

# SKT 240



**Capsule Thyristor**

## Line Thyristor

### SKT 240

#### Features

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

#### Typical Applications\*

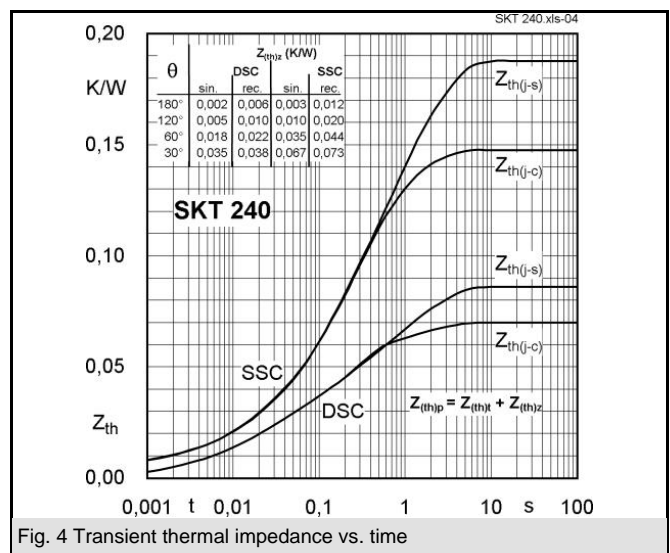
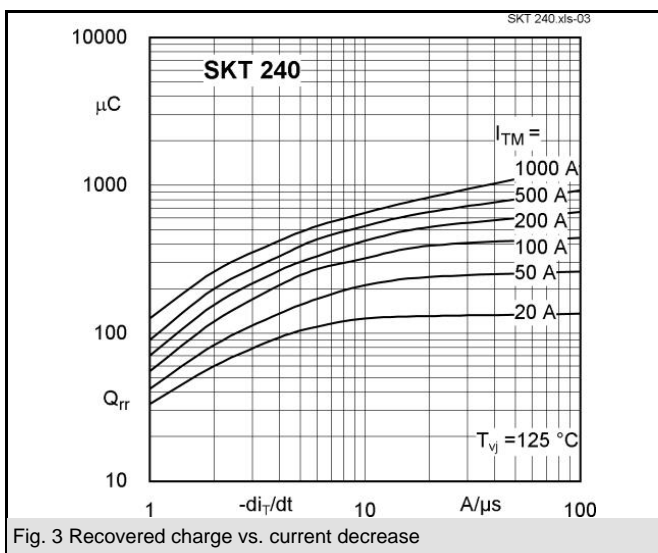
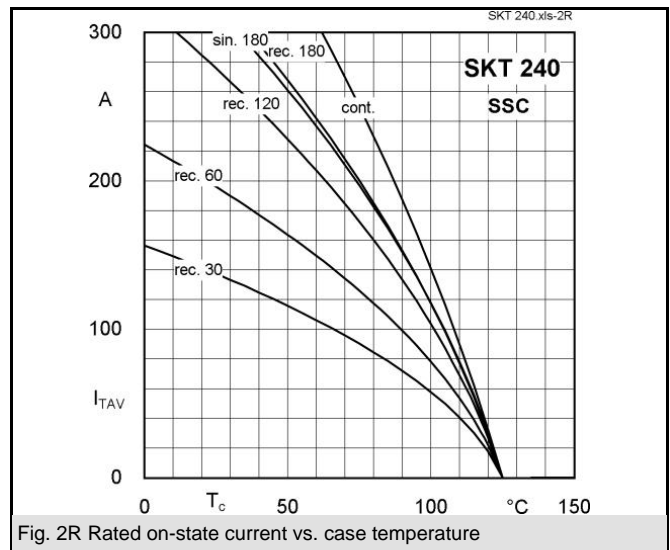
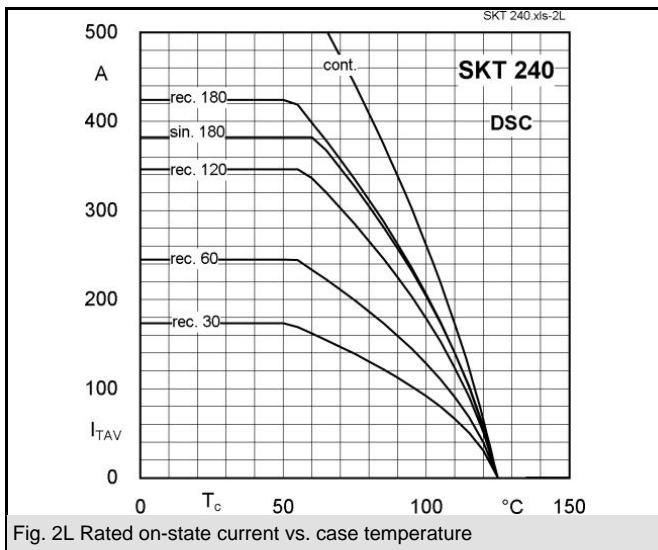
