

# SK 55 TAA



SEMITOP®2

## Two separated thyristors

### SK 55 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	$I_T = 55$ A ( $T_s = 80$ °C)
900	800	SK55TAA08
1300	1200	SK55TAA12
1700	1600	SK55TAA16

### Characteristics $T_s = 25$ °C unless otherwise specified

Symbol	Conditions	Values	Units
$I_T$	$T_s = 100$ °C	36	A
$I_T$	$T_s = 80$ °C	55	A
			A
$I_{TSM}/I_{FSM}$	$T_{vj} = 25$ (125) °C; 10 ms	1000 (900)	A
$I^2t$	$T_{vj} = 25$ (125) °C; half sine wave, 10 ms	5000 (4000)	A <sup>2</sup> s
$T_{stg}$		-40 ... +125	°C
$T_{solder}$	terminals, 10 s	260	°C

### Thyristor

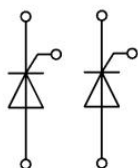
$(dv/dt)_{cr}$	$T_{vj} = 125$ °C	1000	V/μs
$(di/dt)_{cr}$	$T_{vj} = 125$ °C; $f = 50 \dots 60$ Hz	50	A/μs
$t_q$	$T_{vj} = 125$ °C; typ.	80	μs
$I_H$	$T_{vj} = 25$ °C; typ. / max.	100 / 200	mA
$I_L$	$T_{vj} = 25$ °C; $R_G = 33$ Ω; typ. / max.	200 / 500	mA
$V_T$	$T_{vj} = 25$ °C; ( $I_T = 80$ A); max.	1,2	V
$V_{T(TO)}$	$T_{vj} = 125$ °C	max. 0,85	V
$r_T$	$T_{vj} = 125$ °C	max. 5,7	mΩ
$I_{DD}; I_{RD}$	$T_{vj} = 125$ °C; $V_{DD} = V_{DRM}; V_{RD} = V_{RRM}$	max. 15	mA
$R_{th(j-s)}$	cont. per thyristor	0,8	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
$V_{T(TO)}$	$T_{vj} =$ °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

