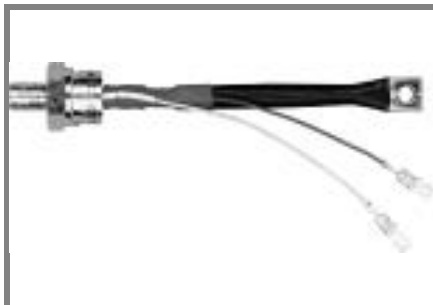


# SKT 250



**Stud Thyristor**

## Line Thyristor

### SKT 250

#### Features

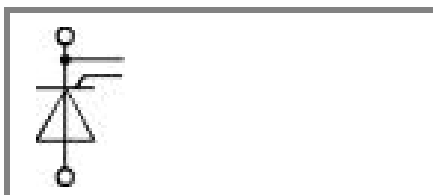
- Hermetic metal case with glass insulator
- Threaded stud ISO M24x1,5
- High  $i^2t$  and  $I_{TSM}$  values for easy fusing
- International standard case

#### 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	$I_{TRMS} = 450$ A (maximum value for continuous operation) $I_{TAV} = 250$ A (sin. 180; $T_c = 85$ °C)	
500	400	SKT 250/04D	
900	800	SKT 250/08D	
1300	1200	SKT 250/12E	
1500	1400	SKT 250/14E	
1700	1600	SKT 250/16E	

Symbol	Conditions	Values	Units
$I_{TAV}$	sin. 180; $T_c = 100$ (85) °C;	185 (250)	A
$I_D$	K0,55; $T_a = 45$ °C; B2 / B6	240 / 330	A
	K0,55F; $T_a = 35$ °C; B2 / B5	490 / 675	A
$I_{RMS}$	K0,55; $T_a = 45$ °C; W1C	265	A
$I_{TSM}$	$T_{vj} = 25$ °C; 10 ms	7000	A
	$T_{vj} = 130$ °C; 10 ms	6000	A
$i^2t$	$T_{vj} = 25$ °C; 8,35 ... 10 ms	245000	A <sup>2</sup> s
	$T_{vj} = 130$ °C; 8,35 ... 10 ms	180000	A <sup>2</sup> s
$V_T$	$T_{vj} = 25$ °C; $I_T = 800$ A	max. 1,65	V
$V_{T(TO)}$	$T_{vj} = 130$ °C	max. 1	V
$r_T$	$T_{vj} = 130$ °C	max. 0,7	mΩ
$I_{DD}; I_{RD}$	$T_{vj} = 130$ °C; $V_{RD} = V_{RRM}; V_{DD} = V_{DRM}$	max. 50	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. 100	A/μs
$(dv/dt)_{cr}$	$T_{vj} = 130$ °C; SKT ...D / SKT ...E	max. 500 / 1000	V/μs
$t_q$	$T_{vj} = 130$ °C,	50 ... 150	μs
$I_H$	$T_{vj} = 25$ °C; typ. / max.	150 / 250	mA
$I_L$	$T_{vj} = 25$ °C; $R_G = 33 \Omega$ ; 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. 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.	0,11	K/W
$R_{th(j-c)}$	sin. 180	0,123	K/W
$R_{th(j-c)}$	rec. 120	0,137	K/W
$R_{th(c-s)}$		0,015	K/W
$T_{vj}$		- 40 ... + 130	°C
$T_{stg}$		- 55 ... + 150	°C
$V_{isol}$		-	V~
$M_s$	to heatsink	60	Nm
$a$		5 * 9,81	m/s <sup>2</sup>
$m$	approx.	490	g
Case		B 7	



