

查询"SK170DHL126"供应商



SEMISTOP<sup>®</sup> 4

## Half controlled bridge rectifier + IGBT braking chopper SK170DHL126

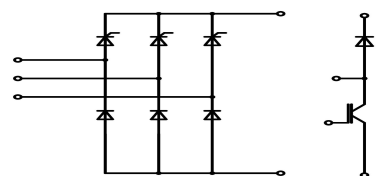
Target Data

### Features

- One screw mounting hole
- Fully compatible with SEMISTOP<sup>®</sup> 1,2,3
- Improved thermal performances by aluminium oxide substrate
- Trench IGBT brake chopper technology
- CAL technology free-wheeling diode chopper

### Typical Applications

- $V_{CE,sat}$ ,  $V_F$  = chip level value
- $I_{CM} = 2 \times I_{C,nom}$ ,  $t_p \leq 1ms$
- $I_{FM} = 2 \times I_{F,nom}$ ,  $t_p \leq 1ms$
- $I_C = I_{C,nom}$ ,  $I_F = I_{F,nom}$



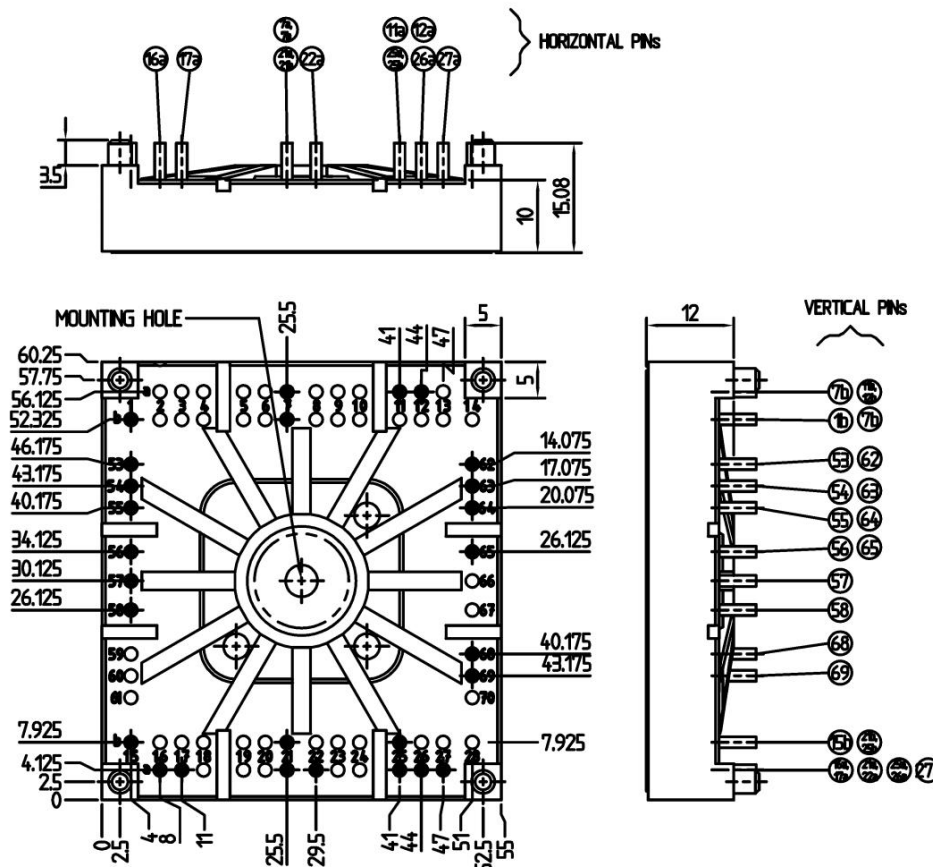
DH-L

|                            |                                                                                                                   |                                                                                                  |           |            |                    |
|----------------------------|-------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-----------|------------|--------------------|
| $V_{RSM}$<br>V             | $V_{RRM}$ , $V_{DRM}$<br>V                                                                                        | $I_D = 170$ A (maximum value for continuous operation)<br>( $T_s = 70\text{ }^{\circ}\text{C}$ ) |           |            |                    |
| Absolute Maximum Ratings   |                                                                                                                   | $T_s=25^{\circ}\text{C}$ , unless othwerwise specified                                           |           |            |                    |
| Symbol                     | Conditions                                                                                                        | Values                                                                                           |           |            | Units              |
| Bridge - Rectifier         |                                                                                                                   |                                                                                                  |           |            |                    |
| $I_D$                      | $T_s = 70\text{ }^{\circ}\text{C}$ ; inductive load                                                               | 170                                                                                              |           |            | A                  |
| $I_{FSM}/I_{TSM}$          | $t_p = 10\text{ ms}$ ; half sine wave, ; $T_{jmax}$                                                               | 1000                                                                                             |           |            | A                  |
| $i^2t$                     | $t_p = 10\text{ ms}$ ; half sine wave, ; $T_{jmax}$                                                               | 5000                                                                                             |           |            | A <sup>2</sup> s   |
| IGBT - Chopper             |                                                                                                                   |                                                                                                  |           |            |                    |
| $V_{CES}/V_{GES}$          |                                                                                                                   | 1200 / 20                                                                                        |           |            | V                  |
| $I_C$                      | $T_s = 25\text{ (70) }^{\circ}\text{C}$                                                                           | 90 (70)                                                                                          |           |            | A                  |
| $I_{CM}$                   | $t_p = 1\text{ ms}$ ; $T_s =\text{ }^{\circ}\text{C}$                                                             | 70                                                                                               |           |            | A                  |
| Freewheeling - CAL Diode   |                                                                                                                   |                                                                                                  |           |            |                    |
| $V_{RRM}$                  |                                                                                                                   | 1200                                                                                             |           |            | V                  |
| $I_F$                      | $T_s = 25\text{ (70) }^{\circ}\text{C}$                                                                           | 95 (70)                                                                                          |           |            | A                  |
