

Absolute Maximum Ratings			
Symbol	Conditions ¹⁾	Values	Units
V_{RRM}		600	V
I_F	⁴⁾	135	A
I_{FSM}	(≥ 3 bondwires 300 μm $\varnothing$) $t_p = 10$ ms; sin; $T_j = 150$ °C)	1260	A
I^2t	$t_p = 10$ ms; sin; $T_j = 150$ °C)	7950	A ² s
Tsolder	max. 120 s (transfer)	375	°C
T_{vj} , (T_{stg})		- 40 ... +150 (125)	°C

Characteristics					
Symbol	Conditions ¹⁾	min.	typ.	max.	Units
I_R	$T_j = 25$ (125) °C; V_{RRM}	—	—	0,3(8)	mA
V_F	$I_F = 150$ A, $T_j = 25$ °C	—	1,5	1,8	V
	$T_j = 125$ °C	—	1,45	1,75	V
$V_{T(TO)}$	$T_j = 125$ °C, see Fig. 1	—	0,85	0,9	V
r_T	$T_j = 125$ °C	—	4	6	m Ω
I_{RRM}	$I_F = 150$ A, $T_j = 125$ °C ²⁾	—	70	—	A
Q_{rr}	$I_F = 150$ A, $T_j = 25$ °C ²⁾	—	—	—	μC
	$T_j = 125$ °C	—	8,5	—	μC
Tsolder	10 min	—	250	—	°C
Tsolder	5 min	—	—	340	°C

Mechanical Data			
A_{tot}	total area	81	mm ²
$A_{act.}$	active area	61	mm ²
w	weight	100	mg
Supplied on chip carriers (49 units) 102 x 102 x 8 mm or supplied on frames, on request Please contact factory			

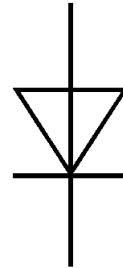
Types ⁵⁾		a)	b)	c)	Units
I:	Top side = Al for bonding by aluminium wire	7,3	9	7,5	mm
IS:	Top side = 4 layer metallisation for soldering	6,9	9	7,5	mm

- ¹⁾ $T_{case} = 25$ °C, unless otherwise specified
²⁾ $V_R = 300$ V, $-di_F/dt = 1000$ A/ μs
⁴⁾ Soldered on DCB ceramic (Al_2O_3) 0,4 mm thick
on a 3 mm copper base plate $R_{thjc} = 0,3$ K/W
 $T_{jm} = 150$ °C; $T_{case} = 80$ °C
⁵⁾ See Fig. 5

SEMICELL CAL - Diode Chips

SKCD 81C 060 I ⁵⁾
SKCD 81C 060 IS ⁵⁾

Preliminary Data



Features

- Low voltage drop
- low temperature dependence
- Very soft reverse recovery under **all** conditions
- CAL = Controlled Axial Lifetime Technology
- 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