**SKT**

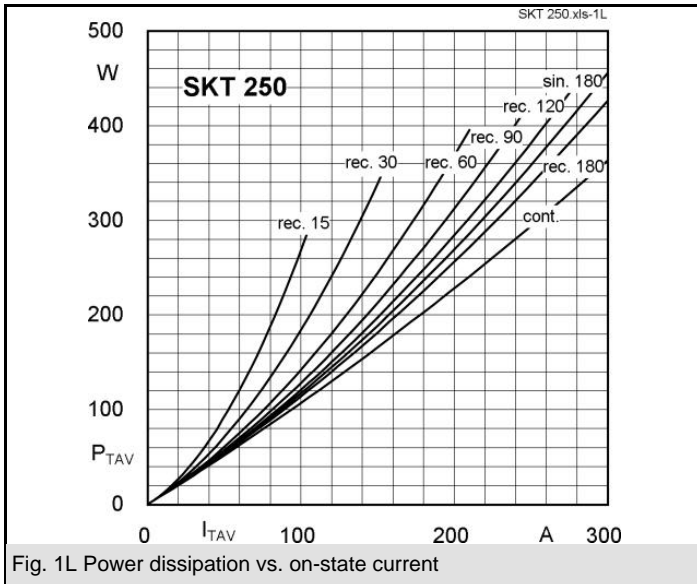


Fig. 1L Power dissipation vs. on-state current

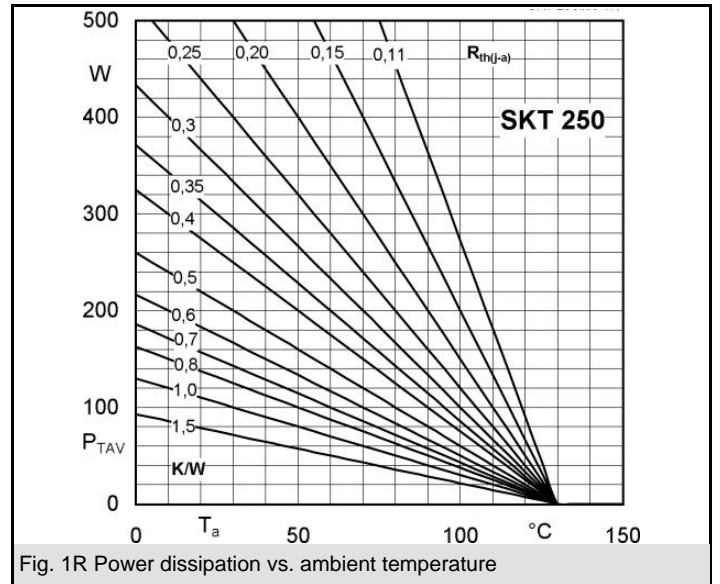


Fig. 1R Power dissipation vs. ambient temperature

