

SEMITOP®3

Antiparallel Thyristor Module

SK100WT

Preliminary Data

Features

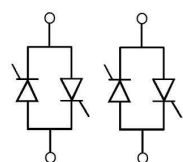
- Compact Design
- One screw mounting
- Heat transfer and isolation through direct copper bonded aluminium oxide ceramic (DCB)
- Glass passivated thyristor chips
- Up to 1600V reverse voltage
- UL recognized, file no. E 63 532

Typical Applications*

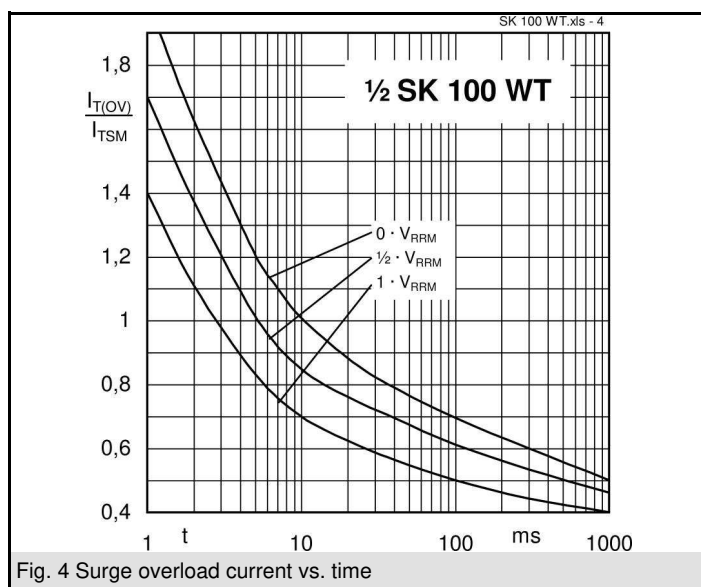
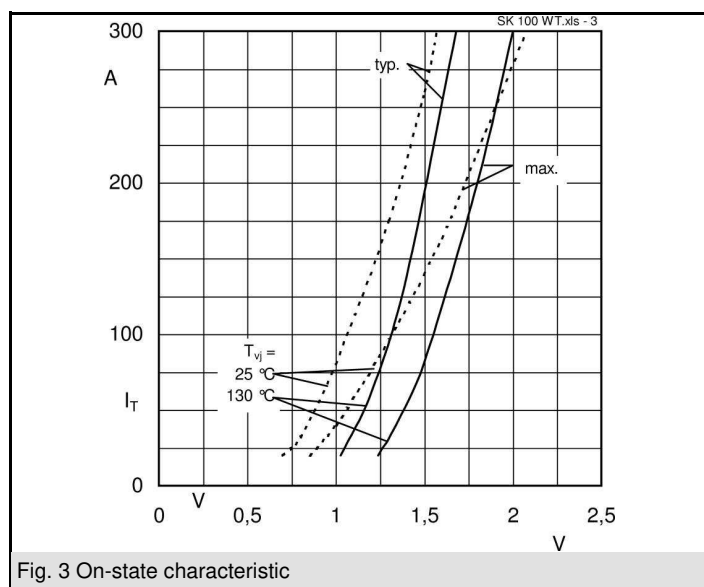
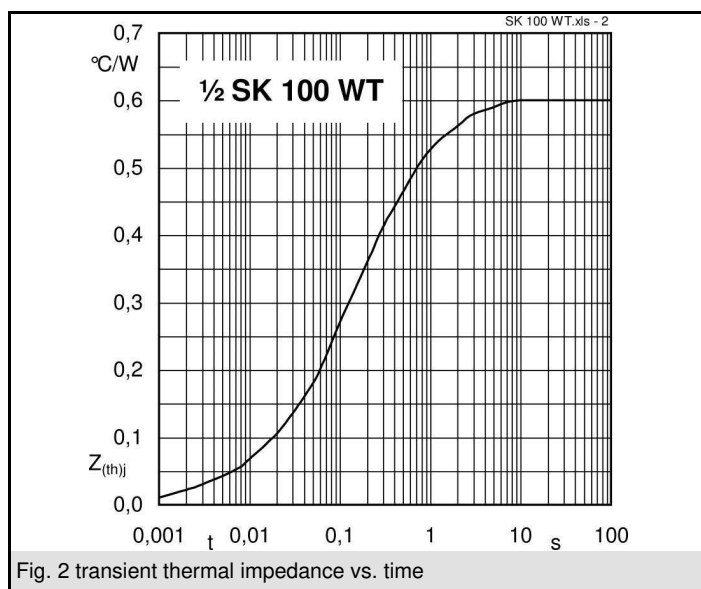
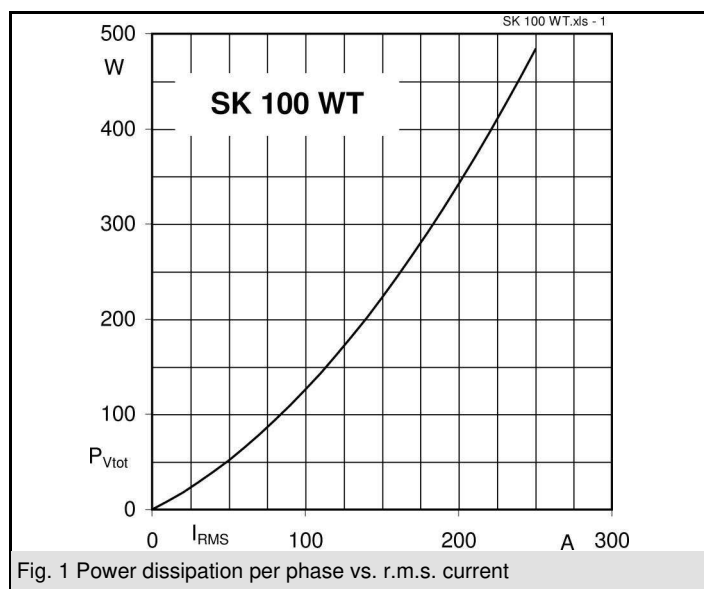
- Soft starters
- Light control (studios, theaters...)
- Temperature control

