| Absolute Maximum Ratings<br>Symbol | Conditions [1] | Values | Units |
|---|---|---|---|
| $V_{RRM}$ | | 600 | V |
| $I_{FSM}$ | (≥ 10 bondwires 300 µm ∅) | | |
| | $t_p$ = 10 ms; sin; $T_j$ = 150 °C | 2100 | A |
| $I^2t$ | $t_p$ = 10 ms; sin; $T_j$ = 150 °C | 22 000 | $A^2s$ |
| Tsolder | max. 120 s (transfer) | 375 | °C |
| $T_{vj}$, $T_{stg}$ | min | – 55 | °C |
| $T_{vj}$, $T_{stg}$ | max | + 150 | °C |

| Characteristics<br>Symbol | Conditions [1] | min. | typ. | max. | Units |
|---|---|---|---|---|---|
| $I_{RM}$ | $T_j$ = 25 °C/125 °C; $V_{RRM}$ | | | 0,5 / 10 | mA |
| $V_F$ | $I_F$ = 200 A; $T_j$ = 25 °C | | 1,5 | 1,65 | V |
| | $T_j$ = 125 °C | | 1,5 | | V |
| $V_{T(TO)}$ | $T_j$ = 125 °C, see Fig. 1 | | 0,8 | 0,9 | V |
| $r_T$ | $T_j$ = 125 °C | | 3,5 | 4 | mΩ |
| $I_{RRM}$ | $I_F$ = 200 A; [2] | | | | |
| | $T_j$ = 125 °C | | 75 | | A |
| $Q_{rr}$ | $I_F$ = 200 A; $T_j$ = 25 °C | | 5 | | µC |
| | [2] $T_j$ = 125 °C | | 10,7 | | µC |
| Tsolder | 10 min | | 250 | | °C |
| Tsolder | 5 min | | | 340 | °C |

| Mechanical Data | | | |
|---|---|---|---|
| $A_{tot}$ | total area | 121 | $mm^2$ |
| $A_{act.}$ | active area | 95 | $mm^2$ |
| w | weight | 100 | mg |

Supplied on chip carriers (16 units) 102 x 102 x 8 mm
or supplied on frame, on request
Please contact factory

1) $T_{case}$ = 25 °C, unless otherwise specified
2) $V_R$ = 300 V; – $di_F/dt$ = 1000 A/µs;
3) CAL = Controlled Axial Lifetime Technology
4) Soldered on DCB ceramic ($Al_2O_3$) 0,4 mm thick on a 3 mm copper base plate $R_{thjc}$ = 0,25 K/W $T_{jm}$ = 150 °C; $T_{case}$ = 80 °C.

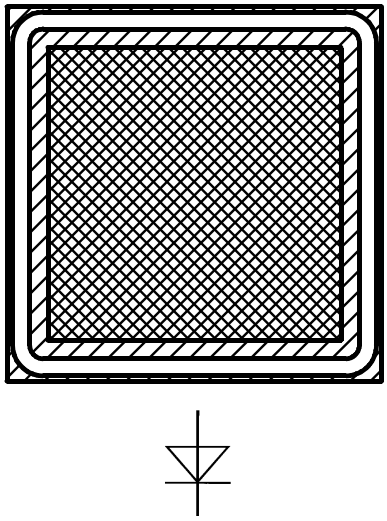
## SEMICELL
## CAL - Diode Chips[3]

## SKCD 121C 060 I

**11 x 11 mm; 200 A[4]; 600 V**

Preliminary data

GBCD061



### Features

- Low voltage drop
- low temperature dependence
- Very soft reverse recovery under **all** conditions
- CAL = Controlled Axial Lifetime Technology
- Top side = Al for bonding by aluminum wire
- Bottom = 4 layer metallisation for soldering

### Typical Applications

- Inverse diode for IGBT (in inverter drives)
- Freewheeling diode in brake choppers or step-up choppers with IGBT or MOSFET
- UPS Uninteruptible Power Supplies
- Hybrid circuits for static power converters
- Battery powered vehicles

