



Capsule Thyristor

Line Thyristor

SKT 491

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
- Amplifying gate

Typical Applications*

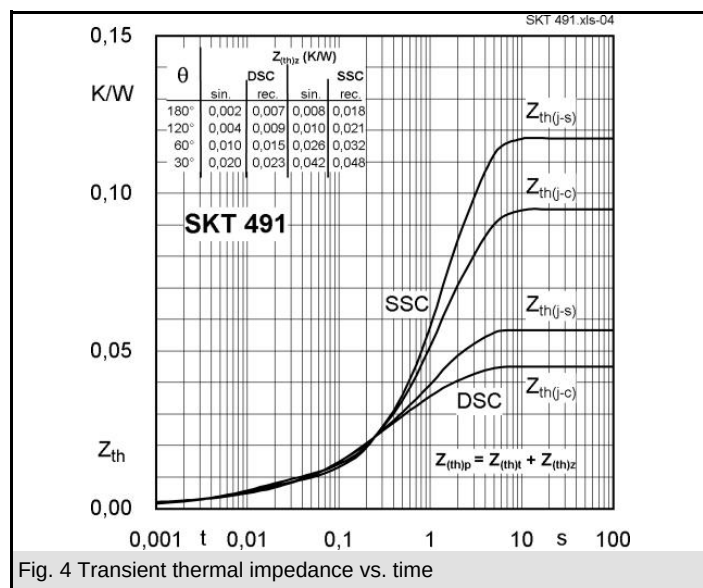
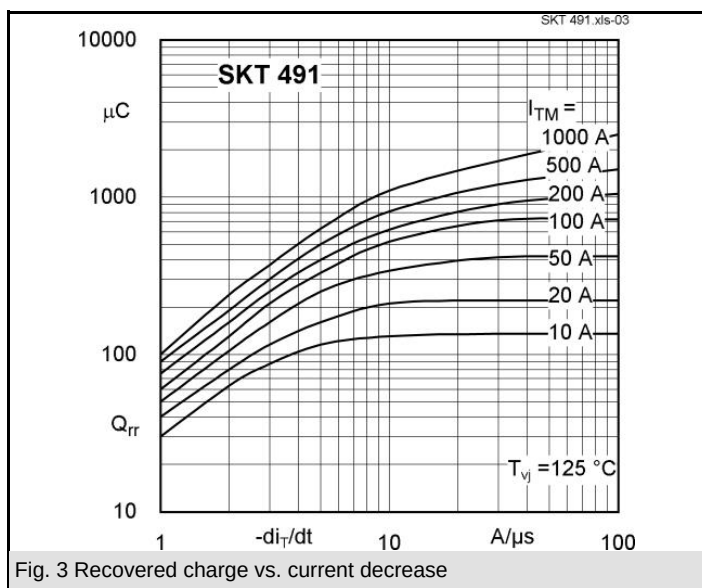
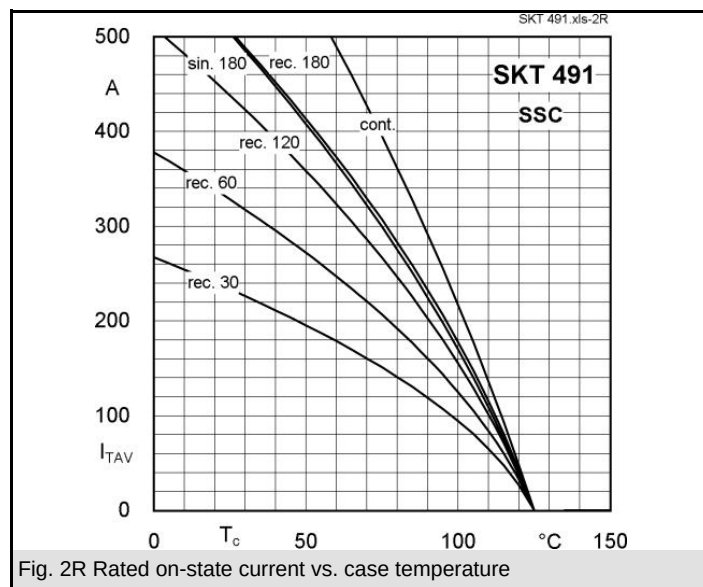
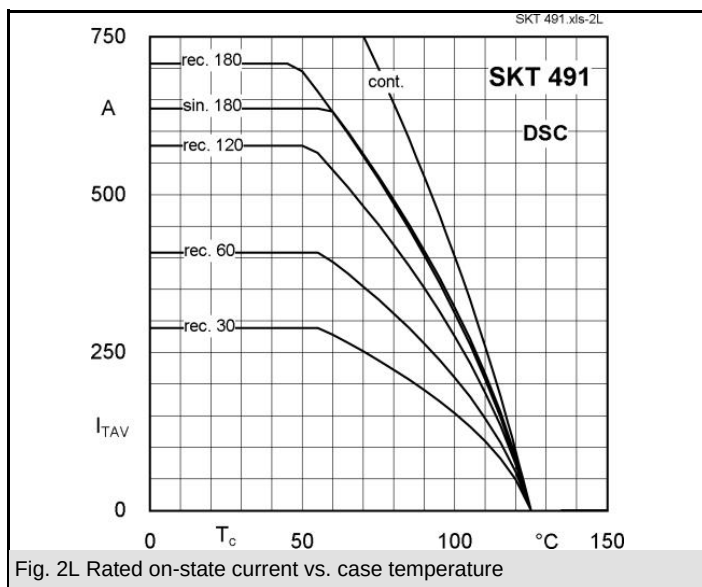
