



SEMITOP®2

Two separated thyristors

SK 100 TAA

Target Data

Features

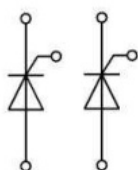
- Compact design
- One screw mounting
- Heat transfer and isolation through direct copper bonded aluminium oxide ceramic (DBC)
- Glass passivated thyristor chips
- Up to 1600 reverse voltage
- High surge currents

Typical Applications*

- Brake chopper
- Soft starters

V_{RSM} V	V_{RRM}, V_{DRM} V	$I_T = 100$ A ($T_s = 80$ °C)
900	800	SK 100 TAA 08
1300	1200	SK 100 TAA 12
1700	1600	SK 100 TAA 16

Characteristics $T_s = 25$ °C unless otherwise specified			
Symbol	Conditions	Values	Units
I_T	$T_s = 100$ °C	65	A
I_T	$T_s = 80$ °C	100	A
			A
I_{TSM}/I_{FSM}	$T_{vj} = 25$ (125) °C; 10 ms	2000 (1800)	A
I^2t	$T_{vj} = 25$ (125) °C; half sine wave, 10 ms	20000 (16200)	A²s
T_{stg}		-40 ... +125	°C
T_{solder}	terminals, 10 s	260	°C
Thyristor			
$(dv/dt)_{cr}$	$T_{vj} = 125$ °C	1000	V/μs
$(di/dt)_{cr}$	$T_{vj} = 125$ °C; $f = 50 \dots 60$ Hz	50	A/μs
t_q	$T_{vj} = 125$ °C; typ.	80	μs
I_H	$T_{vj} = 25$ °C; typ. / max.	100 / 200	mA
I_L	$T_{vj} = 25$ °C; $R_G = 33 \Omega$; typ. / max.	200 / 500	mA
V_T	$T_{vj} = 25$ °C; ($I_T = 300$ A); max.	1,85	V
$V_{T(TO)}$	$T_{vj} = 125$ °C	max. 0,9	V
r_T	$T_{vj} = 125$ °C	max. 3,5	mΩ
I_{DD}, I_{RD}	$T_{vj} = 125$ °C; $V_{DD} = V_{DRM}$; $V_{RD} = V_{RRM}$	max. 20	mA
$R_{th(j-s)}$	cont. per thyristor	0,45	K/W
T_{vj}		-40 ... +130	°C
V_{GT}	$T_{vj} = 25$ °C; d.c.	2	V
I_{GT}	$T_{vj} = 25$ °C; d.c.	100	mA
V_{GD}	$T_{vj} = 125$ °C; d.c.	0,25	V
I_{GD}	$T_{vj} = 125$ °C; d.c.	5	mA
Diode			
V_F	$T_{vj} =$ °C; ($I_F =$ A); max.		V
$V_{(TO)}$	$T_{vj} =$ °C		V
r_T	$T_{vj} =$ °C		mΩ
I_{RD}	$T_{vj} =$ °C; $V_{RD} = V_{RRM}$		mA
$R_{th(j-s)}$			K/W
T_{vj}			°C
Mechanical data			
V_{isol}	AC 50Hz, r.m.s. 1min (1sec)	2500 (3000)	V
M_1	mounting torque	2	Nm
w		19	g
Case	SEMITOP®2	T 81	