V_{RSM} V	V_{RRM}, V_{DRM} V	$I_{RMS} = 101 \text{ A (full conduction)}$ ($T_s = 85^\circ \text{C}$)
900	800	SK 100 WT 08
1300	1200	SK 100 WT 12
1700	1600	SK 100 WT 16

Symbol	Conditions	Values	Units
I_{RMS}	W1C ; sin. 180° ; $T_s = 100^\circ \text{C}$ W1C ; sin. 180° ; $T_s = 85^\circ \text{C}$	71 101	A A
I_{TSM}	$T_{vj} = 25^\circ \text{C}$; 10 ms $T_{vj} = 125^\circ \text{C}$; 10 ms	1500 1350	A A
i^2t	$T_{vj} = 25^\circ \text{C}$; 8,3 ... 10 ms $T_{vj} = 125^\circ \text{C}$; 8,3 ... 10 ms	11250 9100	A ² s A ² s
V_T $V_{T(TO)}$ r_T	$T_{vj} = 25^\circ \text{C}$, $I_T = 200 \text{ A}$ $T_{vj} = 125^\circ \text{C}$ $T_{vj} = 125^\circ \text{C}$	max. 1,8 max. 0,9 max. 4,5	V V mΩ
I_{DD}, I_{RD}	$T_{vj} = 25^\circ \text{C}$, $V_{RD} = V_{RRM}$ $T_{vj} = 125^\circ \text{C}$, $V_{RD} = V_{RRM}$	max. 1 max. 20	mA mA
t_{gd} t_{gr}	$T_{vj} = 25^\circ \text{C}$, $I_G = 1 \text{ A}$; $di_G/dt = 1 \text{ A}/\mu\text{s}$ $V_D = 0,67 \cdot V_{DRM}$	1 2	μs μs
$(dv/dt)_{cr}$ $(di/dt)_{cr}$	$T_{vj} = 125^\circ \text{C}$ $T_{vj} = 125^\circ \text{C}$; $f = 50 \dots 60 \text{ Hz}$	1000 50	V/μs A/μs
t_q I_H	$T_{vj} = 125^\circ \text{C}$; typ. $T_{vj} = 25^\circ \text{C}$; typ. / max.	80 100 / 200	μs mA
I_L	$T_{vj} = 25^\circ \text{C}$; $R_G = 33 \Omega$; typ. / max.	200 / 500	mA
V_{GT} I_{GT} V_{GD} I_{GD}	$T_{vj} = 25^\circ \text{C}$; d.c. $T_{vj} = 25^\circ \text{C}$; d.c. $T_{vj} = 125^\circ \text{C}$; d.c. $T_{vj} = 125^\circ \text{C}$; d.c.	min. 2 min. 100 max. 0,25 max. 5	V mA V mA
$R_{th(j-s)}$ $R_{th(f-s)}$	cont. per thyristor sin 180° per thyristor cont. per W1C sin 180° per W1C	0,6 0,63 0,3 0,315	K/W K/W K/W K/W
T_{vj} T_{stg} T_{solder}	 terminals, 10 s	-40 ... +125 -40 ... +125 260	°C °C °C
V_{isol} M_s M_t a m	a. c. 50 Hz; r.m.s.; 1 s / 1 min. 	3000 / 2500 2,5 30	V~ Nm Nm m/s ² g
Case	SEMITOP® 3	T 63	