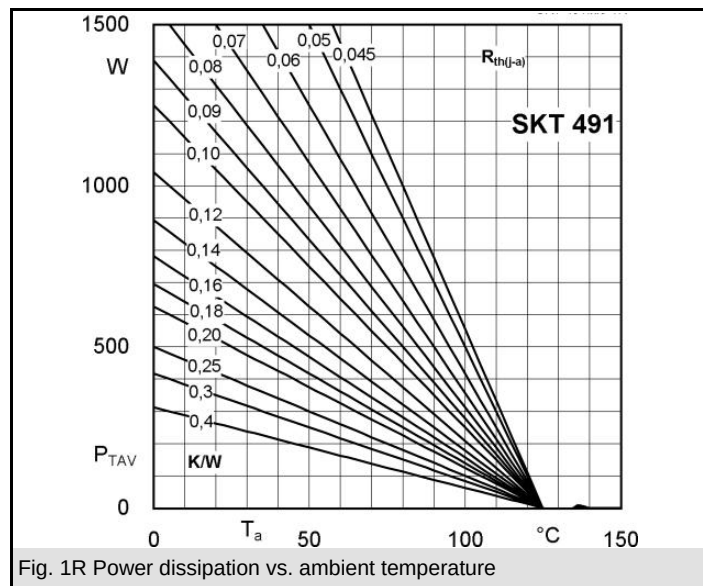
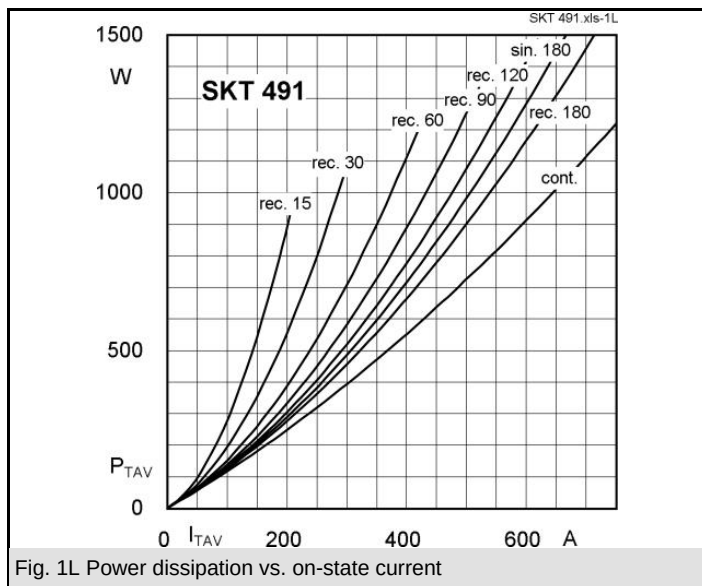
- DC motor control
(e. g. for machine tools)
- Controlled rectifiers
(e. g. for battery charging)
- AC controllers
(e. g. for temperature control)
- Recommended snubber network
e. g. for $V_{VRMS} \leq 400$ V:
 $R = 33 \Omega / 32$ W, $C = 0,47 \mu F$