TAA

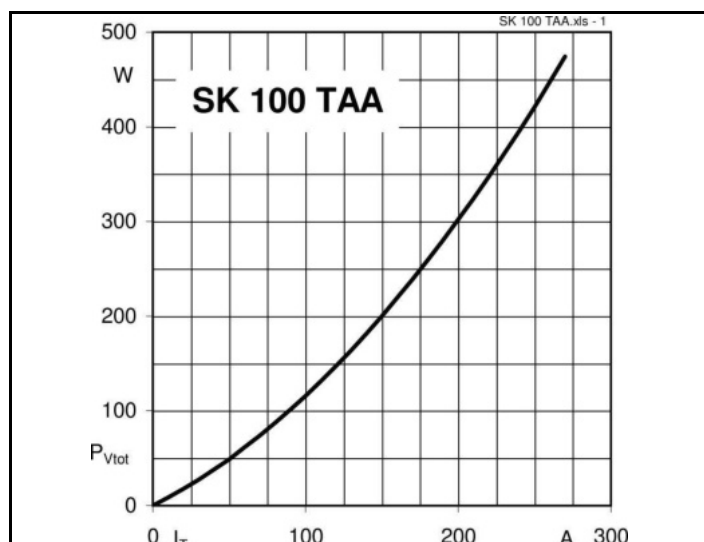


Fig. 1 Power dissipation vs. current

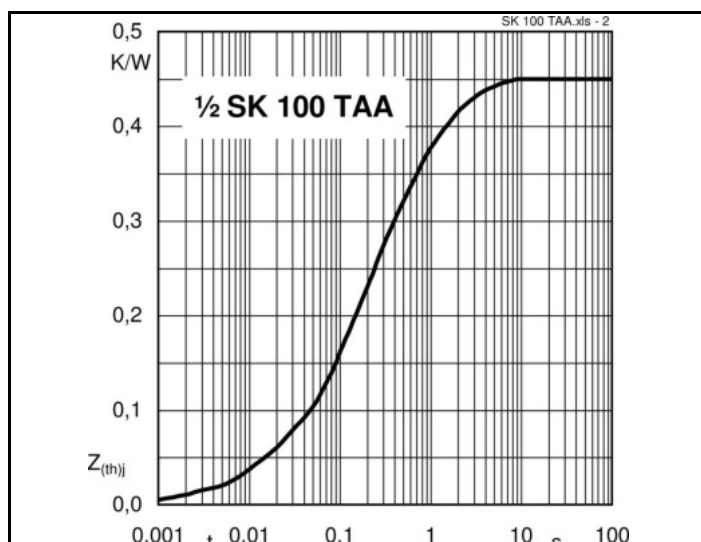


Fig. 2 Transient thermal impedance vs. time

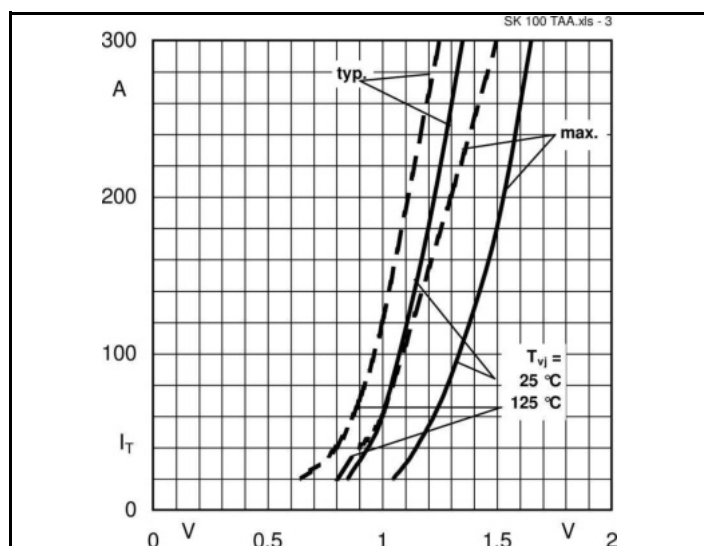


Fig. 3 Forward characteristic of single thyristor

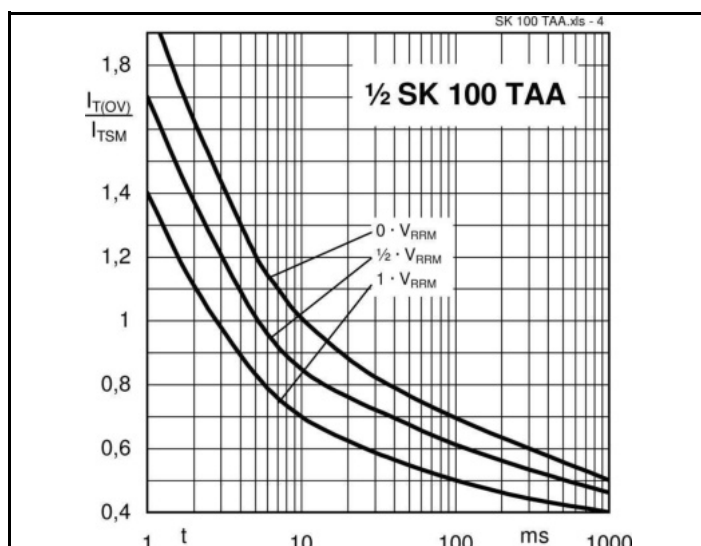


Fig. 4 Surge overload current vs. time

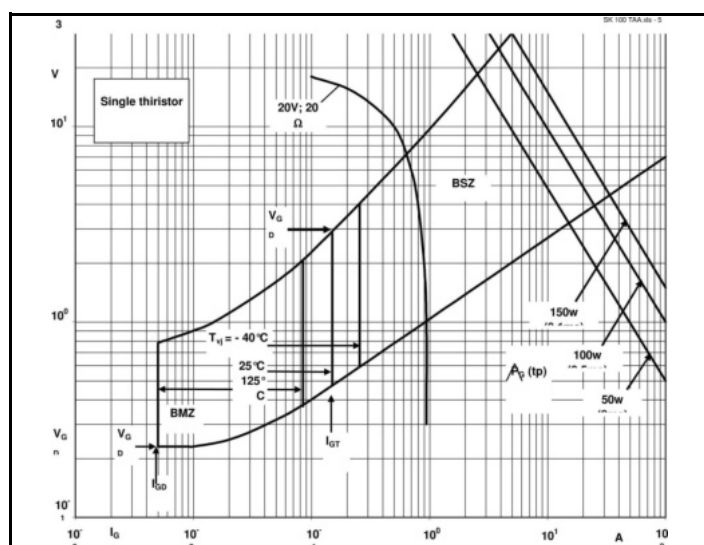
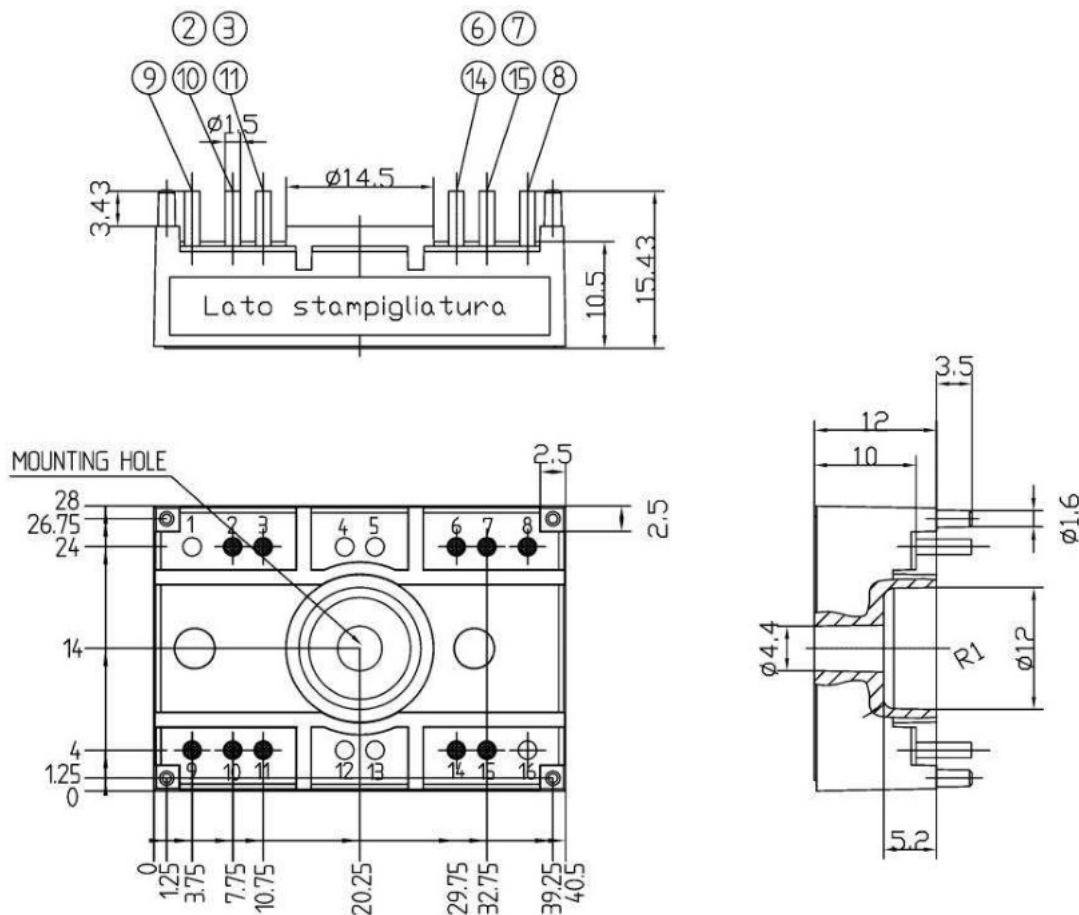


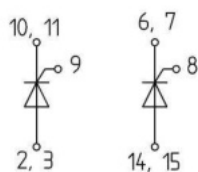
Fig. 5 Gate trigger characteristic

Dimensions in mm



SUGGESTED HOLEDIAMETER FOR THE SOLDER PINS AND THE MOUNTING PINS IN THE PCB: 2 mm

Case T 81 (Suggested hole diameter, in the PCB, for solder pins and plastic mounting pins: 2mm)



TAA

This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, Chapter IX.

* 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.