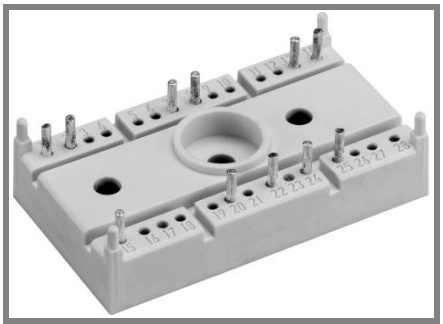
# SK 75 GARL 065 E



**SEMITOP® 3**

## IGBT Module

**SK 75 GARL 065 E**

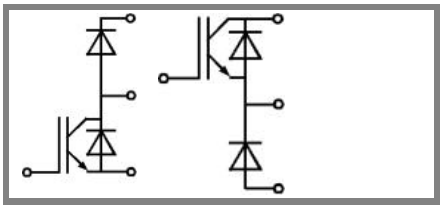
Target Data

### Features

- Compact design
- One screw mounting
- Heat transfer and isolation through direct copper bonded aluminium oxide ceramic (DCB)
- N-channel homogeneous silicon structure (NPT-Non punch-through IGBT)
- High short circuit capability
- Low tail current with low temperature dependence

### Typical Applications

- Switching (not for linear use)
- Driver
- Switched mode power supplies
- UPS



**GAL GAR**

| **Absolute Maximum Ratings** | | $T_s$ = 25 °C, unless otherwise specified | |
|---|---|---|---|
| **Symbol** | **Conditions** | **Values** | **Units** |
| **IGBT** | | | |
| $V_{CES}$ | | 600 | V |
| $V_{GES}$ | | ± 20 | V |
| $I_C$ | $T_s$ = 25 (80) °C; | 79 (55) | A |
| $I_{CM}$ | $t_p$ < 1 ms; $T_s$ = 25 (80) °C; | 158 (110) | A |
| $T_j$ | | - 40 ... + 150 | °C |
| **Inverse / Freewheeling CAL diode** | | | |
| $I_F$ = - $I_C$ | $T_s$ = 25 (125) °C; | 84 (57) | A |
| $I_{FM}$ = - $I_{CM}$ | $t_p$ < 1 ms; $T_s$ = 25 (125) °C; | 168 (114) | A |
| $T_j$ | | - 40 ... + 150 | °C |
| $T_{stg}$ | | - 40 ... + 125 | °C |
| $T_{sol}$ | Terminals, 10 s | 260 | °C |
| $V_{isol}$ | AC 50 Hz, r.m.s. 1 min. / 1 s | 2500 / 3000 | V |

| **Characteristics** | | $T_s$ = 25 °C, unless otherwise specified | | | |
|---|---|---|---|---|---|
| **Symbol** | **Conditions** | **min.** | **typ.** | **max.** | **Units** |
| **IGBT** | | | | | |
| $V_{CE(sat)}$ | $I_C$ = 60 A, $T_j$ = 25 (125) °C | | 1,8 (1,9) | | V |
| $V_{GE(th)}$ | $V_{CE}$ = $V_{GE}$; $I_C$ = A | 4,5 | 5,5 | 6,5 | V |
| $C_{ies}$ | $V_{CE}$ = 25 V; $V_{GE}$ = 0 V; 1 MHz | | | | nF |
| $R_{th(j-s)}$ | per IGBT | | | 0,6 | K/W |
| | per module | | | | K/W |
| | under following conditions: | | | | |
| $t_{d(on)}$ | $V_{CC}$ = 300 V , $V_{GE}$ = ±15 V | | | | ns |
| $t_r$ | $I_C$ = 25 A, $T_j$ = 125 °C | | | | ns |
| $t_{d(off)}$ | $R_{Gon}$ = $R_{Goff}$ = 33 Ω | | | | ns |
| $t_f$ | | | | | ns |
| $E_{on}$ + $E_{off}$ | Inductive load | | | | mJ |
| **Inverse / Freewheeling CAL diode** | | | | | |
| $V_F$ = $V_{EC}$ | $I_F$ = 60 A; $T_j$ = 25 (125) °C | | 1,45 (1,4) | | V |
| $V_{(TO)}$ | $T_j$ = 125 °C | | 0,9 | | V |
| $r_T$ | $T_j$ = 125 () °C | | 5 | 9 | mΩ |
| $R_{th(j-s)}$ | | | | 0,85 | K/W |
| | under following conditions: | | | | |
| $I_{RRM}$ | $I_F$ = 50 A; $V_R$ = 300 V | | 22 | | A |
| $Q_{rr}$ | $dI_F/dt$ = -500 A/µs | | | | µC |
| $E_{off}$ | $V_{GE}$ = 0 V; $T_j$ = 125 °C | | | | mJ |
| **Mechanical data** | | | | | |
| M1 | mounting torque | | | 2,5 | Nm |
| w | | | 30 | | g |
| Case | SEMITOP® 3 | | T55 | | |

