

Absolute Maximum Ratings		Values	Units
Symbol	Conditions ¹⁾		
V_{RRM} I_{FSM}	(≥ 2 bondwires 300 μm $\varnothing$) $t_p = 10 \text{ ms}$; $\sin$; $T_j = 150 \text{ }^\circ\text{C}$	600	V
I^2_t	$t_p = 10 \text{ ms}$; $\sin$; $T_j = 150 \text{ }^\circ\text{C}$	200	A
T_{solder}	max. 120 s (transfer)	200	A^2s
T_{vj} , T_{stg}	min	375	$^\circ\text{C}$
T_{vj} , T_{stg}	max	- 55	$^\circ\text{C}$
		+ 150	$^\circ\text{C}$

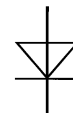
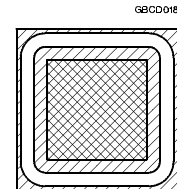
SEMICELL CAL - Diode Chips³⁾

SKCD 18C 060 I

4,2 x 4,2 mm; 25 A⁴⁾; 600 V

Preliminary data

Characteristics		min.	typ.	max.	Units
Symbol	Conditions ¹⁾				
I_{RM}	$T_j = 25 \text{ }^\circ\text{C}/125 \text{ }^\circ\text{C}$; V_{RRM}			0,1 / 2	mA
V_F	$I_F = 25 \text{ A}$; $T_j = 25 \text{ }^\circ\text{C}$		1,45	1,70	V
	$T_j = 125 \text{ }^\circ\text{C}$		1,40	1,65	V
V_F	$I_F = 40 \text{ A}$; $T_j = 25 \text{ }^\circ\text{C}$		1,65		V
	$T_j = 125 \text{ }^\circ\text{C}$		1,70		V
$V_{T(TO)}$	$T_j = 125 \text{ }^\circ\text{C}$, see Fig. 1		0,85	0,9	V
r_T	$T_j = 125 \text{ }^\circ\text{C}$		18	32	m Ω
I_{RRM}	$I_F = 25 \text{ A}$; ²⁾ $T_j = 125 \text{ }^\circ\text{C}$		25		A
Q_{rr}	$I_F = 25 \text{ A}$; $T_j = 25 \text{ }^\circ\text{C}$		1,5		μC
	²⁾ $T_j = 125 \text{ }^\circ\text{C}$		2,5		μC
T_{solder}	10 min		250		$^\circ\text{C}$
T_{solder}	5 min			340	$^\circ\text{C}$



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 Uninterruptible Power Supplies
- Hybrid circuits for static power converters

Mechanical Data		17,6	mm ²
Symbol	Conditions		
A_{tot}	total area	9,2	mm ²
$A_{\text{act.}}$	active area	12	mg
w	weight		
Supplied on frames Please contact factory			

- 1) $T_{\text{case}} = 25 \text{ }^\circ\text{C}$, unless otherwise specified
- 2) $V_R = 300 \text{ V}$; $-di_F/dt = 500 \text{ A}/\mu\text{s}$;
- 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 $R_{\text{thjc}} = 1,5 \text{ K/W}$
 $T_{jm} = 150 \text{ }^\circ\text{C}$; $T_{\text{case}} = 80 \text{ }^\circ\text{C}$.
- 5) DCB = Direct Copper Bonding Technology

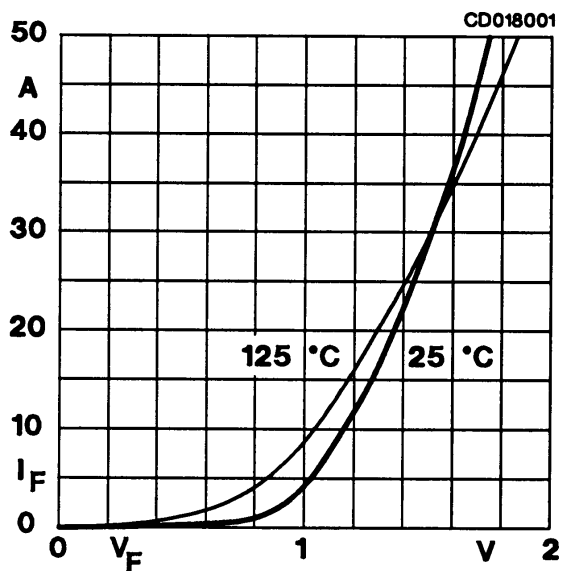


Fig. 1 Typ. CAL diode forward characteristic

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

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

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

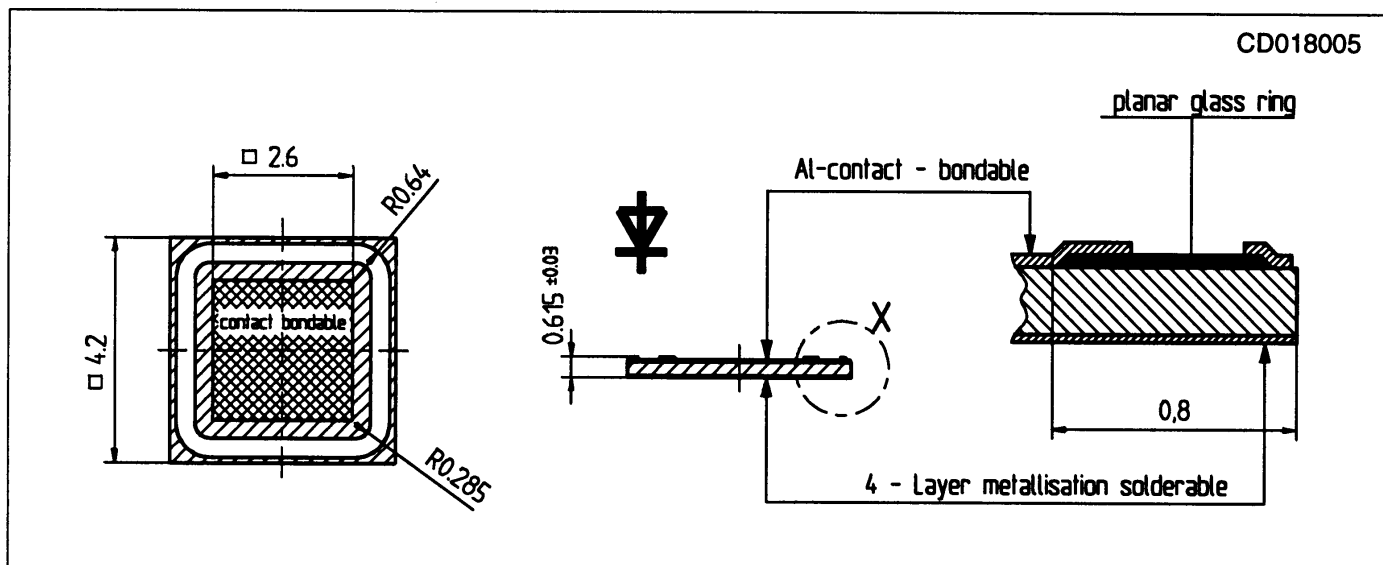


Fig. 5 Mechanical outline (dimensions in mm)