

**SEMICELL CAL-DIODE**

## SKCD 81 C 060 I3

$I_F = 150\text{ A}$

$V_{RRM} = 600\text{ V}$

Size: 9 mm X 9 mm

Package: wafer frame

### Features

- 600V, 1200V and 1700V
- low forward voltage drop
- easy paralleling due to a small forward voltage spread
- low temperature dependence
- very soft recovery behavior
- small switching losses
- high ruggedness
- compatible to thick wire bonding
- compatible to all standard solder processes

### Typical Applications

- freewheeling diode for IGBT
- optimal at frequencies > 8 kHz

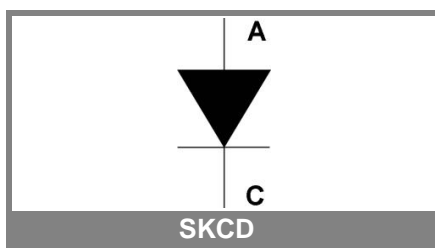
Absolute Maximum Ratings			
Symbol	Conditions	Values	Units
$V_{RRM}$	$T_{vj} = 25\text{ °C}$ , $I_R = 0,3\text{ mA}$	600	V
$I_{F(AV)}$	$T_h = 80\text{ °C}$ , $T_{vjmax} = 150\text{ °C}$	120	A
$I_{FSM}$	$T_{vj} = 25\text{ °C}$ , 10 ms, half sine wave	1550	A
	$T_{vjmax} = 150\text{ °C}$ , 10 ms, half sine wave	1260	A
$T_{vjmax}$		+ 150	°C

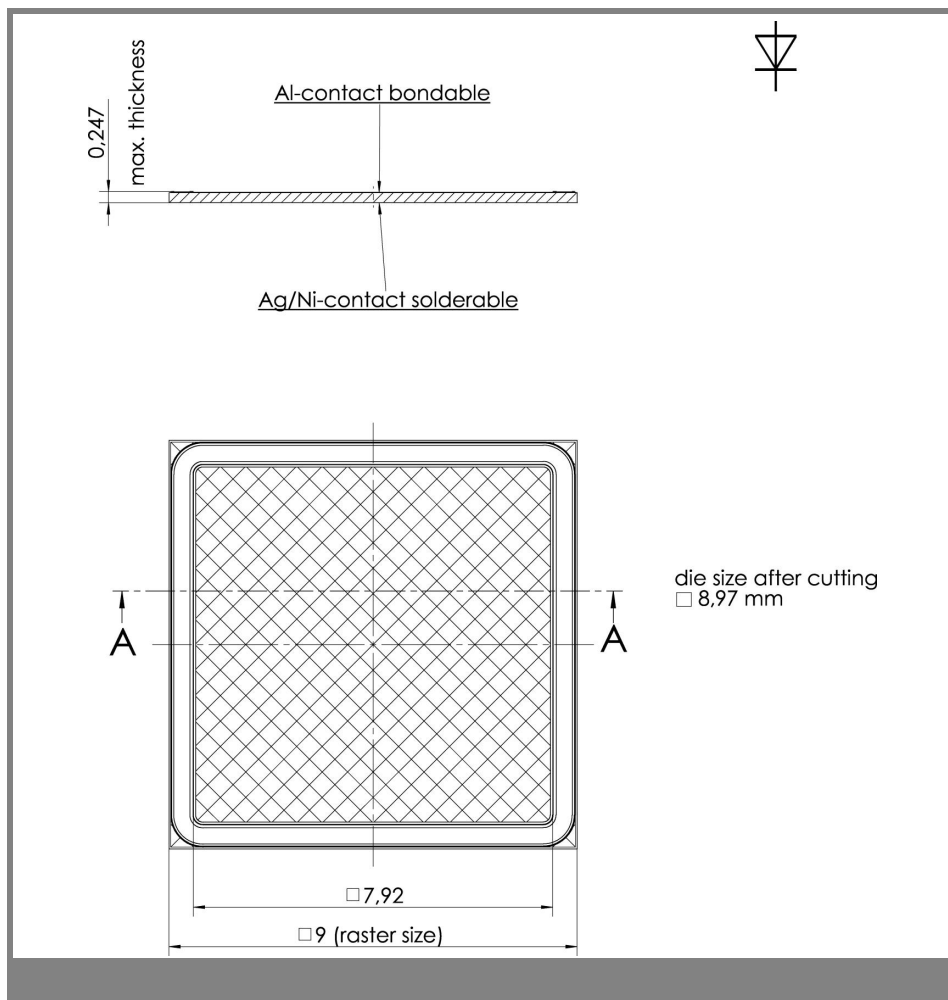
Electrical Characteristics					
Symbol	Conditions	min.	typ.	max.	Units
$I^2t$	$T_{vjmax}$ , 10 ms, half sine wave			7950	A <sup>2</sup> s
$I_R$	$T_{vj} = 25\text{ °C}$ , $V_{RRM}$			0,3	mA
	$T_{vj} = 125\text{ °C}$ , $V_{RRM}$			8	mA
$V_F$	$T_{vj} = 25\text{ °C}$ , $I_F = 155\text{ A}$		1,35	1,6	V
	$T_{vj} = 125\text{ °C}$ , $I_F = 155\text{ A}$		1,35	1,6	V
$V_{(TO)}$	$T_{vj} = 125\text{ °C}$		0,9		V
$r_T$	$T_{vj} = 125\text{ °C}$		2,7		mΩ

Dynamic Characteristics					
Symbol	Conditions	min.	typ.	max.	Units
$t_{rr}$	$T_{vj} = 25\text{ °C}$ , 150 A, 300 V, 1000 A/μs				ns
	$T_{vj} = 125\text{ °C}$ , 150 A, 300 V, 1000 A/μs				ns
$Q_{rr}$	$T_{vj} = 25\text{ °C}$ , 150 A, 300 V, 1000 A/μs				μC
	$T_{vj} = 125\text{ °C}$ , 150 A, 300 V, 1000 A/μs		8,5		μC
$I_{rrm}$	$T_{vj} = 25\text{ °C}$ , 150 A, 300 V, 1000 A/μs				A
	$T_{vj} = 125\text{ °C}$ , 150 A, 300 V, 1000 A/μs		70		A

Thermal Characteristics					
Symbol	Conditions	min.	typ.	max.	Units
$T_{vj}$		- 40		+ 150	°C
$T_{stg}$		- 40		+ 150	°C
$T_{solder}$	10 min			+ 250	°C
$T_{solder}$	5 min			+ 320	°C
$R_{th(j-h)}$	soldered on 0,38 mm DCB, reference point on copper heatsink close to the chip.		0,4		K / W

Mechanical Characteristics		
Parameter		Units
raster size	9 x 9	mm
Area total	81	mm <sup>2</sup>
Chips / wafer	116	pcs
Anode metallisation	bondable (Al)	
Cathode metallisation	solderable (Ag / Ni)	
wire bond	Al, diameter ≤ 500 μm	





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