# SK55TAA12p

**SEMITOP® 2 Press-Fit**

Two separated thyristors

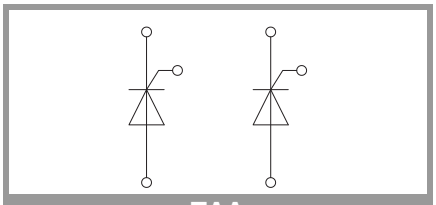
**SK55TAA12p**

### Features*

- Compact design
- One screw mounting
- Solder free mounting with Press-Fit terminals
- Fully compatible with SEMITOP® Press-Fit types
- High current density due to double mesa technology
- Heat transfer and isolation through direct copper bonded alumina oxide ceramic (DBC)
- High surge currents
- UL recognized, file no. E 63 532

### Typical Applications

- Controlled rectifier circuit
- Solid state relays



**TAA**

| Absolute Maximum Ratings | | | |
|---|---|---|---|
| **Symbol** | **Conditions** | **Values** | **Unit** |
| **Thyristor 1** | | | |
| $V_{RRM}$ | | 1200 | V |
| $V_{DRM}$ | | 1200 | V |
| $I_{T(AV)}$ | $T_j$ = 130 °C, $T_s$ = 70 °C | 47 | A |
| $I_{TSM}$ | $t_p$ = 10 ms, sin 180°, $T_j$ = 25 °C | 1100 | A |
| $i^2t$ | $t_p$ = 10 ms, sin 180°, $T_j$ = 25 °C | 6050 | $A^2s$ |
| $T_j$ | | -40 ... 130 | °C |

| Absolute Maximum Ratings | | | |
|---|---|---|---|
| **Symbol** | **Conditions** | **Values** | **Unit** |
| **Module** | | | |
| $I_{t(RMS)}$ | $\Delta T_{terminal}$ at PCB joint = 30 K, per pin | 35 | A |
| $T_{stg}$ | module without TIM | -40 ... 125 | °C |
| $V_{isol}$ | AC, sinusoidal, t = 1 min | 2500 | V |

| Characteristics | | | | | |
|---|---|---|---|---|---|
| **Symbol** | **Conditions** | **min.** | **typ.** | **max.** | **Unit** |
| **Thyristor 1** | | | | | |
| $V_T$ | $T_j$ = 25 °C, $I_T$ = 80 A | | | 1.26 | V |
| $V_{T(TO)}$ | $T_j$ = 130 °C | | | 0.85 | V |
| $r_T$ | $T_j$ = 130 °C | | | 4.38 | mΩ |
| $I_{DD}$;$I_{RD}$ | $T_j$ = 130 °C, $V_{DD}$ = $V_{DRM}$; $V_{RD}$ = $V_{RRM}$ | | | 9 | mA |
| $t_{gd}$ | $T_j$ = 25 °C, $I_G$ = 1 A, $di_G/dt$ = 1 A/µs | | 1 | | µs |
| $t_{gr}$ | $V_D$ = 0.67 * $V_{DRM}$ | | 2 | | µs |
| $t_q$ | $T_j$ = 130 °C | | 150 | | µs |
| $I_H$ | $T_j$ = 25 °C | 220 | | | mA |
| $I_L$ | $T_j$ = 25 °C, $R_G$ = 33 Ω | 440 | | | mA |
| $V_{GT}$ | $T_j$ = 25 °C, d.c. | 2 | | | V |
| $I_{GT}$ | $T_j$ = 25 °C, d.c. | 100 | | | mA |
| $V_{GD}$ | $T_j$ = 130 °C, d.c. | | | 0.25 | V |
| $I_{GD}$ | $T_j$ = 130 °C, d.c. | | | 6 | mA |
| $R_{th(j-s)}$ | per thyristor, $\lambda_{paste}$=0.8 W/(mK), sin. 180° | | 0.94 | | K/W |

| Characteristics | | | | | |
|---|---|---|---|---|---|
| **Symbol** | **Conditions** | **min.** | **typ.** | **max.** | **Unit** |
| **Module** | | | | | |
| $M_s$ | to heatsink | 1.8 | | 2 | Nm |
| w | weight | | 19 | | g |