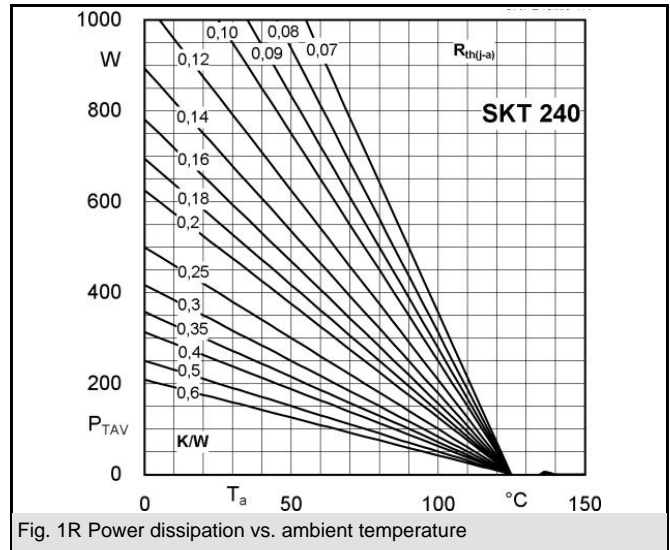
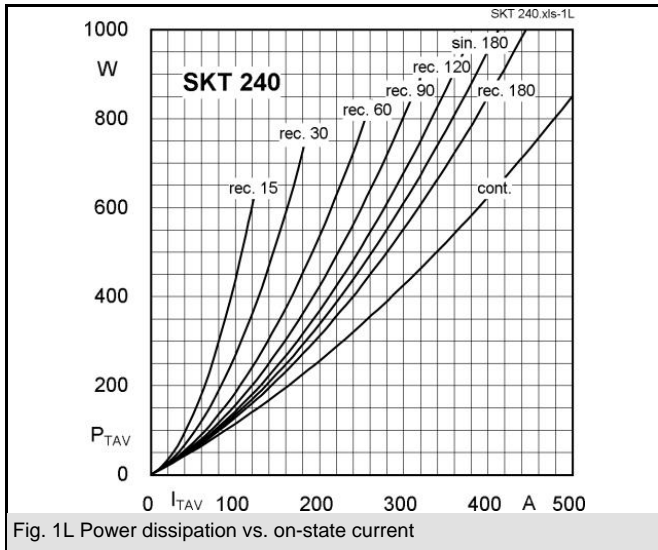
- DC motor control (e. g. for machine tools)
- Controlled rectifiers (e. g. for battery charging)
- AC controllers (e. g. for temperature control)
- Recommended snubber network e. g. for  $V_{VRMS} \leq 400$  V:  
 $R = 33 \Omega / 32$  W,  $C = 0,47 \mu F$