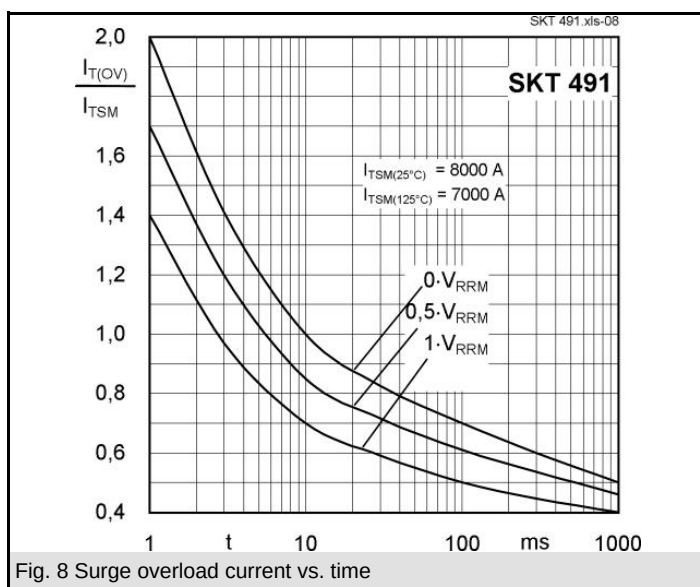
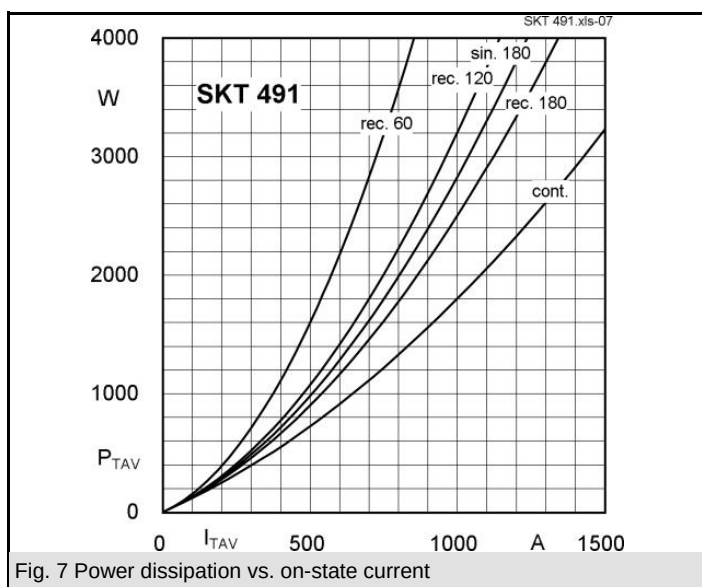
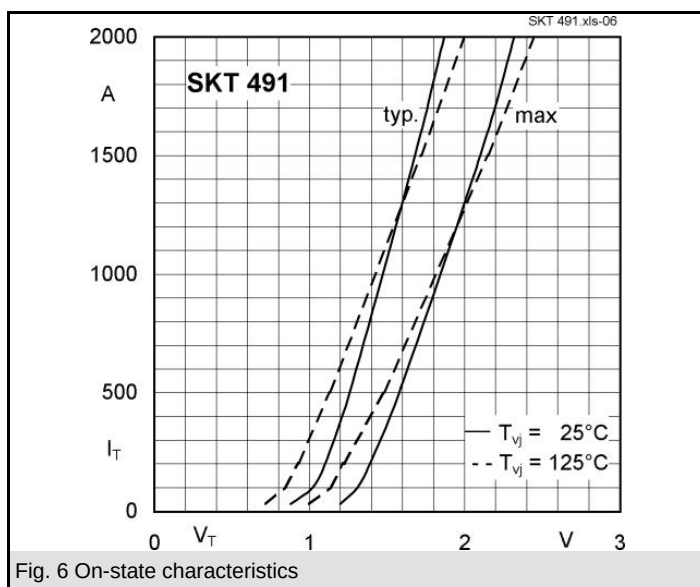
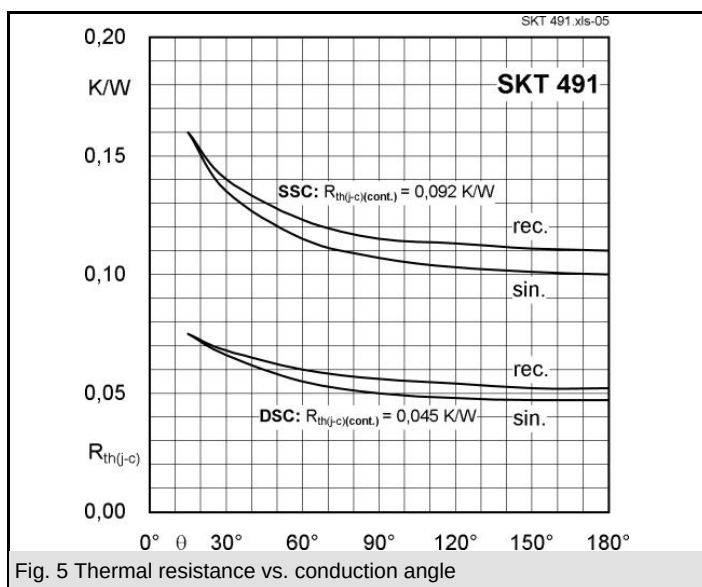
V_{RSM} V	V_{RRM}, V_{DRM} V	$I_{TRMS} = 1000$ A (maximum value for continuous operation) $I_{TAV} = 490$ A (sin. 180; DSC; $T_c = 80$ °C)		
500	400	SKT 491/04E		
1300	1200	SKT 491/12E		
1500	1400	SKT 491/14E		
1700	1600	SKT 491/16E		
1900	1800	SKT 491/18E		