| $I_{FM}$                   | $t_p = 1\text{ ms}$ ; $T_s =\text{ }^{\circ}\text{C}$                                                             | 170                                                                                              |           |            | A                  |
| $T_{vj}$                   | Diode & IGBT (Thyristor)                                                                                          | -40 ... +150 (-40 ... +130)                                                                      |           |            | $^{\circ}\text{C}$ |
| $T_{stg}$                  |                                                                                                                   | -40 ... +125 (-40 ... +130)                                                                      |           |            | $^{\circ}\text{C}$ |
| $T_{solder}$               | terminals, 10 s                                                                                                   | 260                                                                                              |           |            | $^{\circ}\text{C}$ |
| $V_{isol}$                 | a.c. 50 Hz, RMS 1 min. / 1 s                                                                                      | 2500 / 3000                                                                                      |           |            | V                  |
|                            |                                                                                                                   |                                                                                                  |           |            |                    |
| Characteristics            |                                                                                                                   |                                                                                                  |           |            |                    |
| Symbol                     | Conditions                                                                                                        | min.                                                                                             | typ.      | max.       | Units              |
| Diode - Rectifier          |                                                                                                                   |                                                                                                  |           |            |                    |
| $V_{TO} / r_t$             | $T_j = 125\text{ }^{\circ}\text{C}$                                                                               |                                                                                                  | 0,8 / 7   |            | V / mΩ             |
| $R_{th(j-s)}$              | per diode                                                                                                         |                                                                                                  | 0,7       |            | K/W                |
| Thyristor - Rectifier      |                                                                                                                   |                                                                                                  |           |            |                    |
| $V_{F(TO)} / r_t$          | $T_j = 130\text{ }^{\circ}\text{C}$                                                                               |                                                                                                  | 1,1 / 5,7 |            | V / mΩ             |
| $R_{th(j-s)}$              | per Thyristor                                                                                                     |                                                                                                  | 0,51      |            | K/W                |
| $I_{GD}$                   | $T_j = 115\text{ }^{\circ}\text{C}$ ; d.c.                                                                        | 6                                                                                                |           |            | mA                 |
| $V_{GT} / I_{GT}$          | $T_j = 25\text{ }^{\circ}\text{C}$                                                                                |                                                                                                  |           | 1,98 / 100 | V / mA             |
| $I_H/I_L$                  | $T_j = 25\text{ }^{\circ}\text{C}$                                                                                |                                                                                                  |           | 220 / 440  | mA                 |
| $(dv/dt)_{cr}$             | $T_j = 130\text{ }^{\circ}\text{C}$                                                                               |                                                                                                  |           | 1000       | V/μs               |