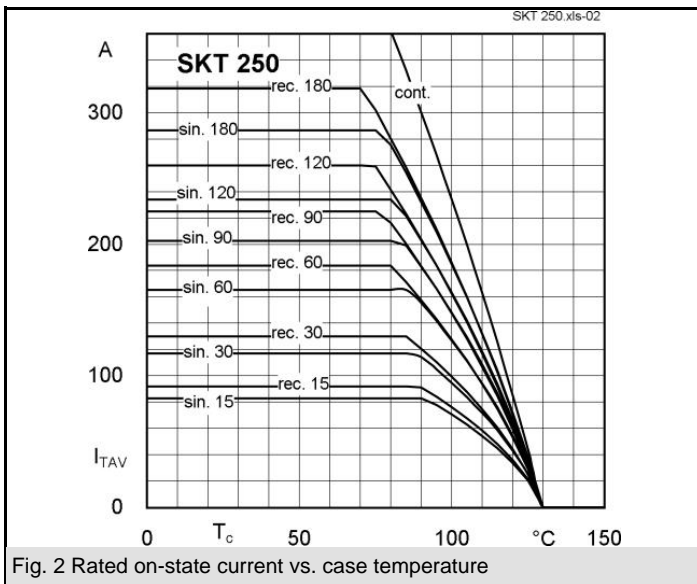


Fig. 2 Rated on-state current vs. case temperature

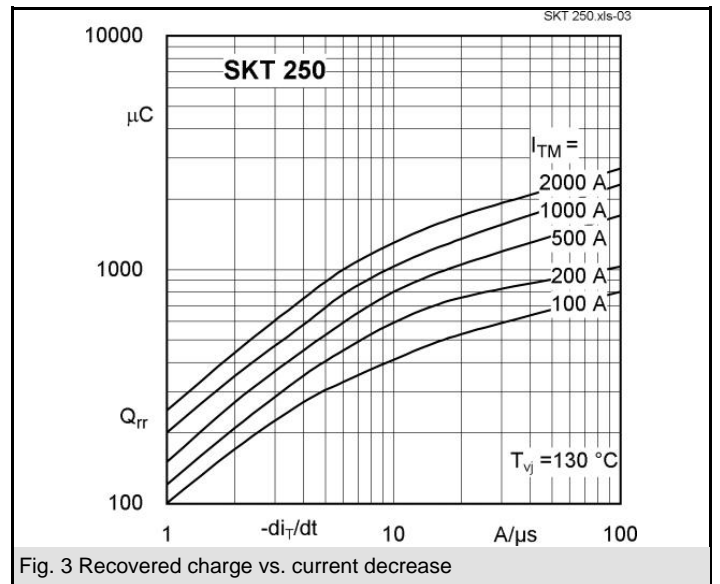


Fig. 3 Recovered charge vs. current decrease

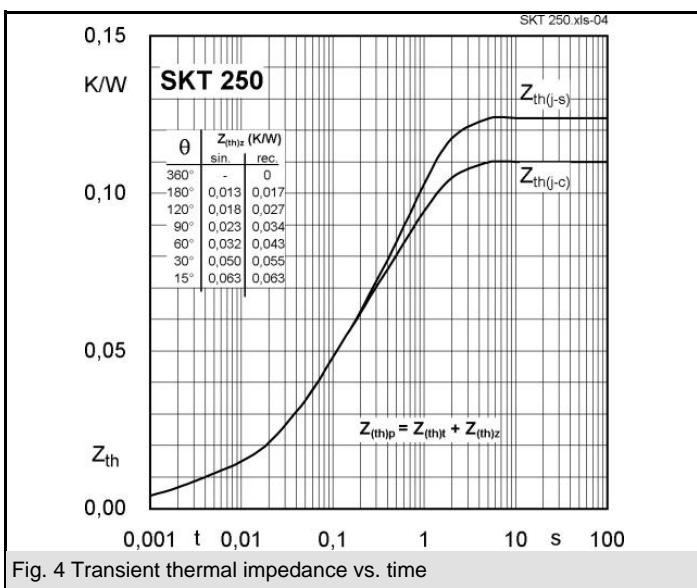