Symbol	Conditions	Values	Units
I_{TAV}	sin. 180; $T_c = 100$ (85) °C;	321 (452)	A
I_D	2 x P8/180; $T_a = 45$ °C; B2 / B6	320 / 450	A
	2 x P8/180F; $T_a = 35$ °C; B2 / B6	760 / 1000	A
I_{RMS}	2 x P8/180; $T_a = 45$ °C; W1C	350	A
I_{TSM}	$T_{vj} = 25$ °C; 10 ms	8000	A
	$T_{vj} = 125$ °C; 10 ms	7000	A
i^2t	$T_{vj} = 25$ °C; 8,3 ... 10 ms	320000	A ² s
	$T_{vj} = 125$ °C; 8,3 ... 10 ms	245000	A ² s
V_T	$T_{vj} = 25$ °C; $I_T = 1500$ A	max. 2,1	V
$V_{T(TO)}$	$T_{vj} = 125$ °C	max. 1,1	V
r_T	$T_{vj} = 125$ °C	max. 0,7	mΩ
I_{DD}, I_{RD}	$T_{vj} = 125$ °C; $V_{RD} = V_{RRM}, V_{DD} = V_{DRM}$	max. 60	mA
t_{gd}	$T_{vj} = 25$ °C; $I_G = 1$ A; $di_G/dt = 1$ A/μs	1	μs
t_{gr}	$V_D = 0,67 * V_{DRM}$	1	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 / 500	mA
I_L	$T_{vj} = 25$ °C; $R_G = 33 \Omega$; 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. 250	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	0,045	K/W
$R_{th(j-c)}$	sin. 180; DSC / SSC	0,047 / 0,1	K/W
$R_{th(j-c)}$	rec. 120; DSC / SSC	0,054 / 0,113	K/W
$R_{th(c-s)}$	DSC / SSC	0,012 / 0,024	K/W
T_{vj}		- 40 ... + 125	°C
T_{stg}		- 40 ... + 130	°C
V_{isol}		-	V~
F_a	mounting force	5,2 ... 8	kN
m	approx.	105	m/s ²
Case		B 11	



