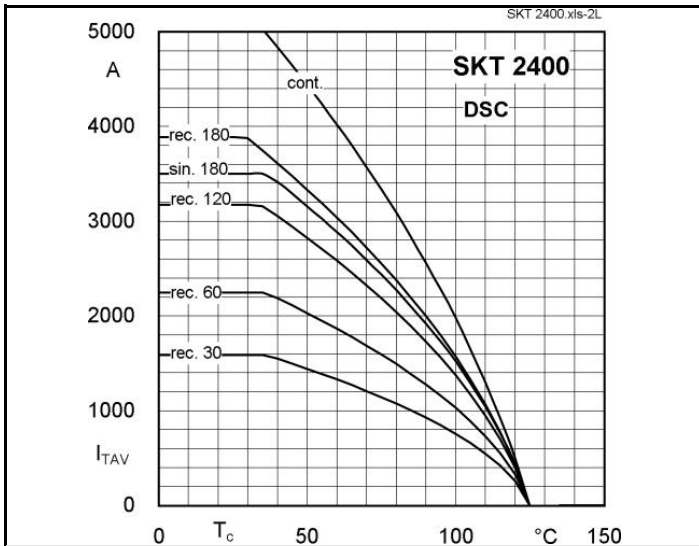


Fig. 2 Rated on-state current vs. case temperature

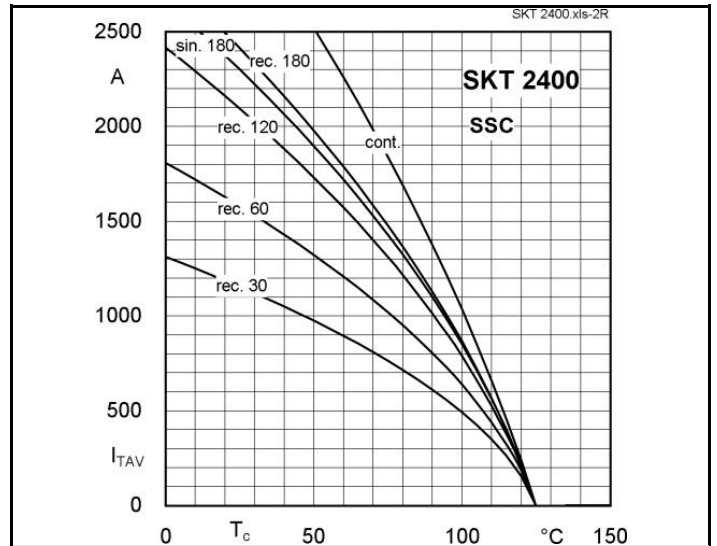


