# SKUT 85

**SEMIPONT$^{TM}$ 5**

## Three phase antiparallel Thyristor Module

**SKUT 85**

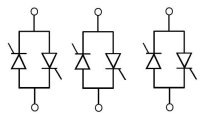
Preliminary Data

### Features

- Compact design
- Two screws mounting
- Heat transfer and isolation through direct copper board (Low $R_{th}$)
- Low resistance in Steady-State and high reliability
- High surge currents
- Glass passived thyristors chips
- Up to 1600V reverse voltage
- UL recognized, file no. E 63 532

### Typical Applications*

- Soft starter
- Light control (e.g. studios, theaters)
- Temperature control (e.g. oven, chemical processes)



**W3C**

| $V_{RSM}$ V | $V_{RRM}$, $V_{DRM}$ V | $I_{RMS}$ = 85 A (full conduction) ($T_s$ = 85 °C) |
|---|---|---|
| 1300 | 1200 | SKUT 85/12 |
| 1700 | 1600 | SKUT 85/16 |

| Symbol | Conditions | Values | Units |
|---|---|---|---|
| $I_{RMS}$ | W3C ; sin. 180° ; $T_s$= 85°C | 85 | A |
| | ; sin. 180° ; | | A |
| $I_{TSM}$ | $T_{vj}$ = 25 °C ; 10 ms | | A |
| | $T_{vj}$ = 125 °C ; 10 ms | 1050 | A |
| i²t | $T_{vj}$ = 25 °C ; 10 ms | | A²s |
| | $T_{vj}$ = 125 °C ; 8,3...10 ms | 5500 | A²s |
| $V_T$ | $T_{vj}$ = 25 °C, $I_T$ = 120 A | max. 1,8 | V |
| $V_{T(TO)}$ | $T_{vj}$ = 125 °C | max. 1,1 | V |
| $r_T$ | $T_{vj}$ = 125 °C | max. 6 | mΩ |
| $I_{DD}$;$I_{RD}$ | $T_{vj}$ = 25 °C, $V_{RD}$=$V_{RRM}$ | max. 1 | mA |
| | $T_{vj}$ = 125 °C, $V_{RD}$=$V_{RRM}$ | max. 20 | mA |
| $t_{gd}$ | $T_{vj}$ = 25 °C, $I_G$ = 1 A; $di_G/dt$= 1 A/µs | 1 | µs |
| $t_{gr}$ | $V_D$ = 0,67 *$V_{DRM}$ | 2 | µs |
| $(dv/dt)_{cr}$ | $T_{vj}$ = 125 °C | 500 | V/µs |
| $(di/dt)_{cr}$ | $T_{vj}$ = 125 °C; f= 50...60 Hz | 50 | A/µs |
| $t_q$ | $T_{vj}$ = 125 °C; typ. | 150 | µs |
| $I_H$ | $T_{vj}$ = 25 °C; typ. / max. | 200 | mA |
| $I_L$ | $T_{vj}$ = 25 °C; $R_G$ = 33 Ω; typ. / max. | 400 | mA |
| $V_{GT}$ | $T_{vj}$ = 25 °C; d.c. | min. 3 | V |
| $I_{GT}$ | $T_{vj}$ = 25 °C; d.c. | min. 150 | mA |
| $V_{GD}$ | $T_{vj}$ = 125 °C; d.c. | max. 0,25 | V |
| $I_{GD}$ | $T_{vj}$ = 125 °C; d.c. | max. 5 | mA |
| $R_{th(j-s)}$ | sin 180°C per Thyristor | 0,85 | K/W |
| | | | K/W |
| $T_{vj}$ | | -40...+125 | °C |
| $T_{stg}$ | | -40...+125 | °C |
| $T_{sold}$ | Terminals, 10s max | 260 | °C |
| $V_{isol}$ | a. c. 50 Hz; r.m.s.; 1 s / 1 min. | 3600 / 3000 | V~ |
| $M_s$ | Mounting torque to Heatsink, SI units | 2,5 | Nm |
| $M_t$ | | | Nm |
| a | | | m/s² |
| m | | 75 | g |
| Case | SEMIPONT 5 | G62 | |