SKT





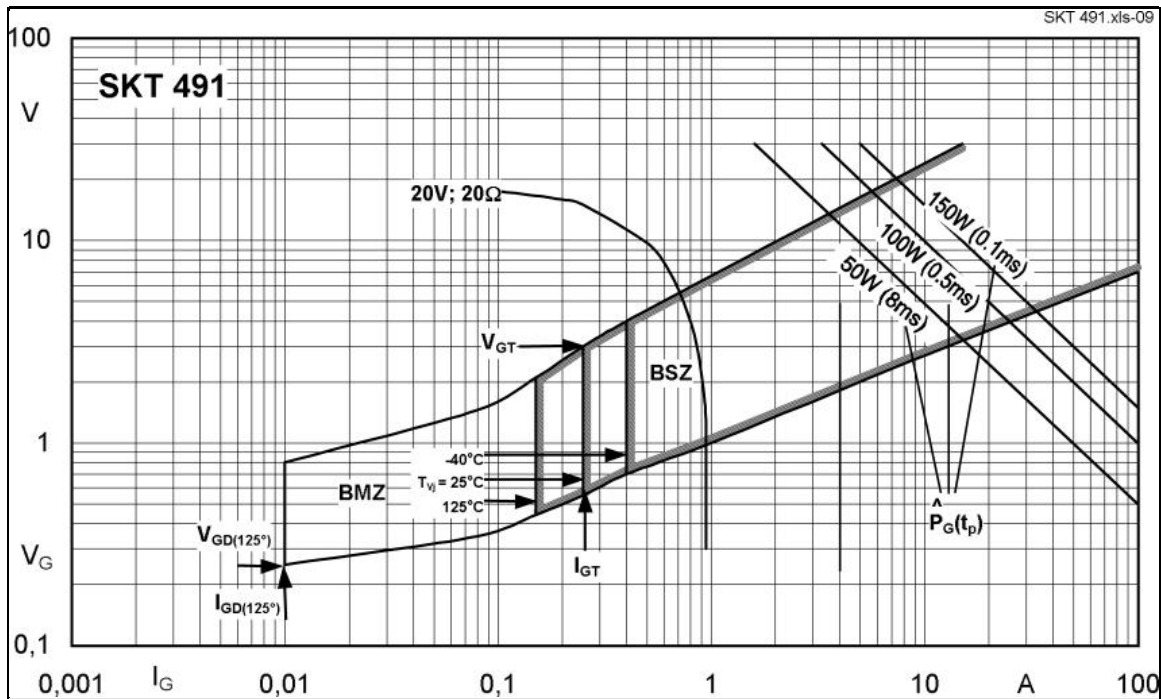
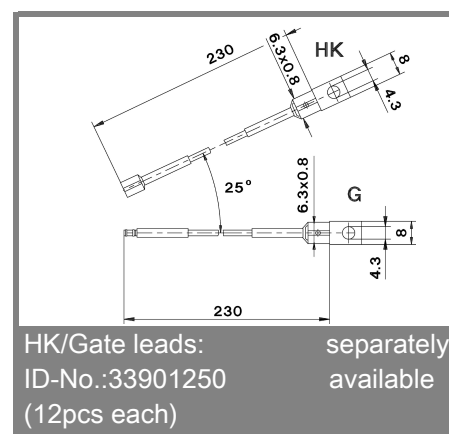
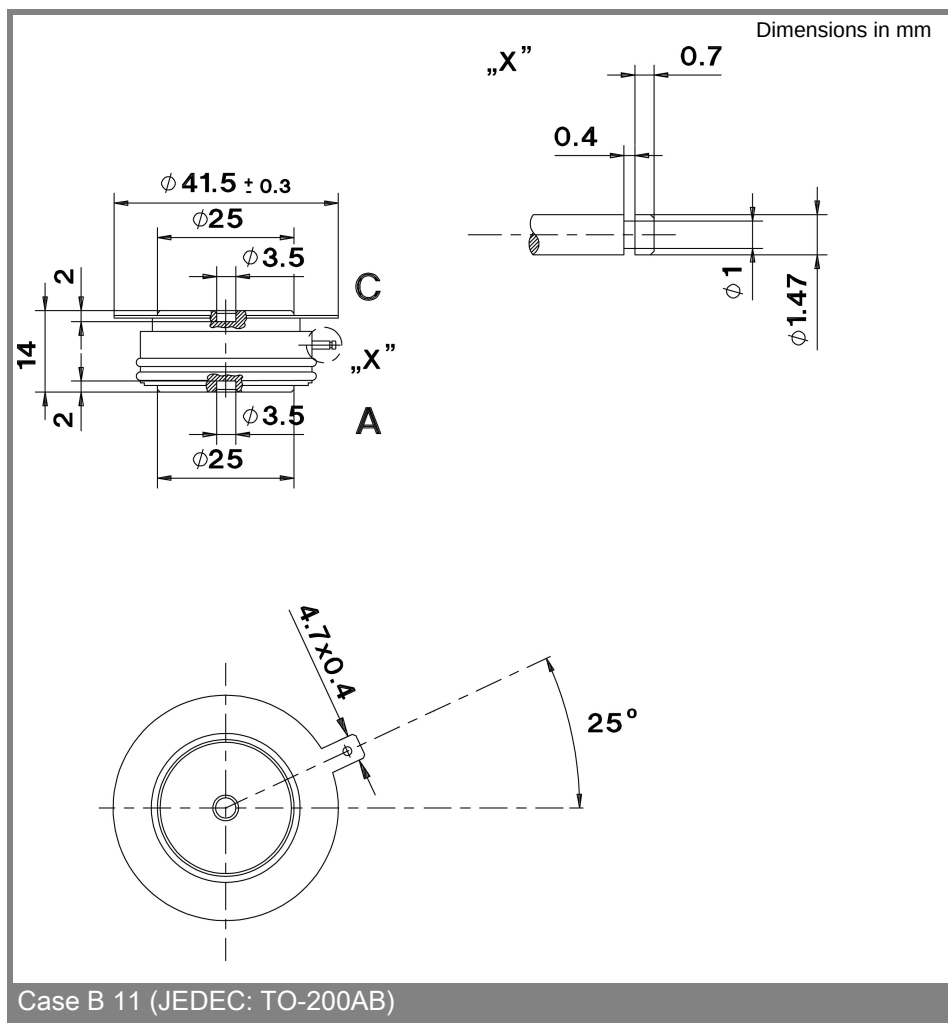


Fig. 9 Gate trigger characteristics



* 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 personal.