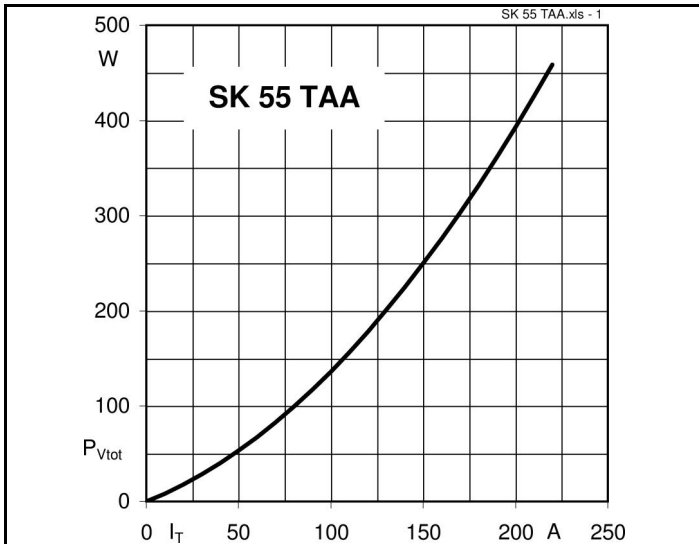


Fig. 1 Power dissipation vs. current

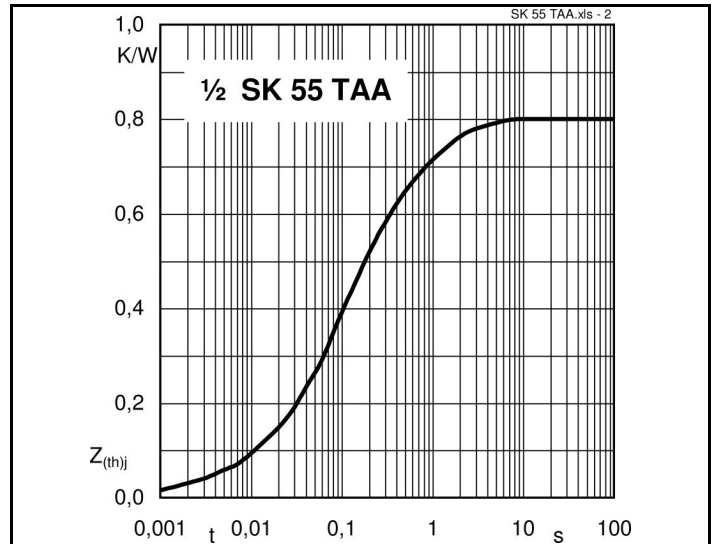


Fig. 2 Transient thermal impedance vs. time

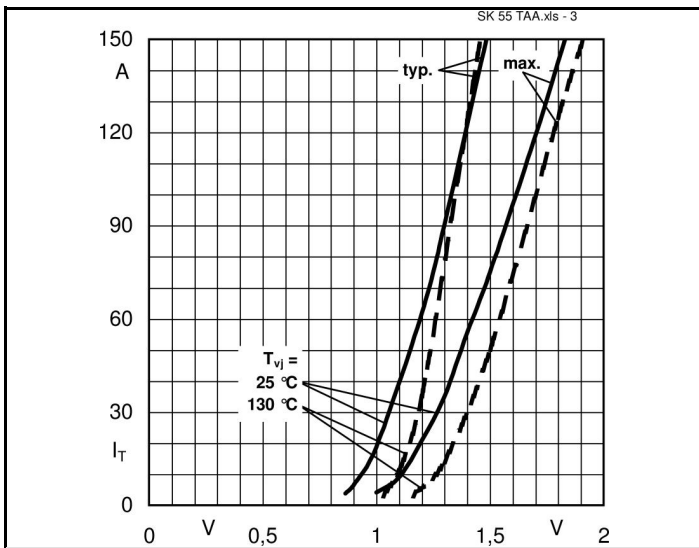


Fig. 3 Forward characteristic of single thyristor

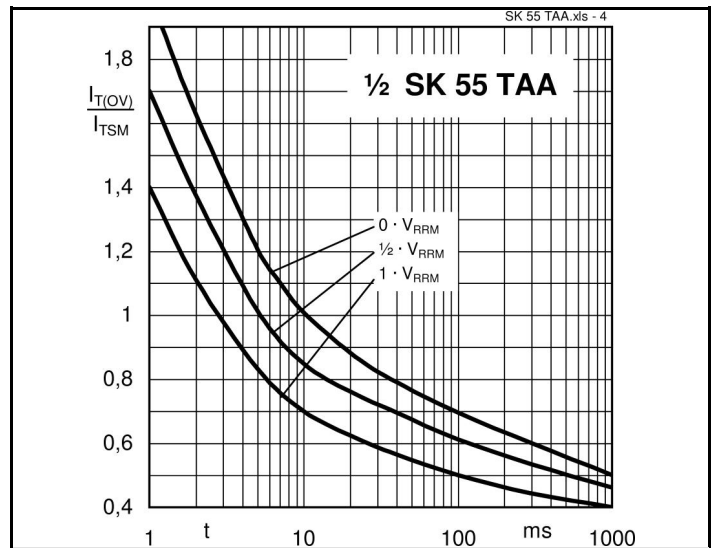