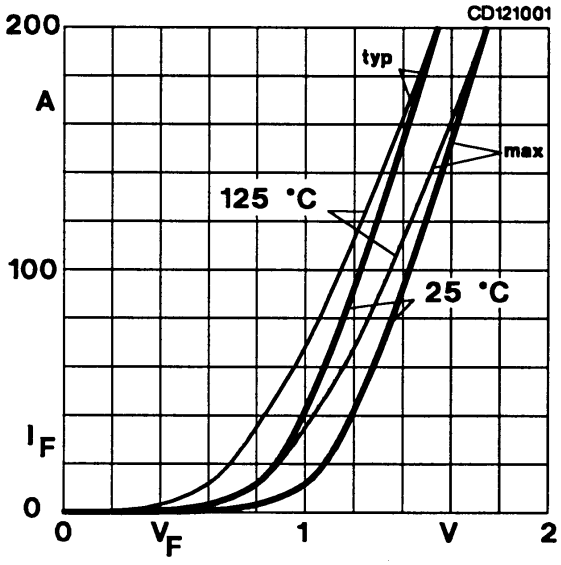



Fig. 1 Typ. CAL diode forward characteristic

Fig. 2 Typ peak reverse recovery curent $I_{RR} = f (di_F/dt)$

Fig. 3 Typ. diode reverse recovery behaviour i = f (t)

Fig. 4 Typ. reverse recovery charge $Q_{rr} = f (di_F/dt)$

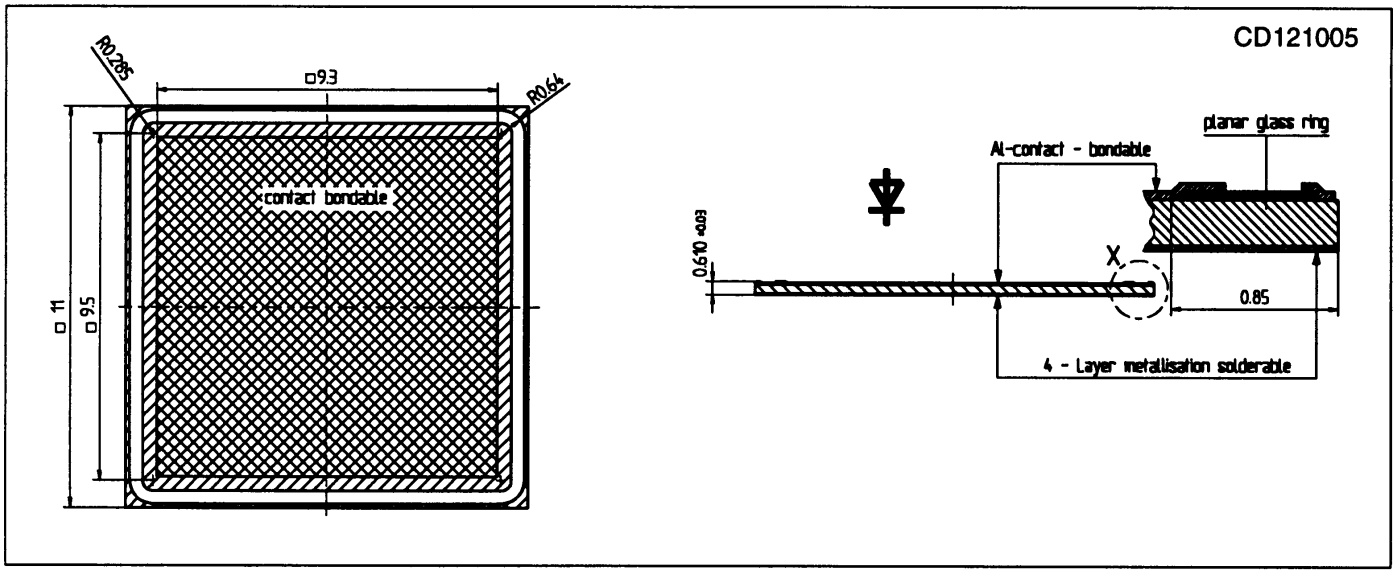



Fig. 5 Mechanical outline (dimensions in mm)