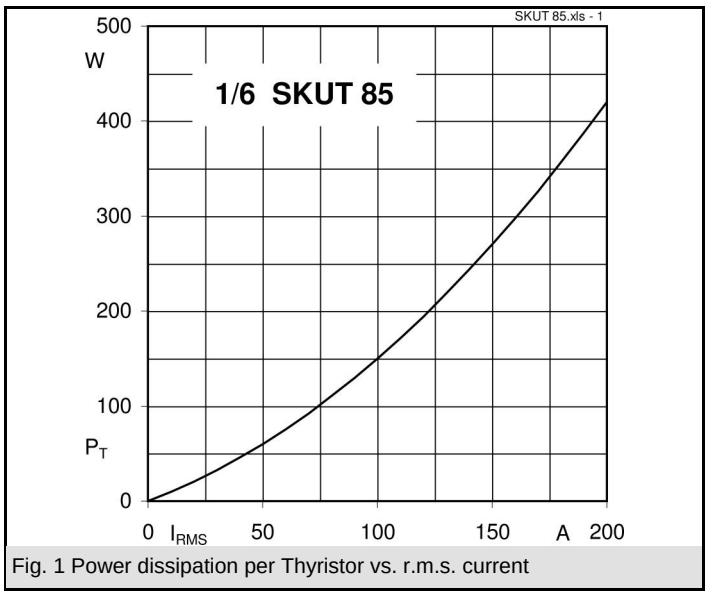



Fig. 1 Power dissipation per Thyristor vs. r.m.s. current

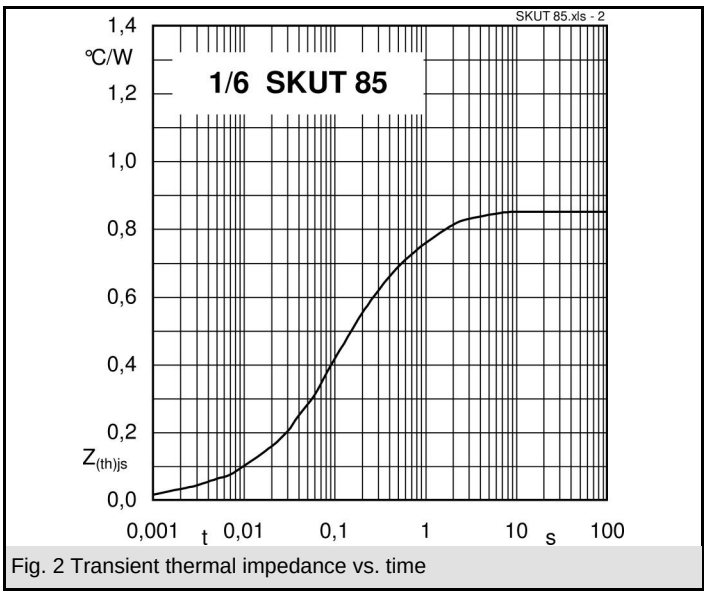



Fig. 2 Transient thermal impedance vs. time

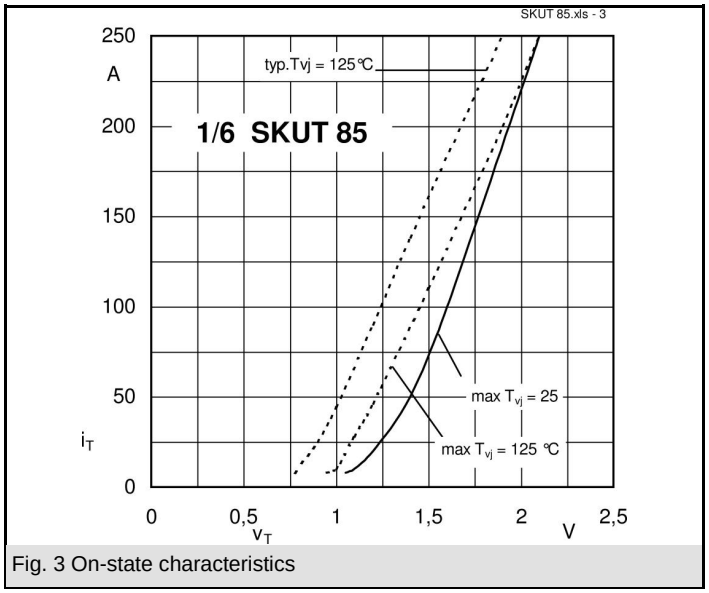



Fig. 3 On-state characteristics

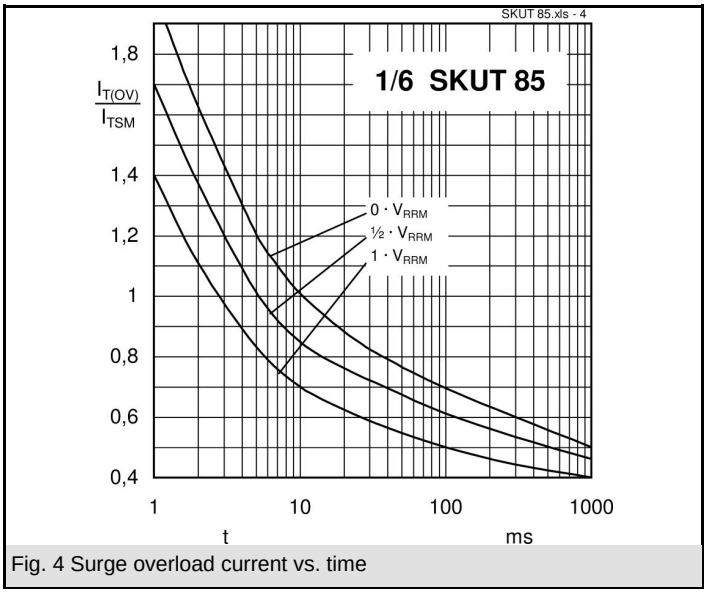