Fig. 4 Surge overload current vs. time

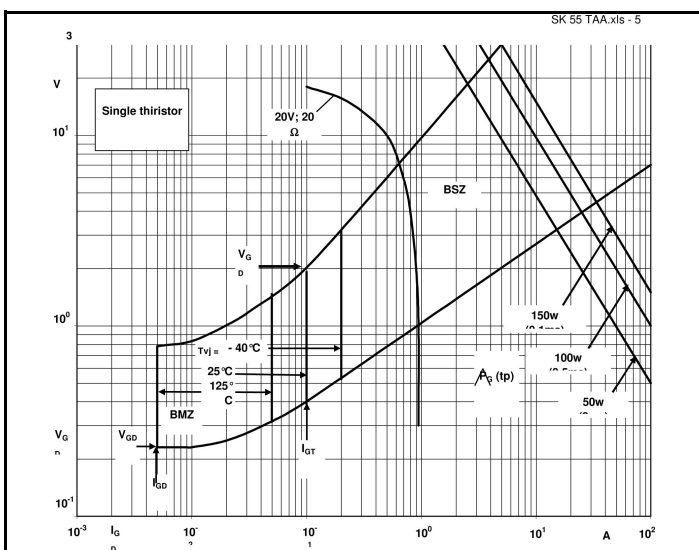
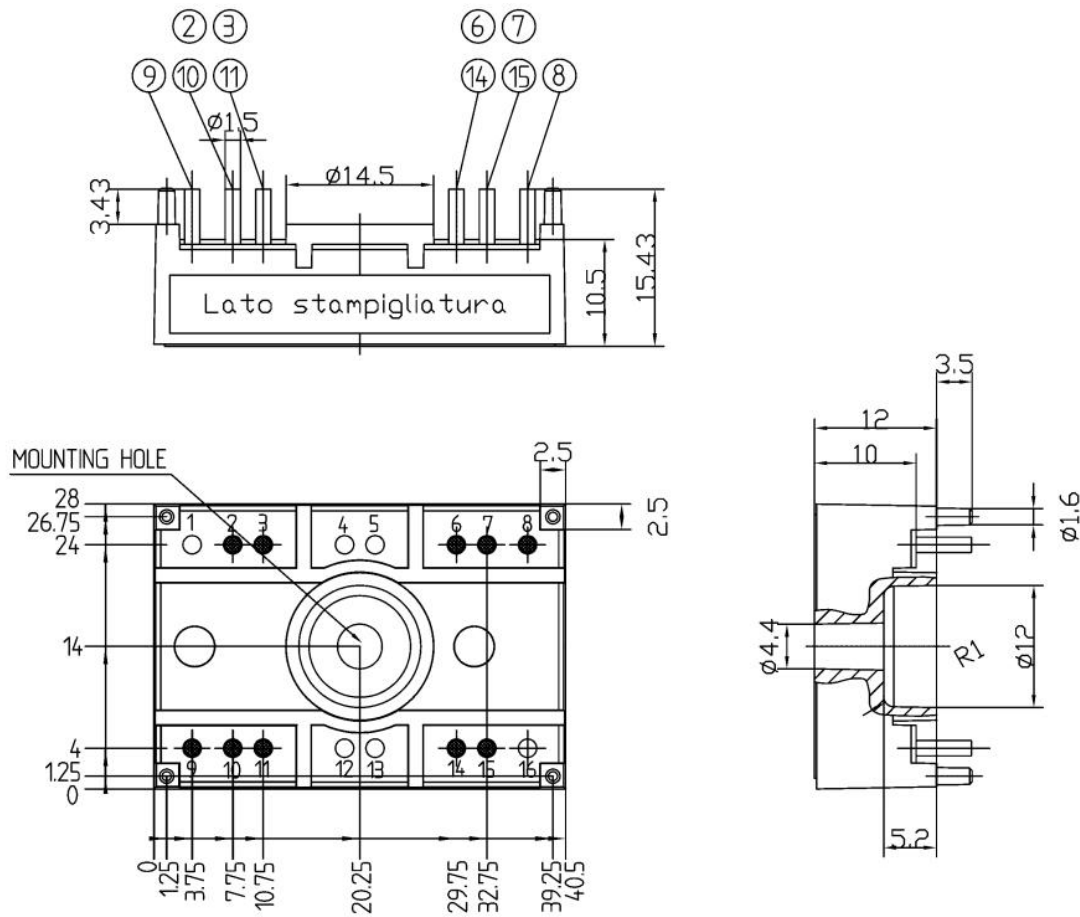
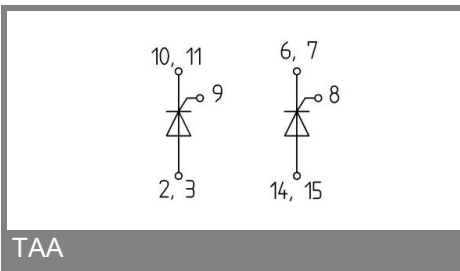


Fig. 5 Gate trigger characteristic



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)



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.