Fig. 4 Transient thermal impedance vs. time

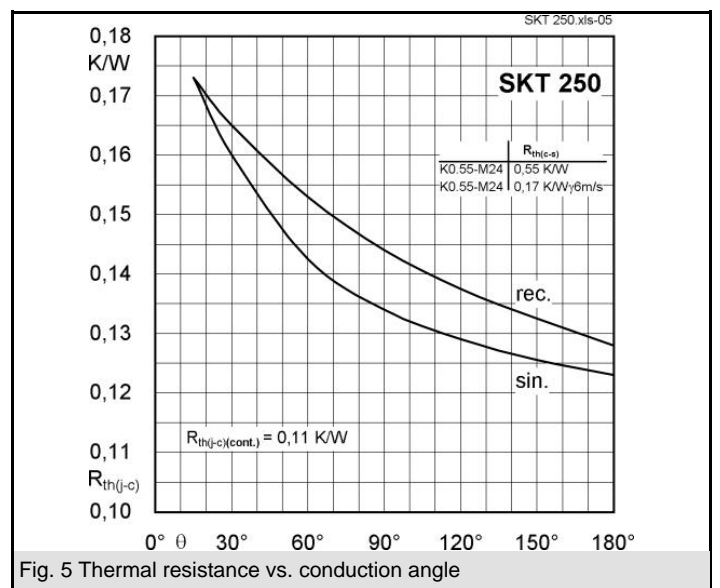
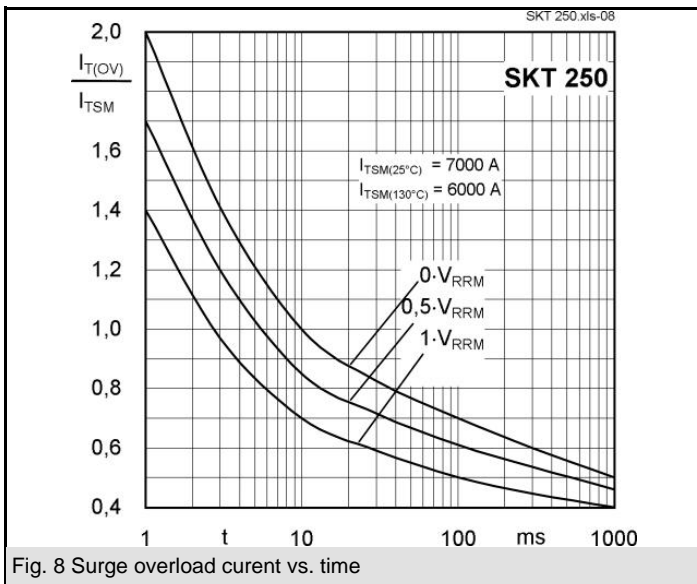
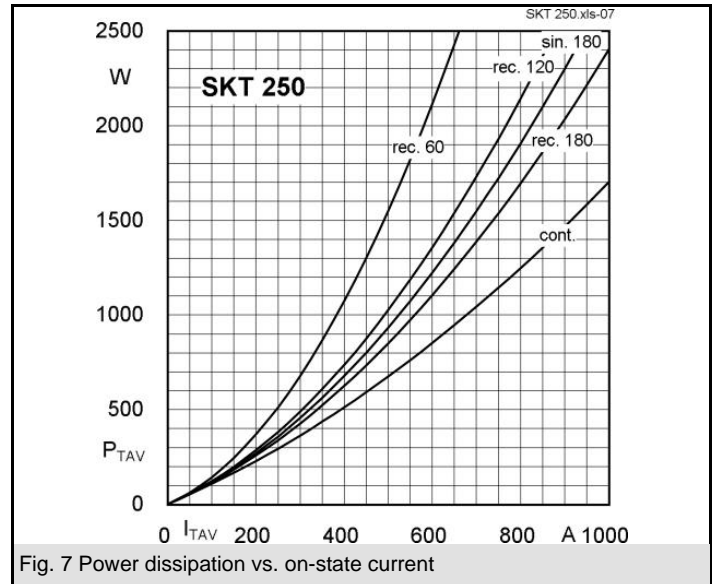
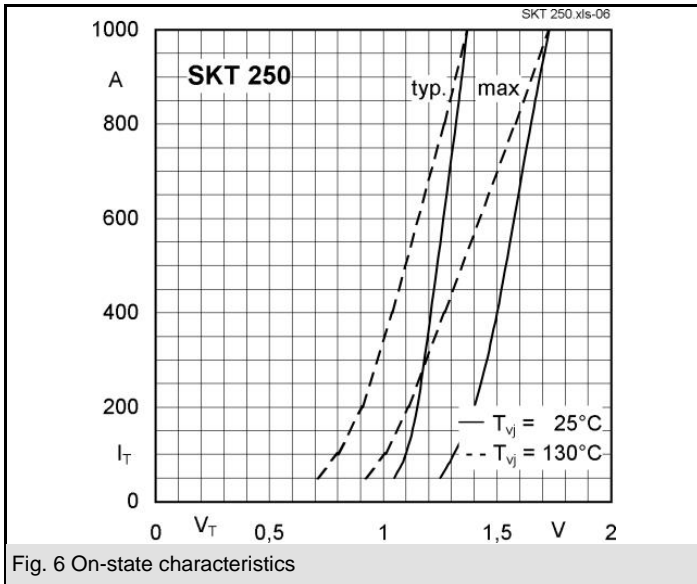