$V_{RSM}$ V	$V_{RRM}; V_{DRM}$ V	$I_{TRMS} = 600$ A (maximum value for continuous operation) $I_{TAV} = 240$ A (sin. 180; DSC; $T_c = 93$ °C)		
500	400	SKT 240/04E		
900	800	SKT 240/08E		
1300	1200	SKT 240/12E		
1500	1400	SKT 240/14E		
1700	1600	SKT 240/16E		
1900	1800	SKT 240/18E		

Symbol	Conditions	Values	Units
$I_{TAV}$	sin. 180; $T_c = 100$ (85) °C;	204 (282 )	A
$I_D$	2 x P8/180; $T_a = 45$ °C; B2 / B6	275 / 390	A
	2 x P8/180F; $T_a = 35$ °C; B2 / B6	540 / 750	A
$I_{RMS}$	2 x P8/180; $T_a = 45$ °C; W1C	300	A
$I_{TSM}$	$T_{vj} = 25$ °C; 10 ms	5000	A
	$T_{vj} = 125$ °C; 10 ms	4500	A
$i^2t$	$T_{vj} = 25$ °C; 8,3 ... 10 ms	125000	A <sup>2</sup> s
	$T_{vj} = 125$ °C; 8,3 ... 10 ms	101000	A <sup>2</sup> s
$V_T$	$T_{vj} = 25$ °C; $I_T = 1000$ A	max. 2,3	V
$V_{T(TO)}$	$T_{vj} = 125$ °C	max. 1	V
$r_T$	$T_{vj} = 125$ °C	max. 1,4	mΩ
$I_{DD}; I_{RD}$	$T_{vj} = 125$ °C; $V_{RD} = V_{RRM}; V_{DD} = V_{DRM}$	max. 40	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. 125	A/μs
$(dv/dt)_{cr}$	$T_{vj} = 125$ °C	max. 1000	V/μs
$t_q$	$T_{vj} = 125$ °C	50 ... 150	μs
$I_H$	$T_{vj} = 25$ °C; typ. / max.	150 / 400	mA
$I_L$	$T_{vj} = 25$ °C; typ. / max.	300 / 1000	mA
$V_{GT}$	$T_{vj} = 25$ °C; d.c.	min. 2	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. 10	mA
$R_{th(j-c)}$	cont.; DSC	0,07	K/W
$R_{th(j-c)}$	sin. 180; DSC / SSC	0,072 / 0,151	K/W
$R_{th(j-c)}$	rec. 120; DSC / SSC	0,08 / 0,168	K/W
$R_{th(c-s)}$	DSC / SSC	0,02 / 0,04	K/W
$T_{vj}$		- 40 ... + 125	°C
$T_{stg}$		- 40 ... + 130	°C
$V_{isol}$		-	V~
F	mounting force	4 ... 5	kN
a			m/s <sup>2</sup>
m	approx.	55	g
Case		B 8	