Fig. 2R Rated on-state current vs. case temperature

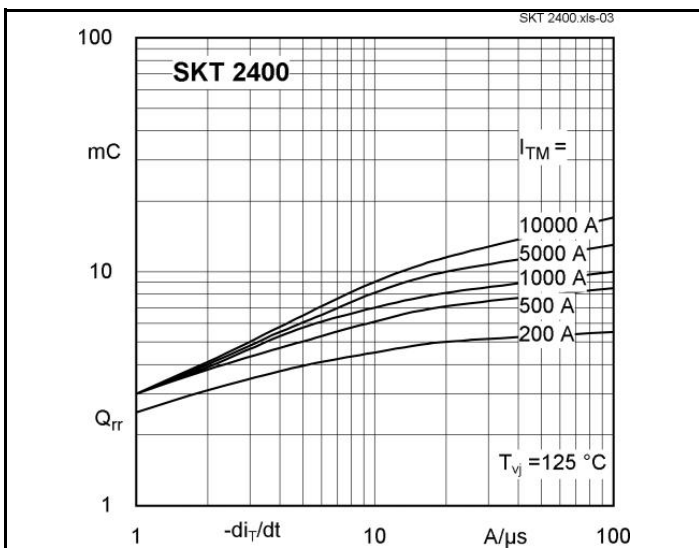


Fig. 3 Recovered charge vs. current decrease

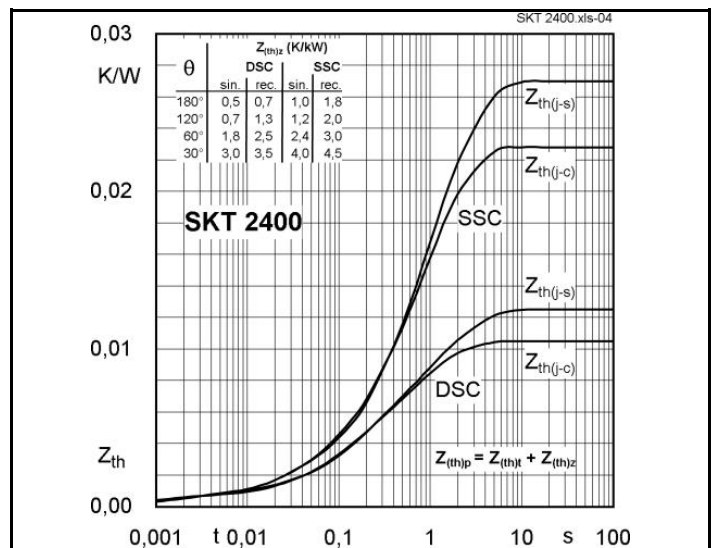
