



## Capsule Thyristor

## Line Thyristor

### SKT493

### Features

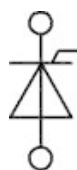
- Hermetic metal case with epoxy insulator
- Capsule package for double sided cooling
- Shallow design with single sided cooling
- Off-state and reverse voltages up to 1800 V
- Amplifying gate

### Typical Applications\*

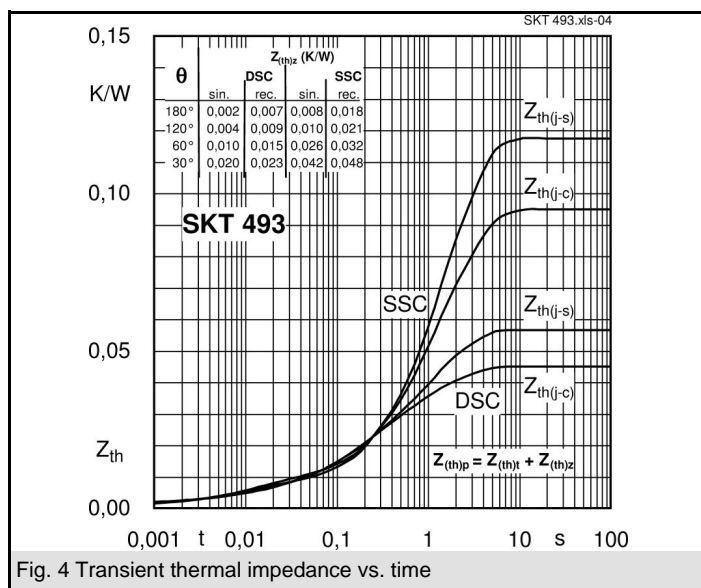
