

## SK 60 KH 12 F

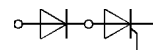
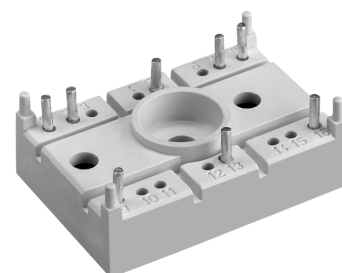
|                                    |           |                                                |
|------------------------------------|-----------|------------------------------------------------|
| $V_{RSM}$                          | $V_{RRM}$ | $I_{TAV}$ (maximum values for cont. operation) |
| $V$                                | $V_{DRM}$ | ( $T_h = 85\text{ °C}$ )                       |
| 1300                               | 1200      | 45 A                                           |
| <b>SK 60 KH 12 F <sup>1)</sup></b> |           |                                                |

## SEMITOP® 2

## Thyristor/Diode Module

## SK 60 KH 12 F <sup>1)</sup>

| Symbol                   | Conditions                                                                            | Values             | Units                                |
|--------------------------|---------------------------------------------------------------------------------------|--------------------|--------------------------------------|
| $I_{TAV}/I_{FAV}$        | sin. 180°; $T_h = 80\text{ °C}$<br>$T_h = 85\text{ °C}$                               | 65 / 47<br>60 / 45 | A<br>A                               |
| $T_{stg}$                |                                                                                       | - 40 ... +125      | °C                                   |
| $T_{solder}$             | terminals, 10 s                                                                       | 260                | °C                                   |
| $I_{TSM}/I_{FSM}$        | $T_{vj} = 25\text{ °C}$ ; 10 ms<br>$T_{vj} = 125\text{ °C}$ ; 10 ms                   | —<br>1800 / 800    | A<br>A                               |
| $i^2t$                   | $T_{vj} = 25\text{ °C}$ ; 8,3 ... 10 ms<br>$T_{vj} = 125\text{ °C}$ ; 8,3 ... 10 ms   | —<br>3100          | A <sup>2</sup> s<br>A <sup>2</sup> s |
| <b>Thyristor</b>         |                                                                                       |                    |                                      |
| $t_{gd}$                 | $T_{vj} = 25\text{ °C}$ ; $I_G = 1\text{ A}$ ; $di_G / dt = 1\text{ A} / \mu\text{s}$ | 1                  | $\mu\text{s}$                        |
| $t_{gr}$                 | $V_D = 0,67 V_{DRM}$                                                                  | 2                  | $\mu\text{s}$                        |
| $(dv/dt)_{cr}$           | $T_{vj} = 125\text{ °C}$                                                              | 1000               | V/ $\mu\text{s}$                     |
| $(di/dt)_{cr}$           | $T_{vj} = 125\text{ °C}$ ; $f = 50 \dots 60\text{ Hz}$                                | 50                 | A/ $\mu\text{s}$                     |
| $t_q$                    | $T_{vj} = 125\text{ °C}$ ; typ.                                                       | 80                 | $\mu\text{s}$                        |
| $I_H$                    | $T_{vj} = 25\text{ °C}$ ; typ. / max.                                                 | 100 / 200          | mA                                   |
| $I_L$                    | $T_{vj} = 25\text{ °C}$ ; $R_G = 33\text{ }\Omega$ ; typ. / max.                      | 200 / 500          | mA                                   |
| $V_T$                    | $T_{vj} = 25\text{ °C}$ ; ( $I_T = 300\text{ A}$ ); max.                              | 1,85               | V                                    |
| $V_{T(T0)}$              | $T_{vj} = 125\text{ °C}$                                                              | 0,9                | V                                    |
| $r_T$                    | $T_{vj} = 125\text{ °C}$                                                              | 3,5                | m $\Omega$                           |
| $I_{DD}$ ; $I_{RD}$      | $T_{vj} = 125\text{ °C}$ ; $V_{DD} = V_{DRM}$ ; $V_{RD} = V_{RRM}$                    | 20                 | mA                                   |
| $V_{GT}$                 | $T_{vj} = 25\text{ °C}$ ; dc                                                          | 2                  | V                                    |
| $I_{GT}$                 | $T_{vj} = 25\text{ °C}$ ; dc                                                          | 100                | mA                                   |
| $V_{GD}$                 | $T_{vj} = 125\text{ °C}$ ; dc                                                         | 0,25               | V                                    |
| $I_{GD}$                 | $T_{vj} = 125\text{ °C}$ ; dc                                                         | 5                  | mA                                   |
| $R_{thjh}$ <sup>2)</sup> | cont. / sin. 180° p. thyristor                                                        | 0,45 / 0,47        | K/W                                  |
| $T_{vj}$                 |                                                                                       | - 40 ... + 125     | °C                                   |
| <b>Diode</b>             |                                                                                       |                    |                                      |
| $V_F$                    | $T_{vj} = 25\text{ °C}$ ; ( $I_F = 100\text{ A}$ ); max.                              | 2,5                | V                                    |
| $V_{T(T0)}$              | $T_{vj} = 125\text{ °C}$                                                              | 1,2                | V                                    |
| $r_T$                    | $T_{vj} = 125\text{ °C}$                                                              | 11                 | m $\Omega$                           |
| $I_R$                    | $T_{vj} = 150\text{ °C}$ ; $V_{RD} = V_{RRM}$                                         | 8                  | mA                                   |
| $R_{thjh}$ <sup>2)</sup> |                                                                                       | 0,6                | K/W                                  |
| $T_{vj}$                 |                                                                                       | - 40 ... +150      | °C                                   |
| <b>Mechanical Data</b>   |                                                                                       |                    |                                      |
| $V_{isol}$               | a.c. 50 Hz; r.m.s.; 1 s / 1 min                                                       | 3000 / 2500        | V                                    |
| $M_1$                    | mounting torque                                                                       | 2                  | Nm                                   |
| $W$                      |                                                                                       | 19                 | g                                    |
| Case                     |                                                                                       | T 28               |                                      |