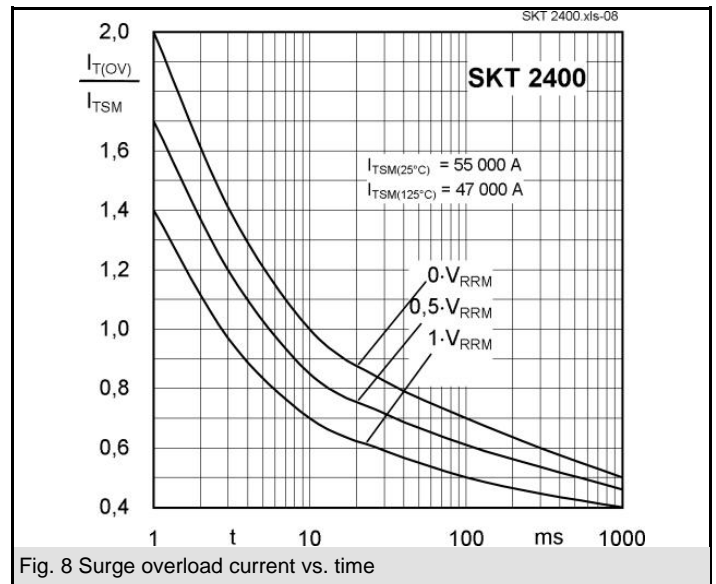
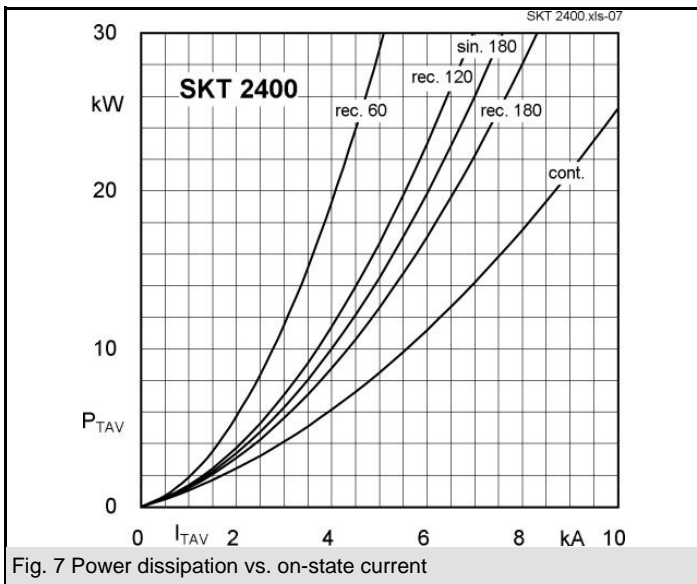
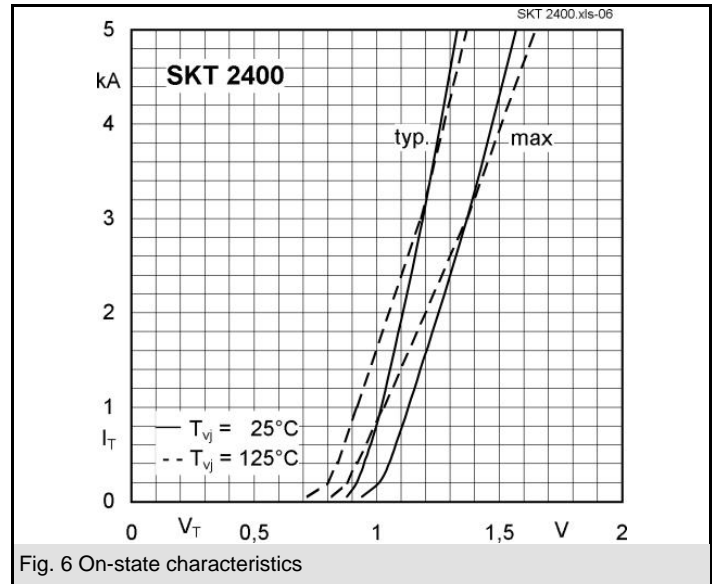
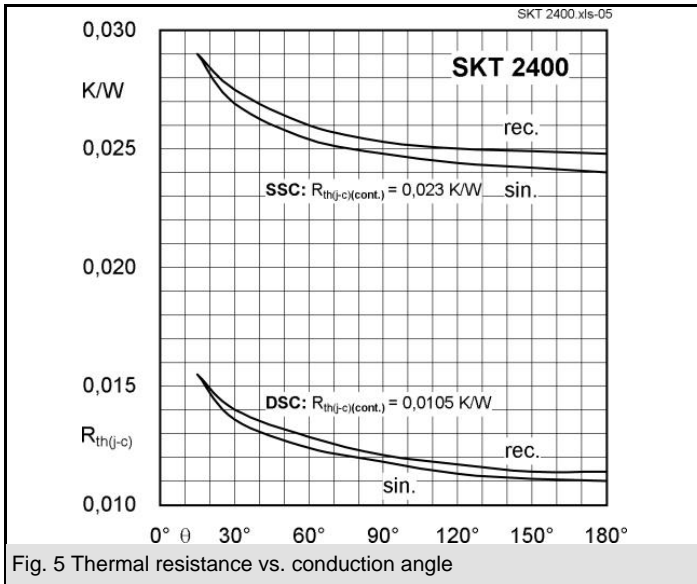