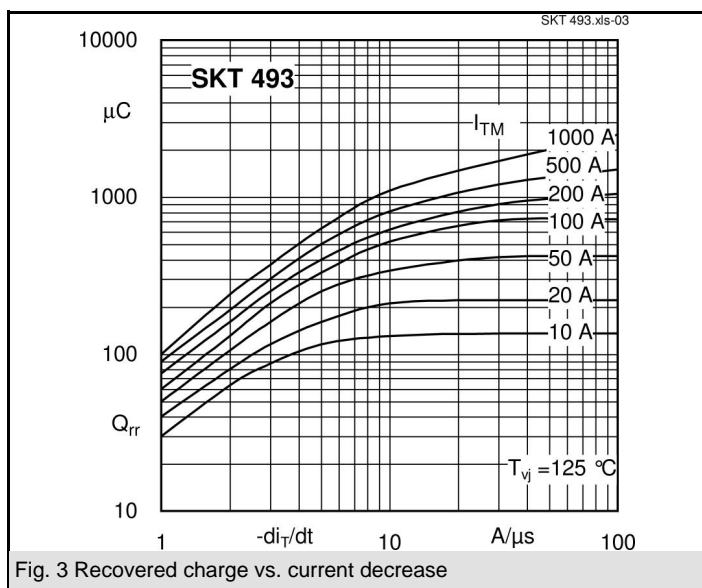
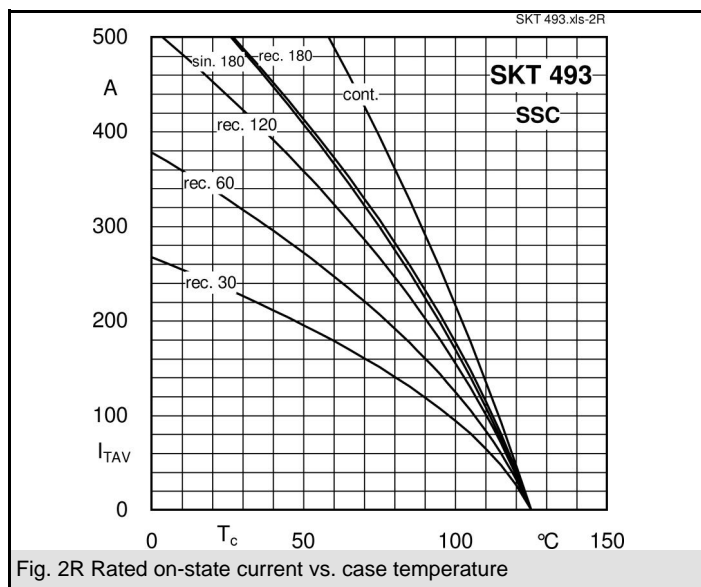
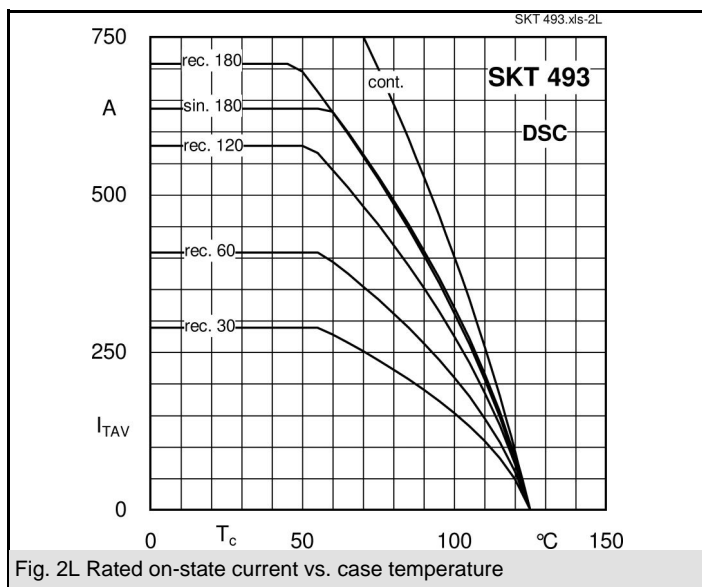
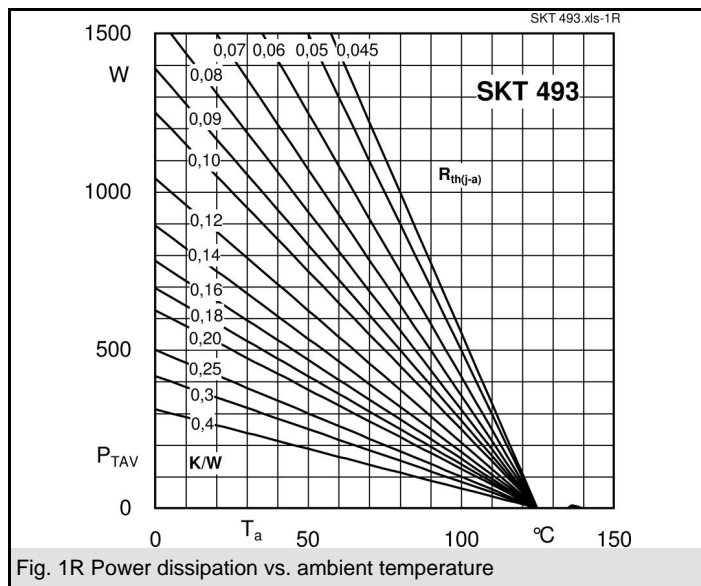
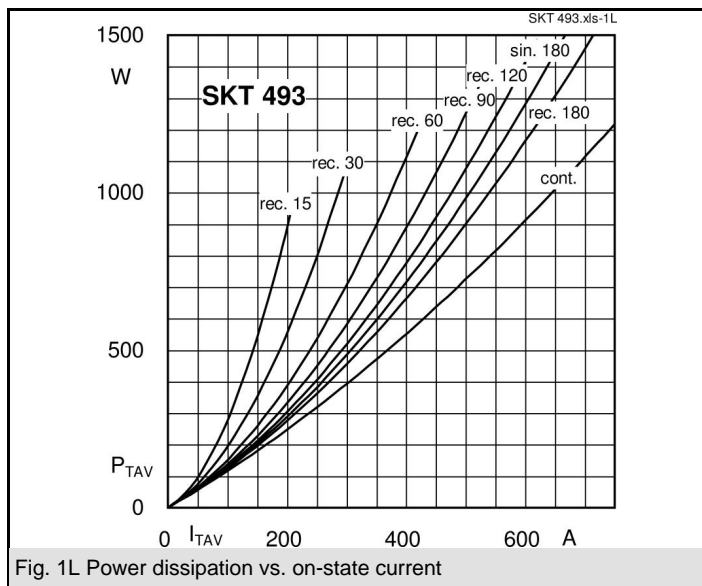
- DC motor control (e. g. for machine tools)
- Controlled rectifiers (e. g. for battery charging)
- AC controllers (e. g. for temperature control)
- Soft Starters for AC motors