| $(di/dt)_{cr}$             | $T_j = 130\text{ }^{\circ}\text{C}$                                                                               |                                                                                                  |           | 50         | A/μs               |
| IGBT - Chopper             |                                                                                                                   |                                                                                                  |           |            |                    |
| $V_{CE(sat)}$              | $I_C = 70\text{ A}$ , $T_j = 125\text{ }^{\circ}\text{C}$ ;<br>$V_{GE} = 15\text{ V}$                             |                                                                                                  | 1,7       | 2,05       | V                  |
| $R_{th(j-s)}$              | per IGBT                                                                                                          |                                                                                                  | 0,5       |            | K/W                |
| $t_{d(on)} / t_r$          | valid for all values:                                                                                             |                                                                                                  |           |            | ns                 |
| $t_{d(off)} / t_f$         | $V_{CC} = 600\text{ V}$ ; $V_{GE} = 15\text{ V}$ ;<br>$I_C = 75\text{ A}$ ; $T_j = 125\text{ }^{\circ}\text{C}$ ; |                                                                                                  |           |            | ns                 |
| $E_{on}+E_{off}$           | $T_j = 125\text{ }^{\circ}\text{C}$ ; $R_G = 9\text{ }\Omega$ ;<br>inductive load                                 |                                                                                                  | 16,7      |            | mJ                 |
| CAL - Diode - Freewheeling |                                                                                                                   |                                                                                                  |           |            |                    |
| $V_{T(TO)} / r_t$          | $T_j = 150\text{ }^{\circ}\text{C}$                                                                               |                                                                                                  | 0,95 / 10 |            | V / mΩ             |
| $R_{th(j-s)}$              | per diode                                                                                                         |                                                                                                  | 0,7       |            | K/W                |
| $I_{RRM}$                  | valid for all values:                                                                                             |                                                                                                  |           |            | A                  |
| $Q_{rr}$                   | $I_F = 75\text{ A}$ ; $V_R = - 600\text{ V}$ ;<br>$dI_F/dt = - A/\mu s$                                           |                                                                                                  |           |            | μC                 |
| $E_{off}$                  | $V_{GE} = V$ ; $T_j = 125\text{ }^{\circ}\text{C}$                                                                |                                                                                                  |           |            | mJ                 |
| Temperature Sensor         |                                                                                                                   |                                                                                                  |           |            |                    |
| $R_{TS}$                   | $T =\text{ }^{\circ}\text{C}$ ;                                                                                   |                                                                                                  |           |            | Ω                  |
| Mechanical data            |                                                                                                                   |                                                                                                  |           |            |                    |
| $M_S$                      | mounting Torque                                                                                                   |                                                                                                  |           | 3,5        | Nm                 |

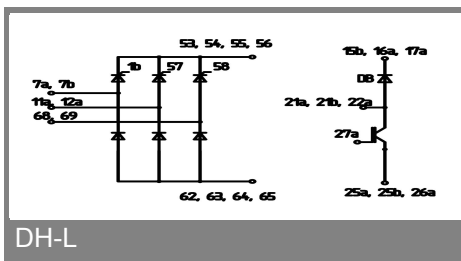
# SK170DHL126

UL recognized  
File n#176; E 63 532

Dimensions in mm



Case T 85 (Suggested hole diameter, in the PCB, for solder pins and plastic mounting pins: 2mm)



DH-L

This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, Chapter IX.

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