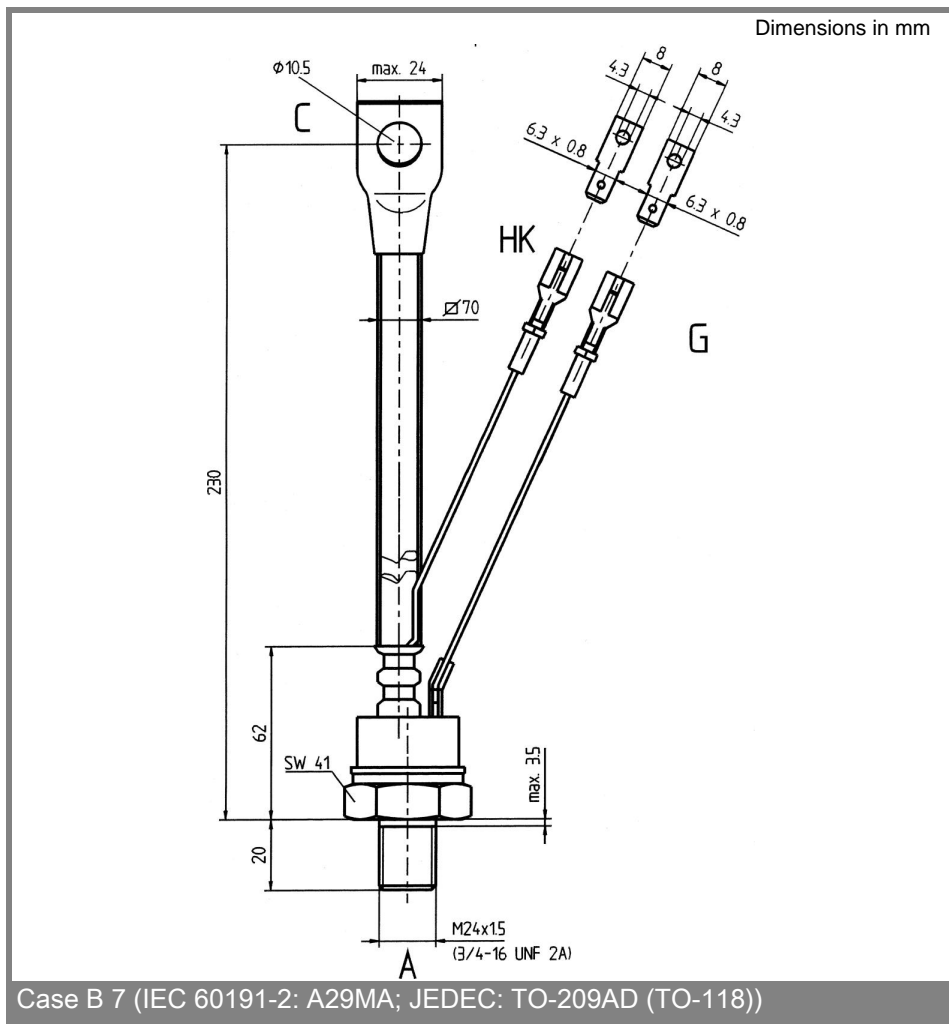
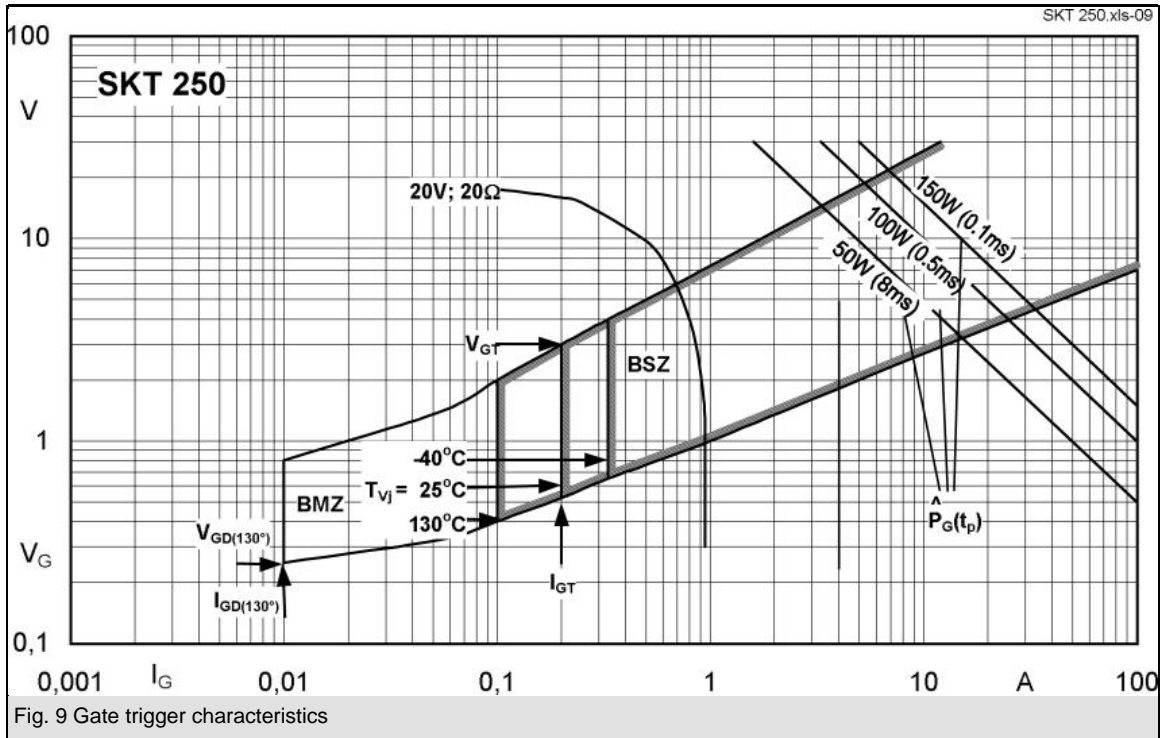


Fig. 5 Thermal resistance vs. conduction angle

# SKT 250





\* 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.