**KH**

### Features

- Compact design
- One screw mounting
- Heat transfer and isolation through direct copper bonded aluminium oxide ceramic (DCB)
- Glass passivated thyristor chips
- High surge currents
- Fast & soft CAL-diode <sup>1)</sup>
- UL recognized, file no. E 63 532

### Typical Applications

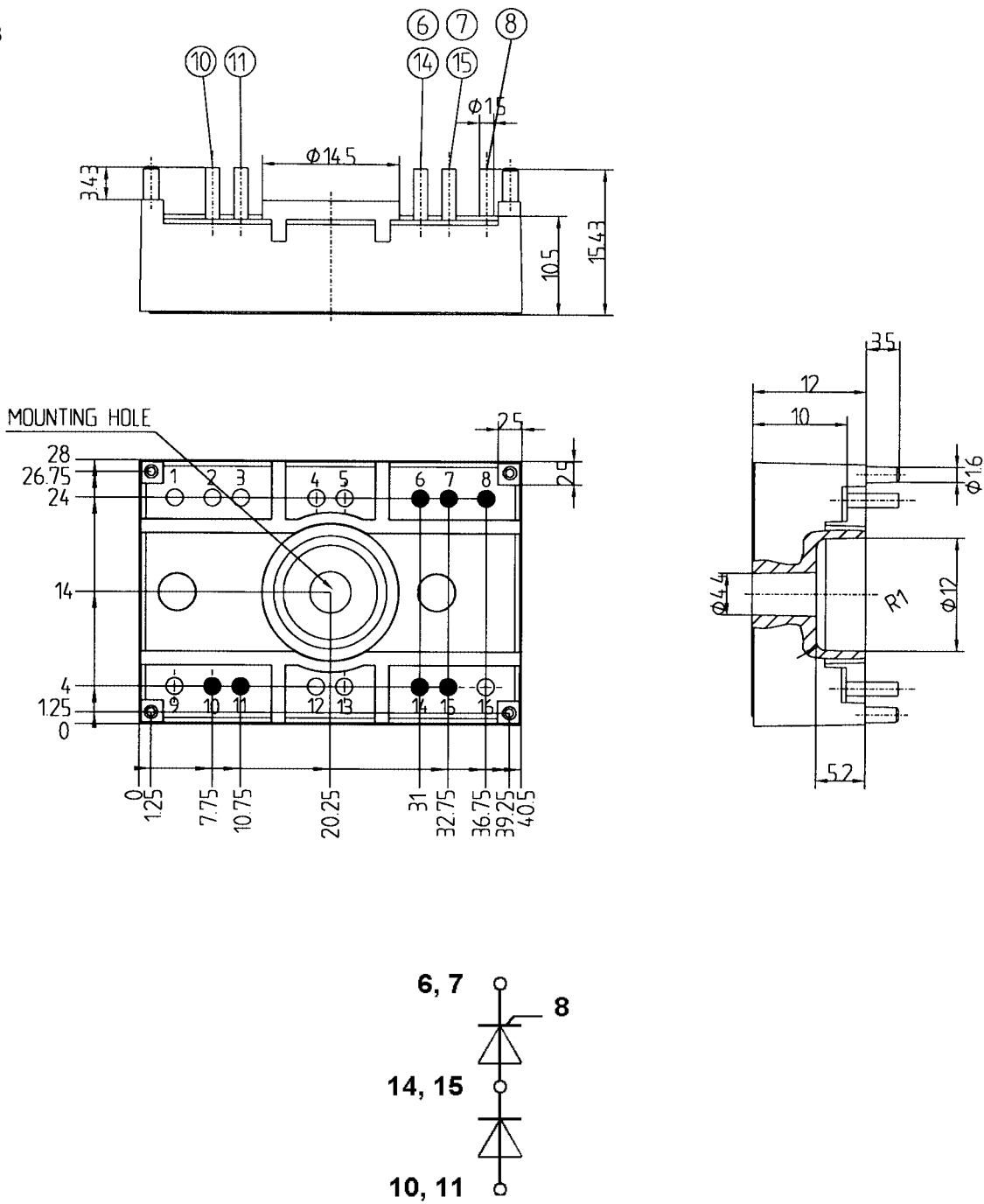
- UPS

<sup>1)</sup> CAL (Controlled axial lifetime) technology

<sup>2)</sup> Thermal resistance junction to heatsink

SEMITOP® 2  
SK 60 KH 12 F

Case T 28



Dimensions in mm

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