Fig. 4 Surge overload current vs. time

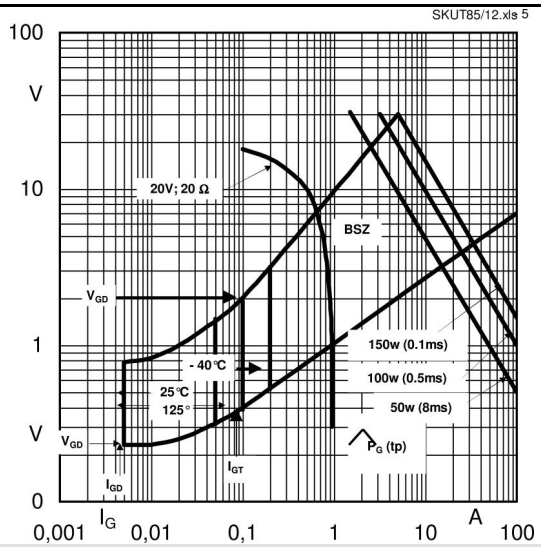
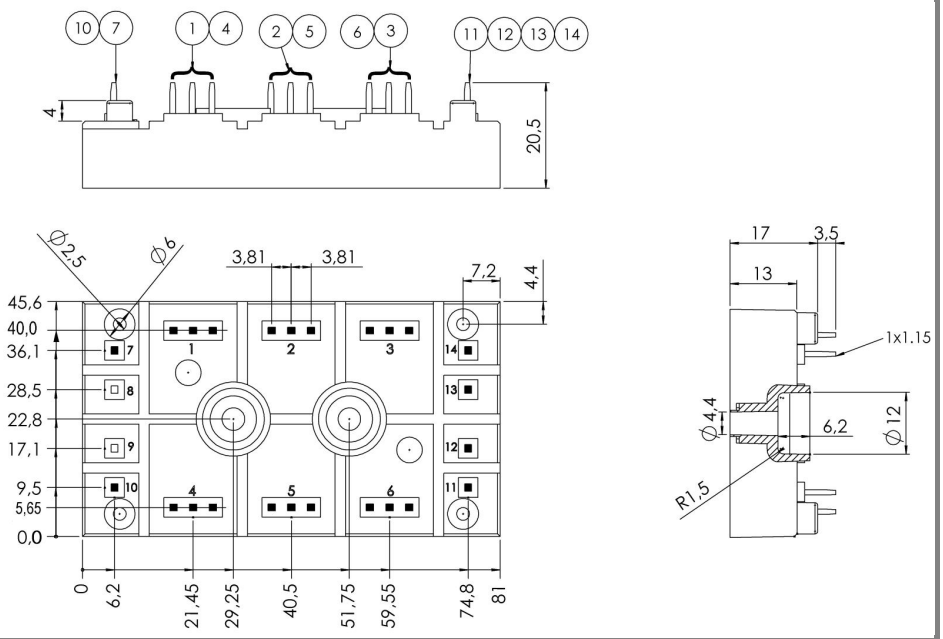
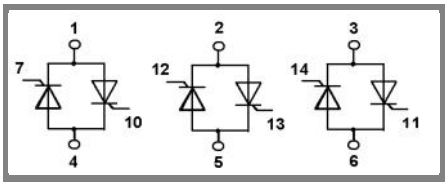



Fig. 5 Gate trigger characteristics

Dimensions in mm




Case G62

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* 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.

 