

# SK 75 TAE



**SEMITOP®2**

Thyristor and Diode separated in the same housing  
**SK 75 TAE**

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 1600V reverse voltage

## Typical Applications\*

- UPS
- 1) REMARKS:  $V_T$ ,  $V_{T(TO)}$ ,  $V_F$ ,  $V_{TO}$  = chip level value

$V_{RSM}$ V	$V_{RRM}$ , $V_{DRM}$ V	$I_T = 75$ A ( $T_s = 80$ °C)
1300	1200	SK75TAE12

**Characteristics**  $T_s = 25$  °C, unless otherwise specified

Symbol	Conditions	Values	Units
$I_T$	$T_s = 80$ °C	75	A
$I_T$	$T_s = 100$ °C	50	A
			A
$I_{TSM}/I_{FSM}$	$T_{vj} = 130$ °C; 10 ms	1250	A
$I^2t$	$T_{vj} = 130$ °C; half sine wave, 10 ms	7810	A <sup>2</sup> s
$T_{stg}$		-40 ... +130	°C
$T_{solder}$	terminals, 10 s	260	°C

## Thyristor

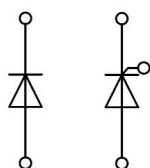
$(dv/dt)_{cr}$	$T_{vj} = 125$ °C	500	V/ $\mu$ s
$(di/dt)_{cr}$	$T_{vj} = 125$ °C; f = Hz	125	A/ $\mu$ s
$t_q$	$T_{vj} = 130$ °C; typ.	150	$\mu$ s
$I_H$	$T_{vj} = 25$ °C; typ. / max.	250 /	mA
$I_L$	$T_{vj} = 25$ °C; $R_G =$ ; typ. / max.	600 /	mA
$V_T$	$T_{vj} = 130$ °C; ( $I_T = 110$ A); max.	1,2	V
$V_{T(TO)}$	$T_{vj} = 130$ °C	max. 0,85	V
$r_T$	$T_{vj} = 130$ °C	max. 4,4	m $\Omega$
$I_{DD}$ ; $I_{RD}$	$T_{vj} =$ °C; $V_{DD} = V_{DRM}$ ; $V_{RD} = V_{RRM}$	max.	mA
$R_{th(j-s)}$	max. value	0,6	K/W
$T_{vj}$		-40 ... +130	°C
$V_{GT}$	$T_{vj} = 25$ °C; d.c.	1,98	V
$I_{GT}$	$T_{vj} = 25$ °C; d.c.	100	mA
$V_{GD}$	$T_{vj} = 130$ °C; d.c.	0,25	V
$I_{GD}$	$T_{vj} = 115$ °C; d.c.	6	mA