WT



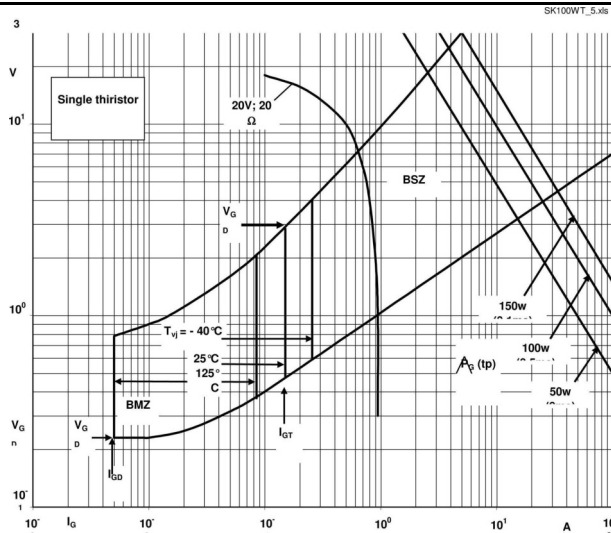
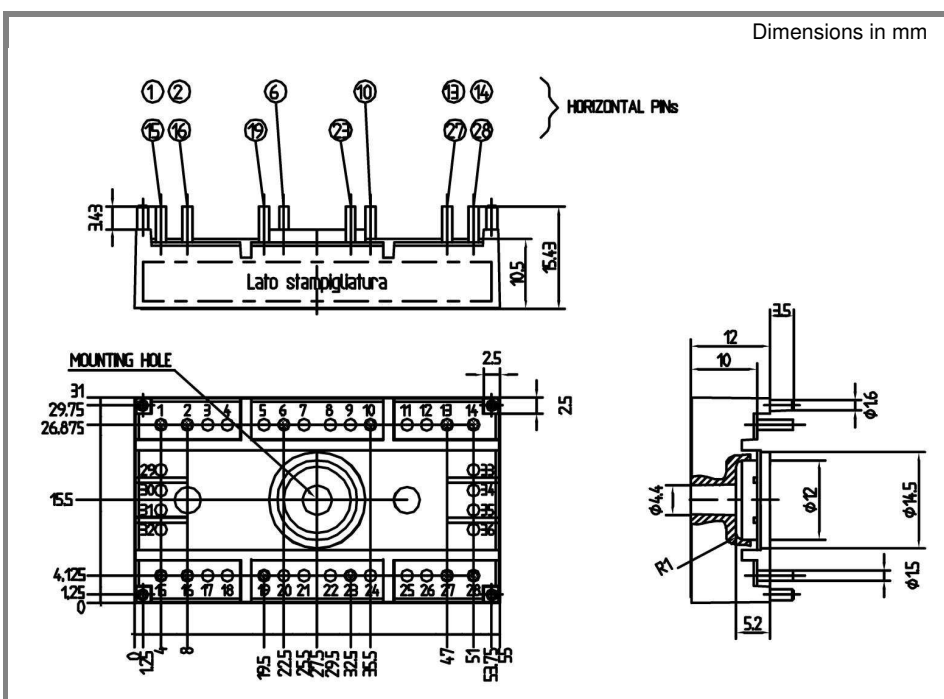
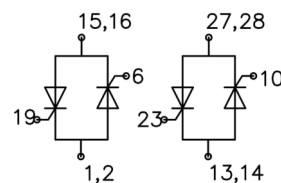


Fig. 5 Gate trigger characteristic



Case T63 (Suggested hole diameter in the PCB for solder pins and mounting pins: 2mm)



Case T63

* 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.