**SKT**



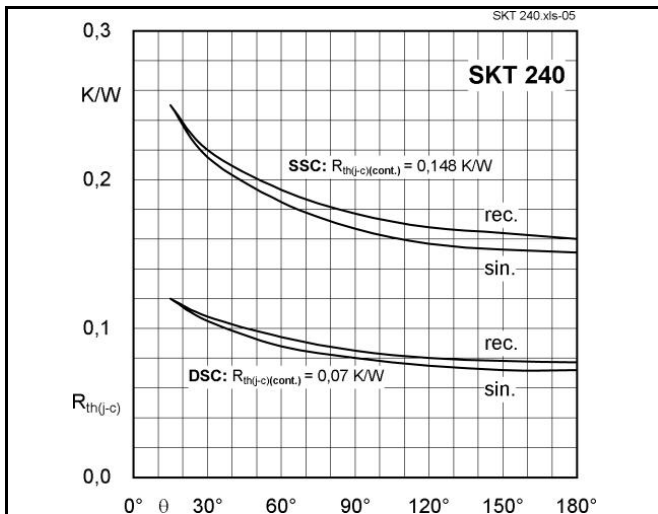


Fig. 5 Thermal resistance vs. conduction angle

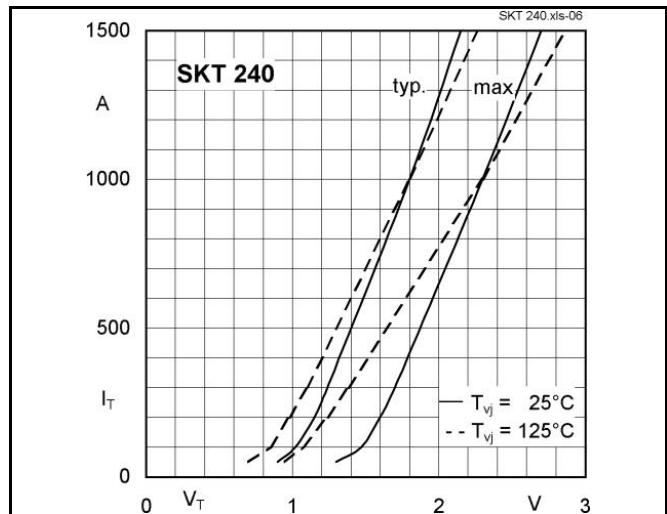


Fig. 6 On-state characteristics

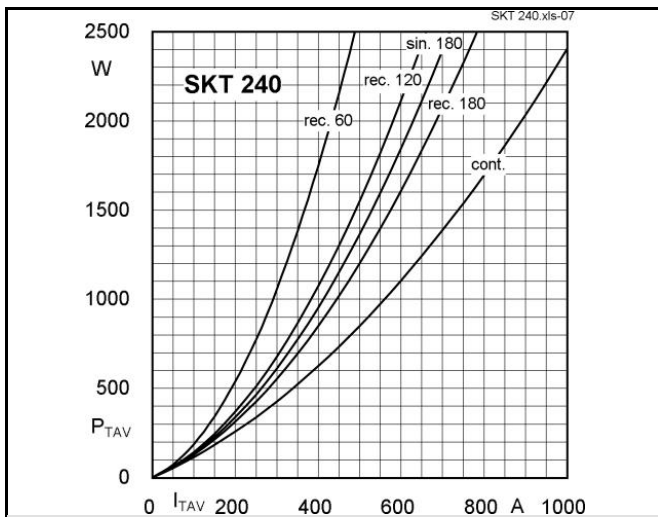


Fig. 7 Power dissipation vs. on-state current