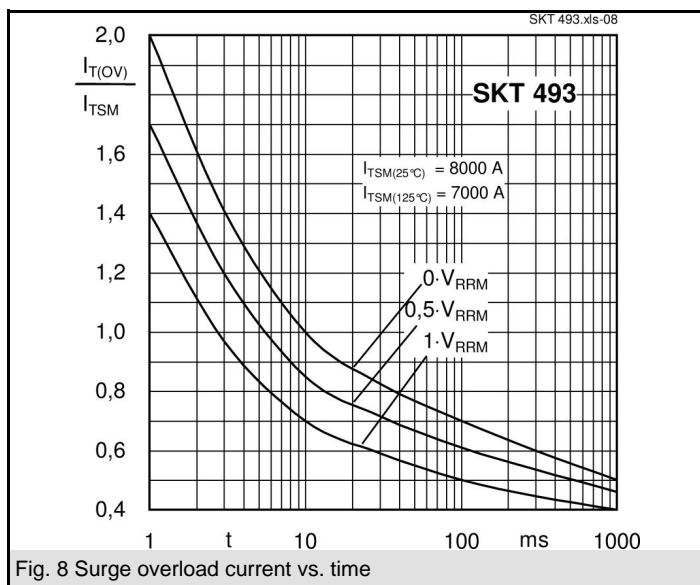
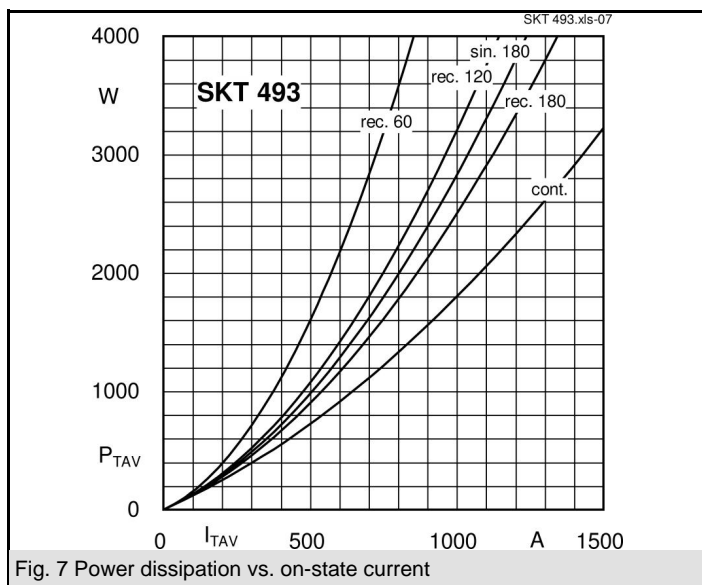
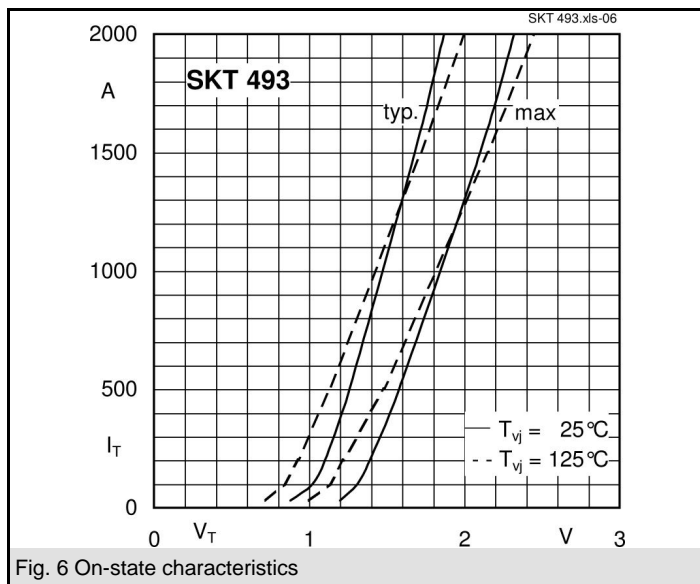
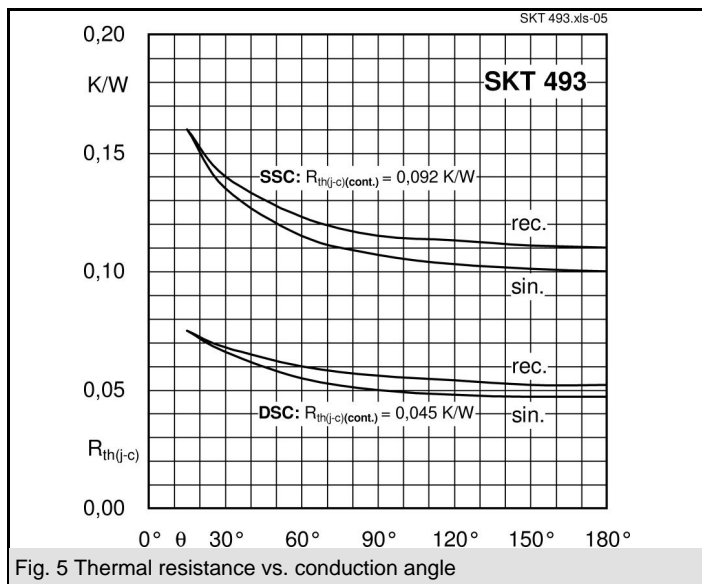
$V_{RSM}$ V	$V_{RRM}, V_{DRM}$ V	$I_{TRMS} = 1000$ A (maximum value for continuous operation) $I_{TAV} = 490$ A (sin. 180; DSC; $T_c = 80$ °C)		
500	400	SKT 493/04E		
900	800	SKT 493/08E		
1300	1200	SKT 493/12E		
1500	1400	SKT 493/14E		
1700	1600	SKT 493/16E		
1900	1800	SKT 493/18E		