## Diode

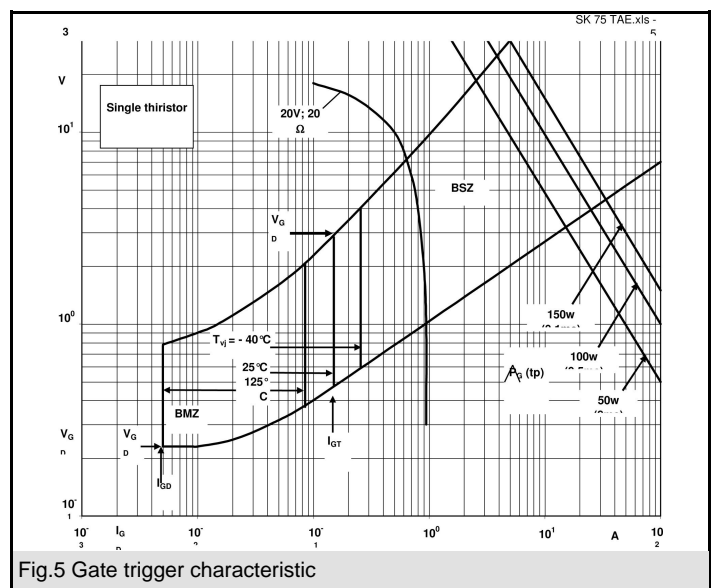
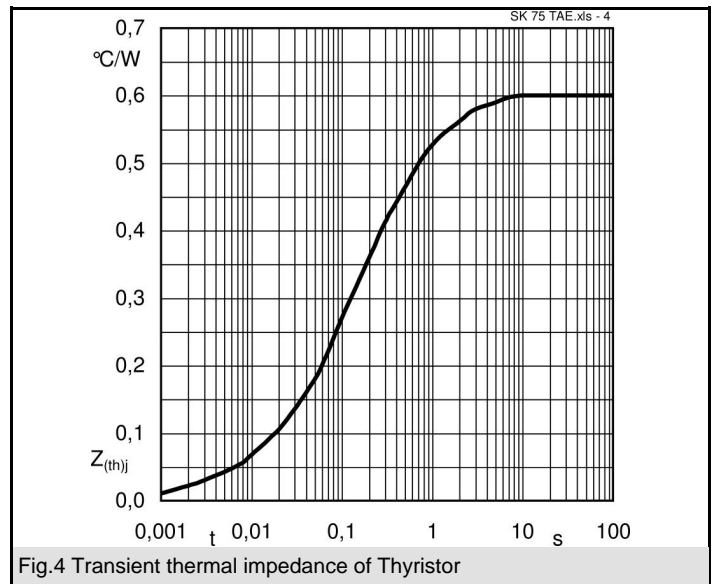
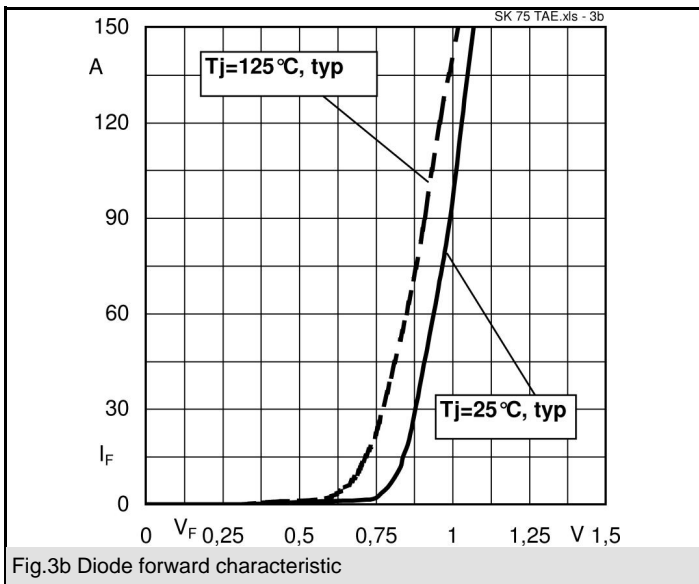
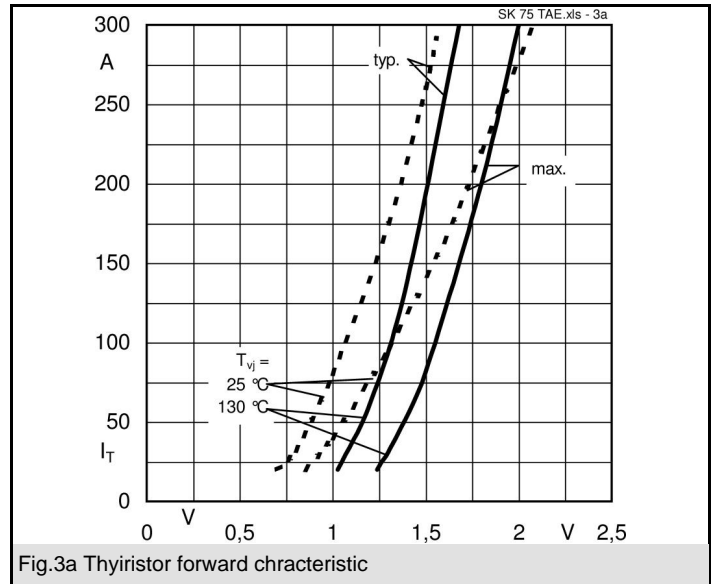
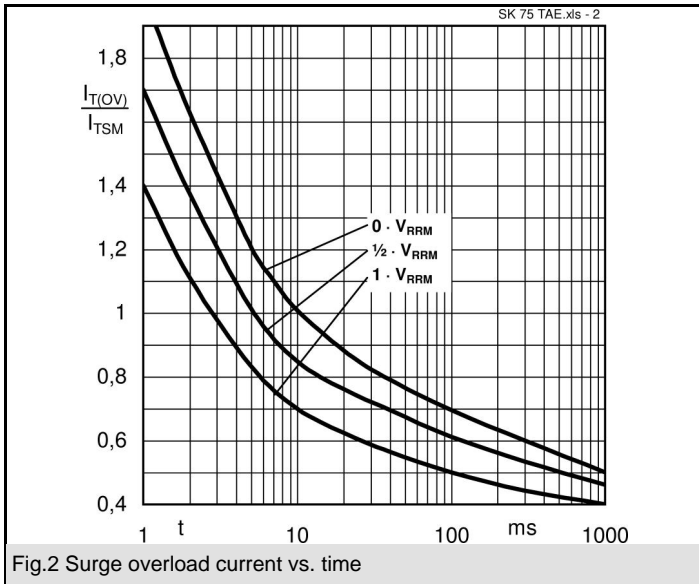
$V_F$	$T_{vj} = 125$ °C; ( $I_F = 100$ A); max.	1,1	V
$V_{(TO)}$	$T_{vj} = 125$ °C	0,83	V
$r_T$	$T_{vj} = 125$ °C	1,6	m $\Omega$
$I_{RD}$	$T_{vj} =$ °C; $V_{RD} = V_{RRM}$		mA
$R_{th(j-s)}$	max. value	0,62	K/W
$T_{vj}$		-40 ... +150	°C