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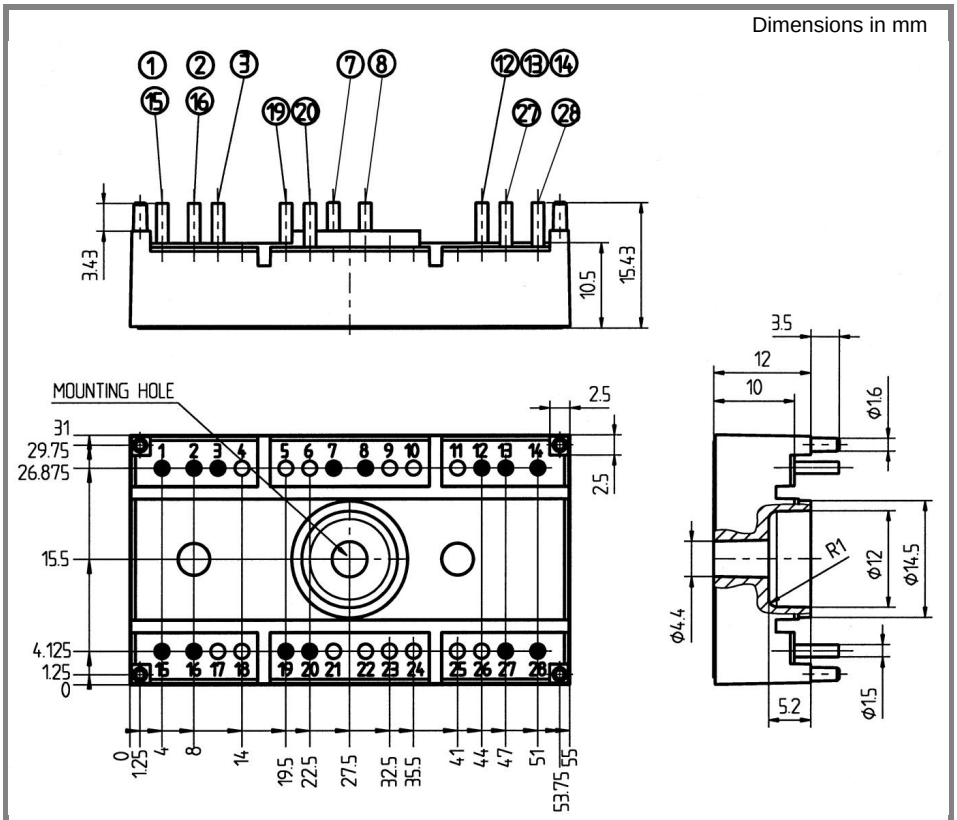
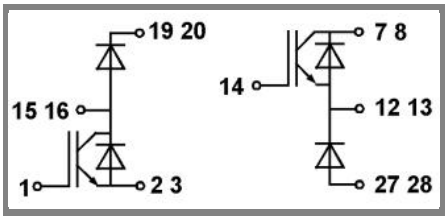



Case T55




Case T55

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

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