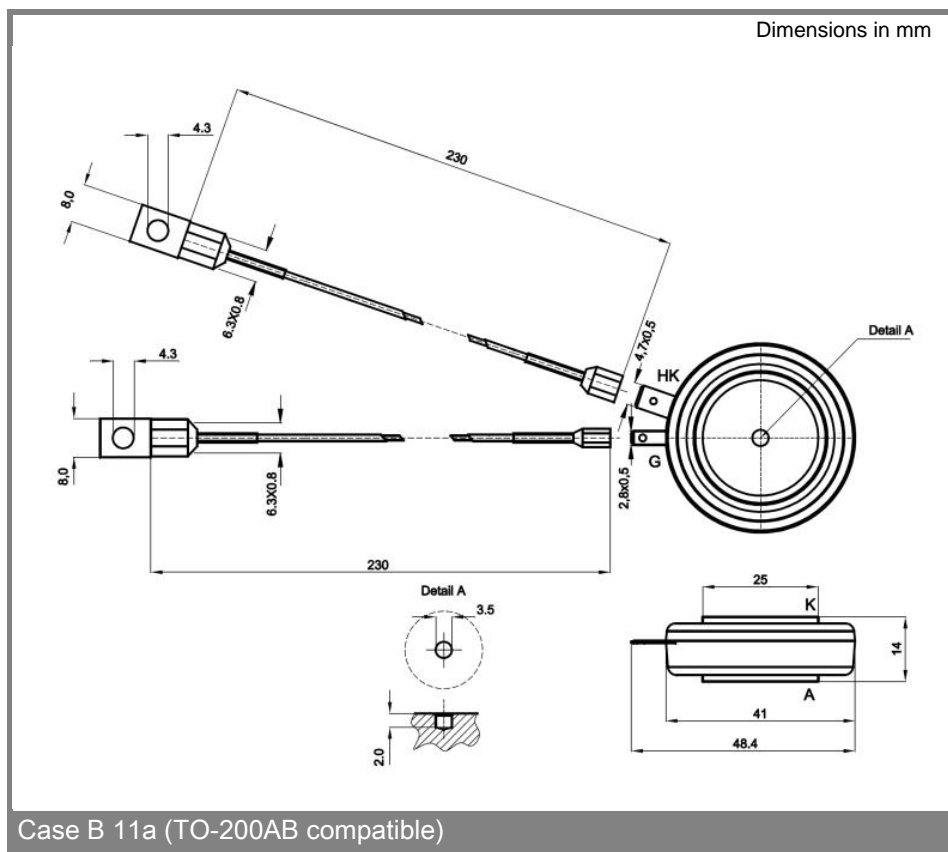
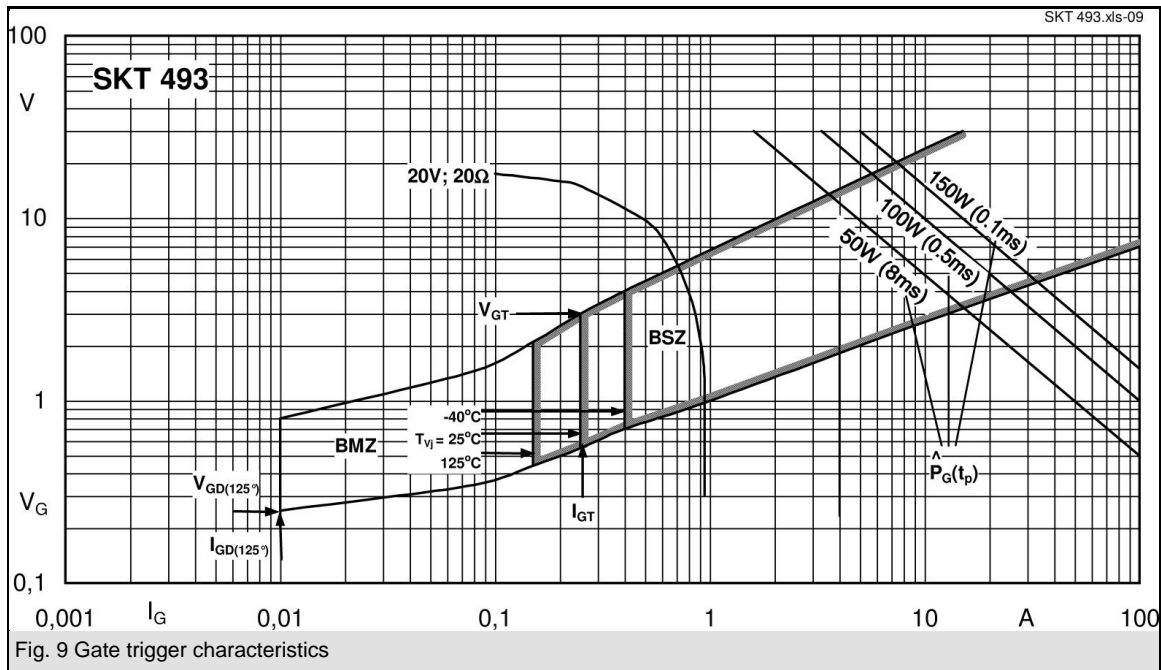
Symbol	Conditions	Values	Units
$I_{TAV}$	sin. 180; $T_c = 100$ (85) °C;	321 (452 )	A
$I_D$	2 x P8/180; $T_a = 45$ °C; B2 / B6	320 / 450	A
	2 x P8/180 F; $T_a = 35$ °C; B2 / B6	760 / 1000	A
$I_{RMS}$	2 x P8/180; $T_a = 45$ °C; W1C	350	A
$I_{TSM}$	$T_{vj} = 25$ °C; 10 ms	8000	A
	$T_{vj} = 125$ °C; 10 ms	7000	A
$i^2t$	$T_{vj} = 25$ °C; 8,3 ... 10 ms	320000	A²s
	$T_{vj} = 125$ °C; 8,3 ... 10 ms	245000	A²s
$V_T$	$T_{vj} = 25$ °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. 50	mA
$t_{gd}$	$T_{vj} = 25$ °C; $I_G = 1$ A; $di_G/dt = 1$ A/μs	1	μs
$t_{gr}$	$V_D = 0,67 * V_{DRM}$	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; $R_G = 33$ 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. 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~
$F$	mounting force	5,2 ... 8	kN
$a$			m/s²
$m$	approx.	85	g
Case		B 11a	



SKT







\* 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.