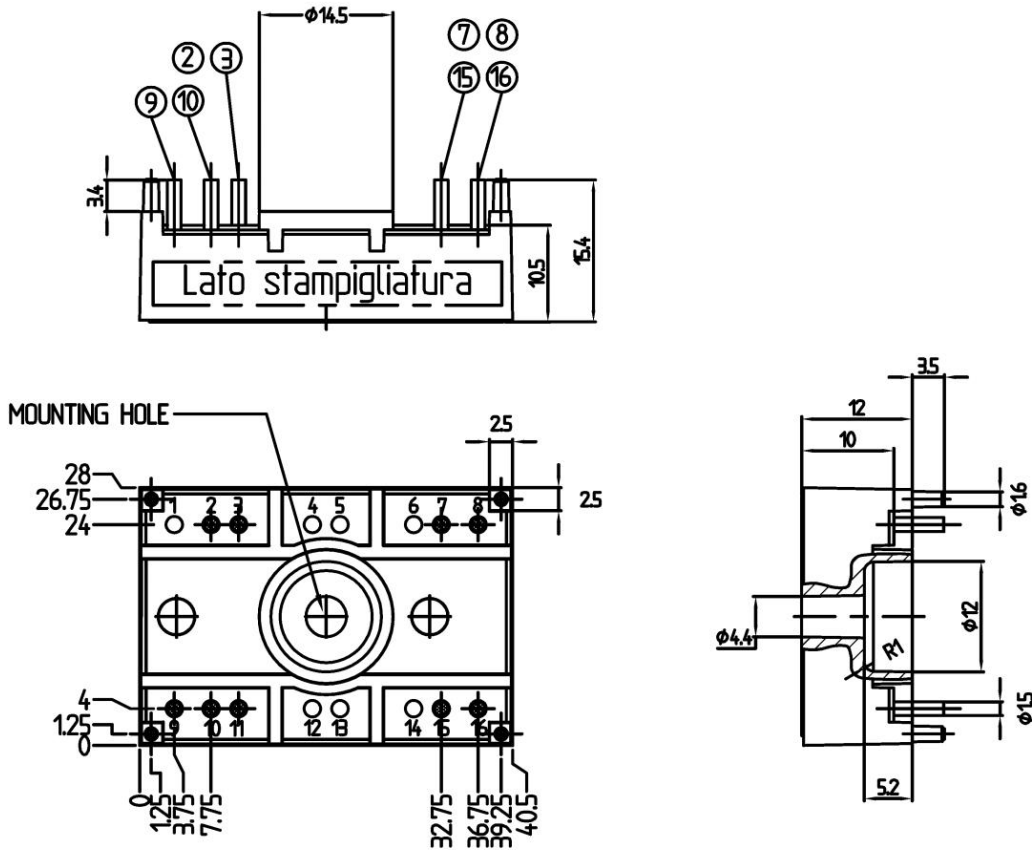
## Mechanical data

$V_{isol}$	a.c. 50Hz; r.m.s.; 1s (1min)	2500 (3000)	V
$M_1$	mounting torque	2	Nm
w		19	g
Case	SEMITOP®2	T 82	



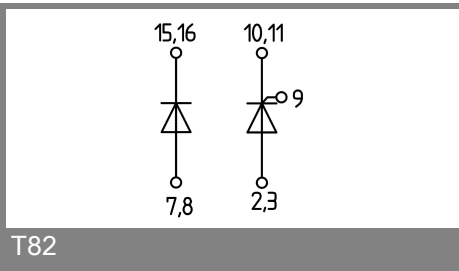
**TAE**





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

Case T82 (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.