Fig. 4 Transient thermal impedance vs. time



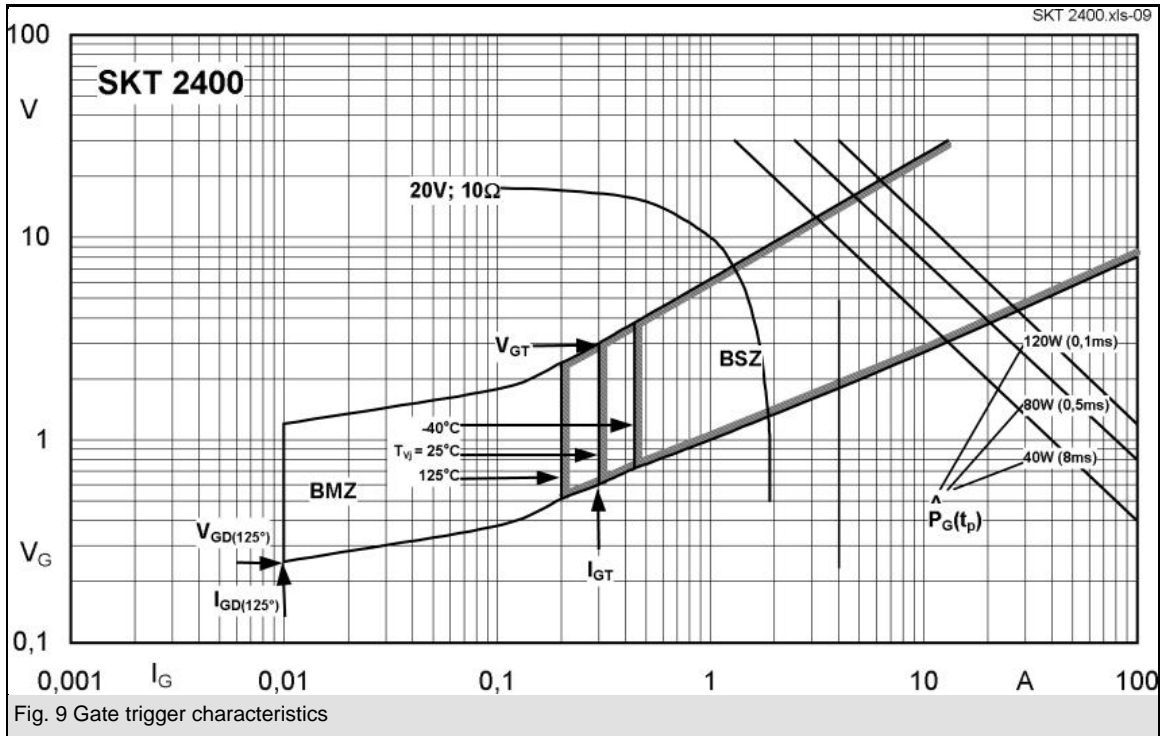
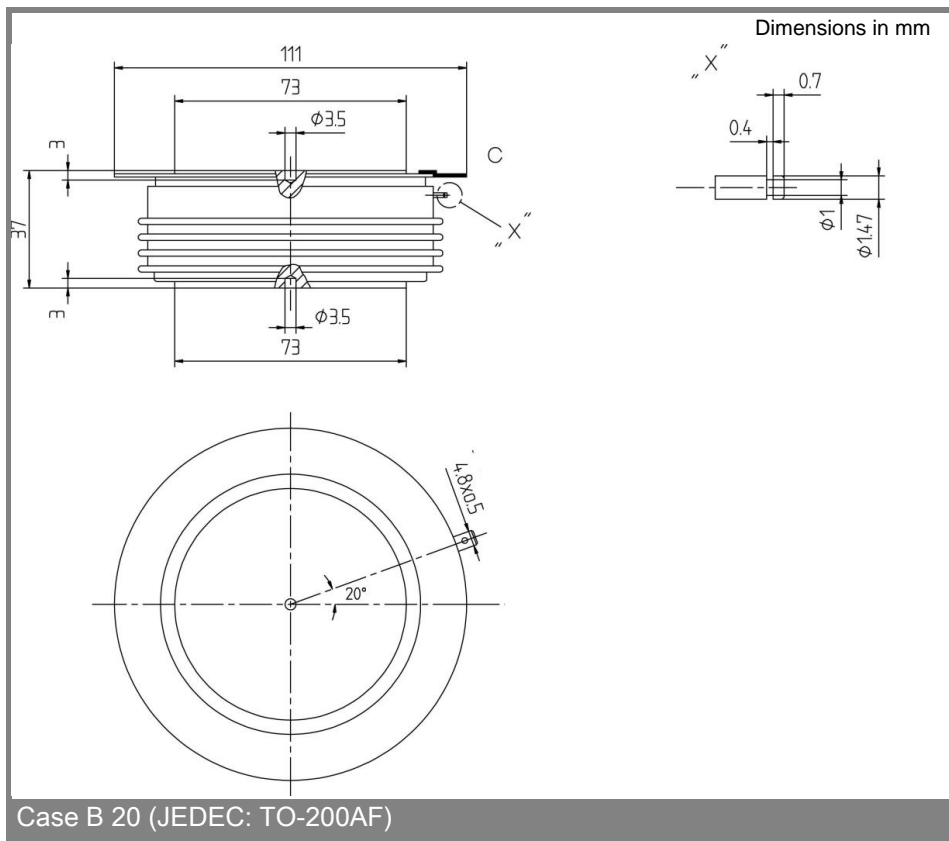


Fig. 9 Gate trigger characteristics



* 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 staff.