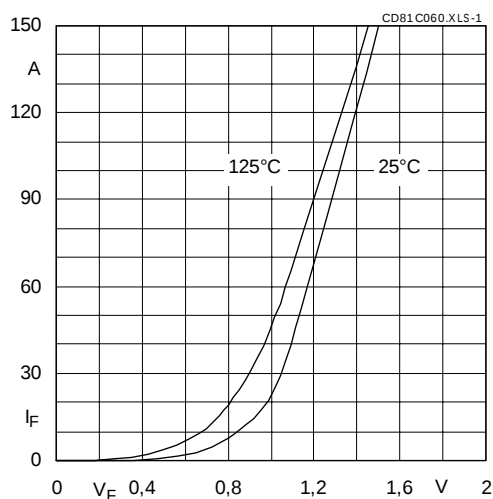


Fig. 1 Typ. CAL diode forward characteristic

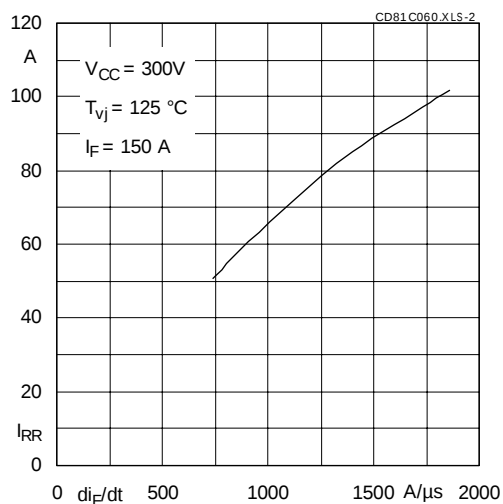


Fig. 2 Typ. peak reverse recovery current $I_{RR} = f(dI_F/dt)$

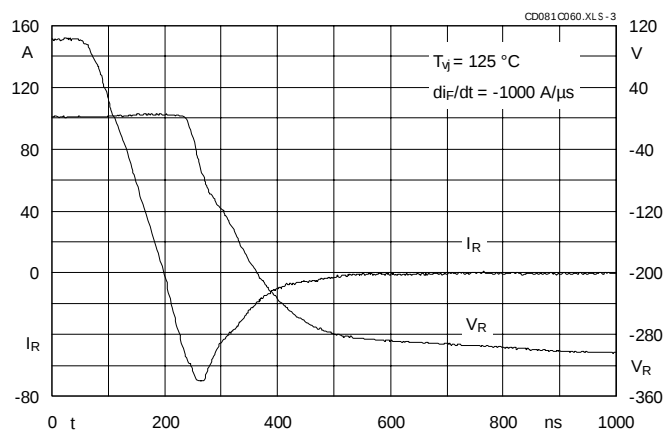


Fig. 3 Typ. diode reverse recovery behaviour $i = f(t)$

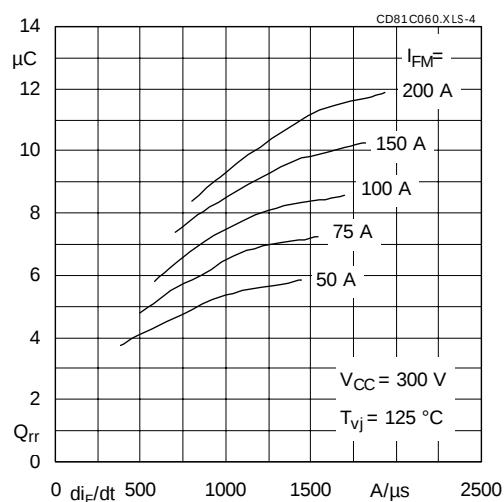


Fig. 4 Typ. reverse recovery charge $Q_{rr} = f(di_F/dt)$

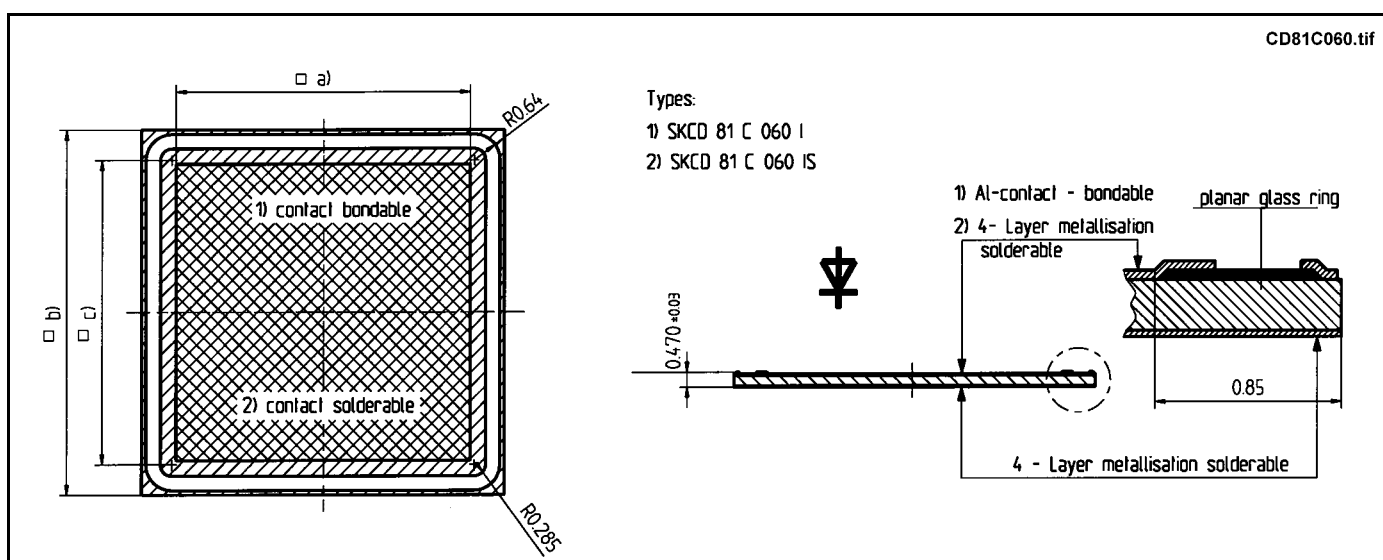


Fig. 5 Mechanical outline (dimensions in mm)