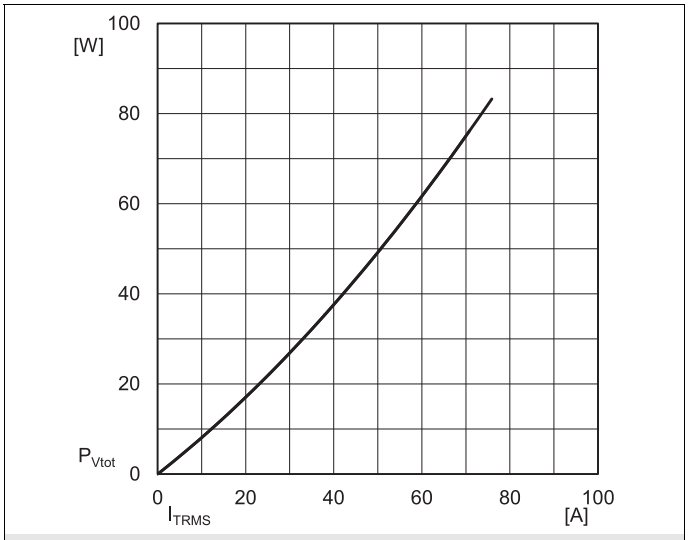



Fig. 1: Power dissipation per module vs. rms current

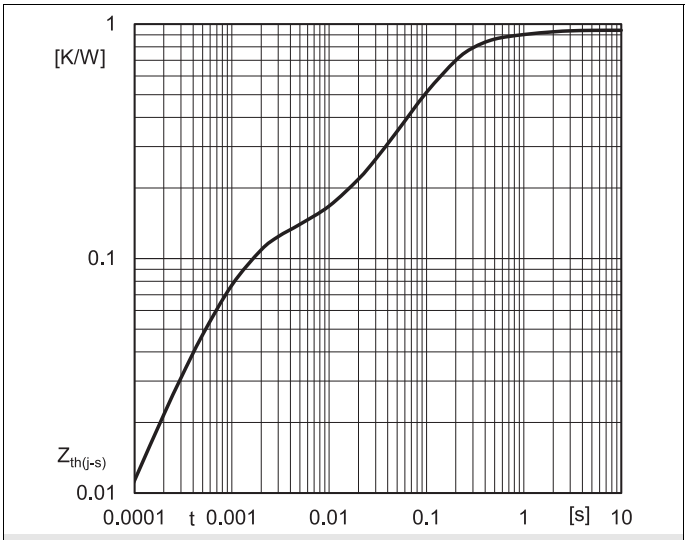



Fig. 2: Typ. transient thermal impedance vs. time

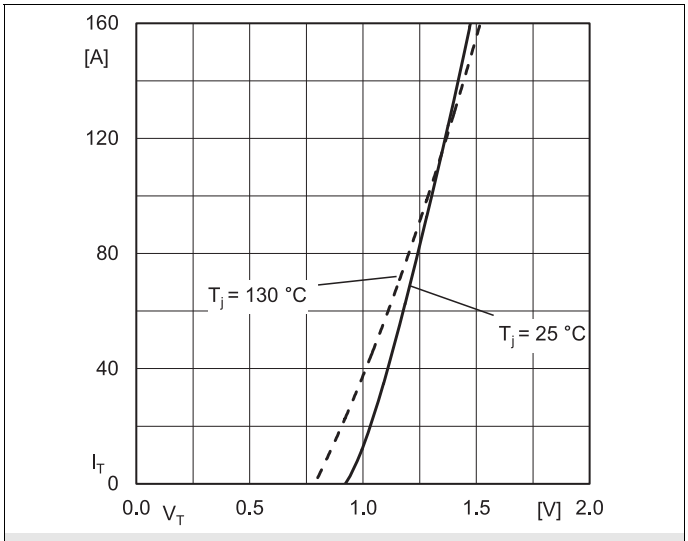



Fig. 3: Typ. forward characteristic of single thyristor

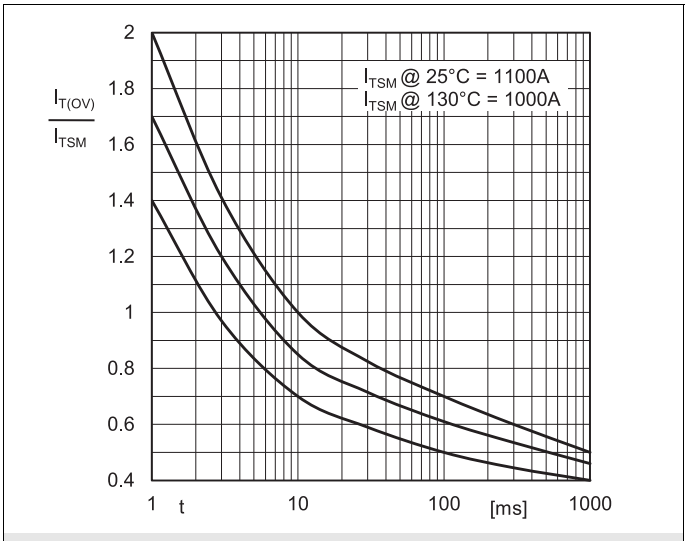



Fig. 4 : Surge overload current vs. time

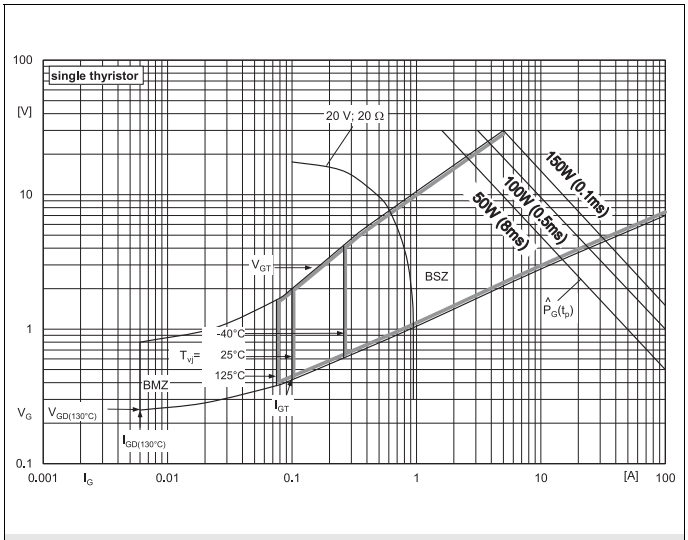
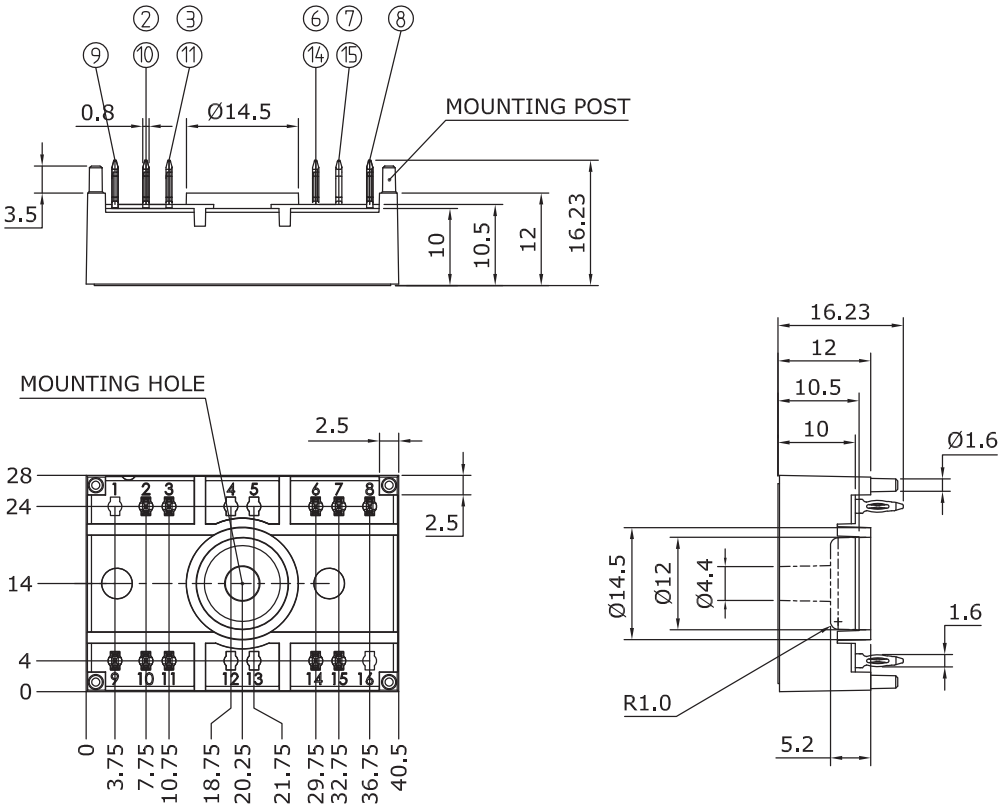



Fig. 5: Gate trigger characteristic

Dimensions: mm
Tolerance system: ISO 2768-m




Suggested drilled hole diameter for terminal pins in the circuit board:
- refer Mounting Instruction SEMITOP® Classic

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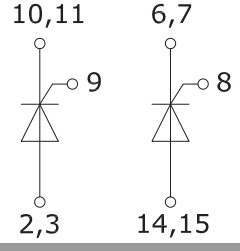


**TAA**

This is an electrostatic discharge sensitive device (ESDS) due to international standard IEC 61340.

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