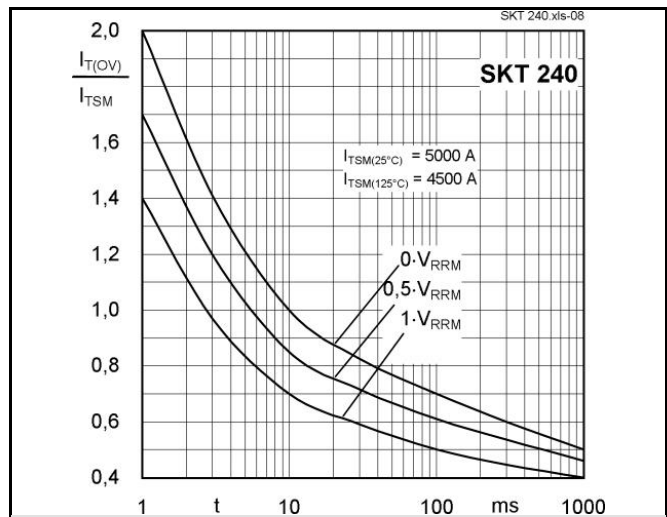
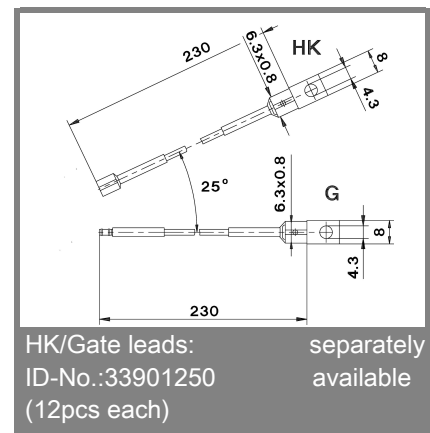
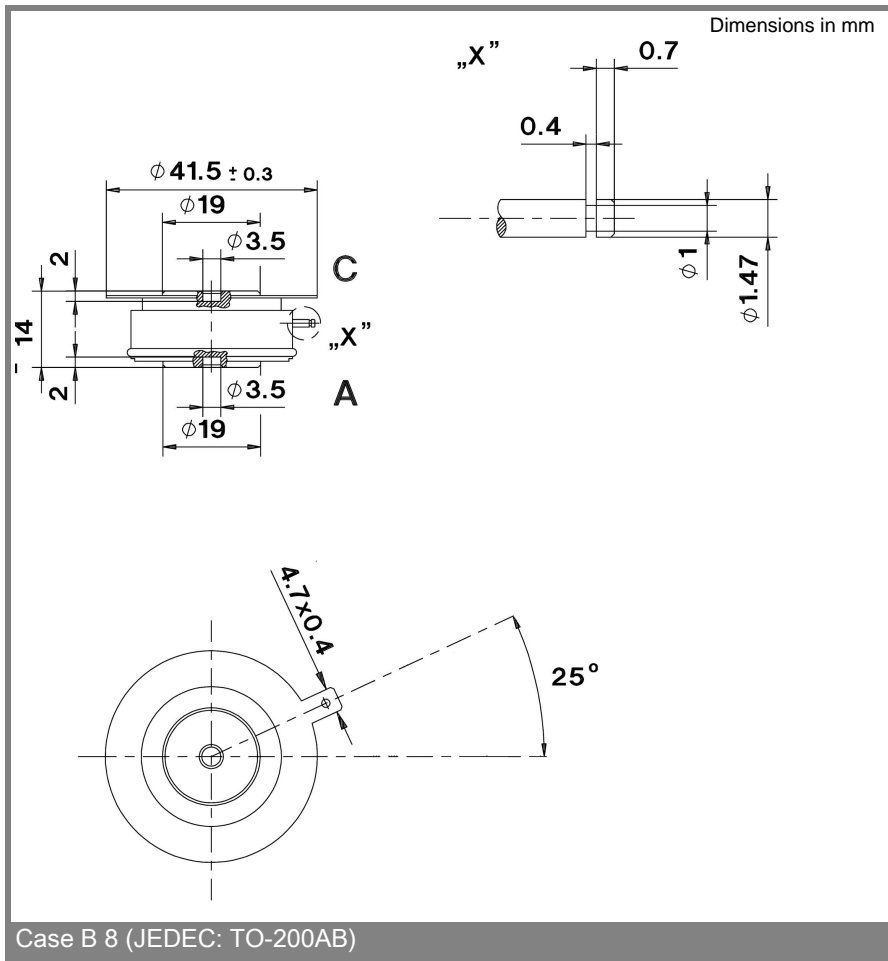
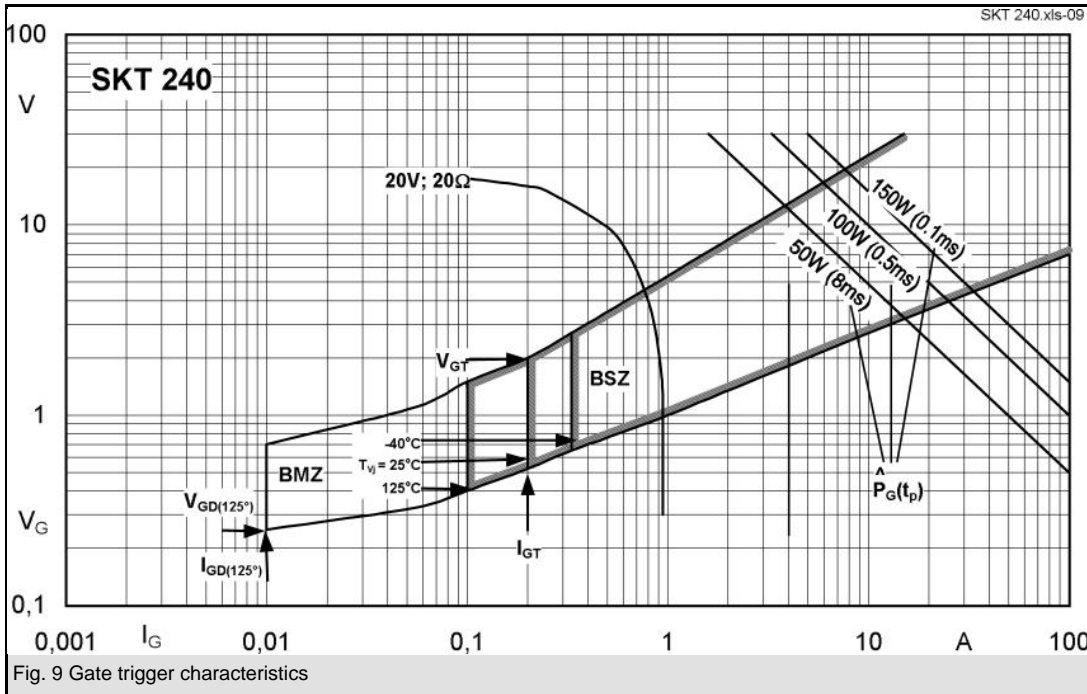


Fig. 8 Surge overload current vs. time



\* 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.