

**SEMICELL CAL-DIODE**

## SKCD 61 C 060 I HD

$I_F = 150 \text{ A}$

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

Size: 7,8 mm X 7,8 mm

Package: wafer frame

### Features

- high current density
- easy paralleling due to a small forward voltage spread and a positive temperature coefficient
- very soft recovery behavior
- small switching losses
- high ruggedness
- compatible to thick wire bonding
- compatible to standard solder processes

### Typical Applications

- freewheeling diode for 600V IGBT

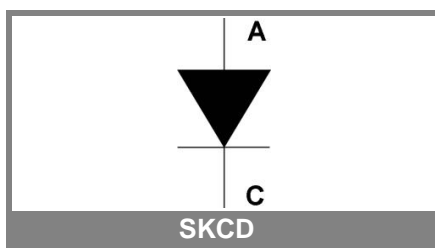
Absolute Maximum Ratings			
Symbol	Conditions	Values	Units
$V_{RRM}$	$T_{vj} = 25 \text{ }^\circ\text{C}$ , $I_R = 0,3 \text{ mA}$	600	V
$I_{F(AV)}$	$80 \text{ }^\circ\text{C}$ , $T_{vjmax} = 175 \text{ }^\circ\text{C}$	110	A
$I_{FSM}$	$T_{vj} = 25 \text{ }^\circ\text{C}$ , 10 ms, half sine wave	1300	A
	$T_{vj} = 150 \text{ }^\circ\text{C}$ , 10 ms, half sine wave	1080	A
$T_{vjmax}$		+ 175	$^\circ\text{C}$

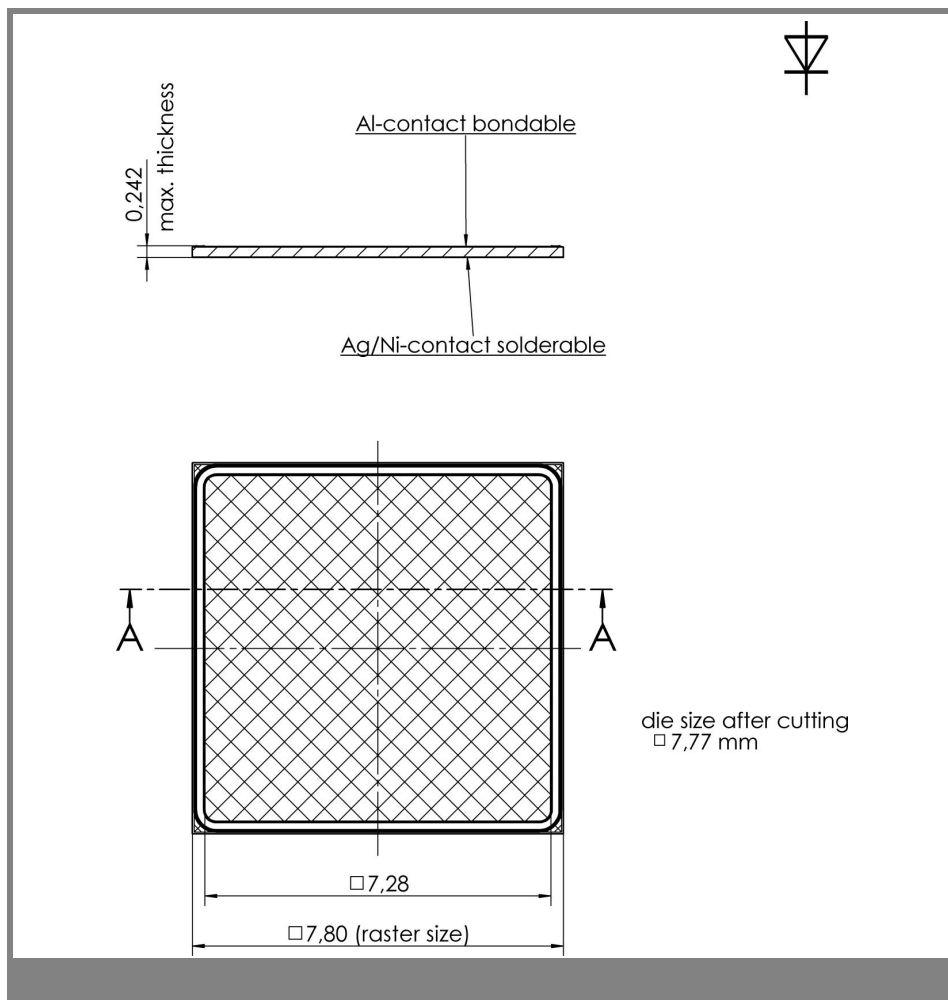
Electrical Characteristics					
Symbol	Conditions	min.	typ.	max.	Units
$I^2t$	$T_{vj} = 150 \text{ }^\circ\text{C}$ , 10 ms, half sine wave			5830	$\text{A}^2\text{s}$
$I_R$	$T_{vj} = 25 \text{ }^\circ\text{C}$ , $V_{RRM}$			0,3	mA
	$T_{vj} = 150 \text{ }^\circ\text{C}$ , $V_{RRM}$				mA
$V_F$	$T_{vj} = 25 \text{ }^\circ\text{C}$ , $I_F = 160 \text{ A}$		1,35		V
	$T_{vj} = 150 \text{ }^\circ\text{C}$ , $I_F = 160 \text{ A}$		1,31		V
$V_{(TO)}$	$T_{vj} = 150 \text{ }^\circ\text{C}$		0,85		V
$r_T$	$T_{vj} = 150 \text{ }^\circ\text{C}$		2,8		$\text{m}\Omega$

Dynamic Characteristics					
Symbol	Conditions	min.	typ.	max.	Units
$t_{rr}$	$T_{vj} = 25 \text{ }^\circ\text{C}$ , 150 A, 300 V, 1500 A/ $\mu\text{s}$				ns
	$T_{vj} = 150 \text{ }^\circ\text{C}$ , 150 A, 300 V, 1500 A/ $\mu\text{s}$				ns
$Q_{rr}$	$T_{vj} = 25 \text{ }^\circ\text{C}$ , 150 A, 300 V, 1500 A/ $\mu\text{s}$				$\mu\text{C}$
	$T_{vj} = 150 \text{ }^\circ\text{C}$ , 150 A, 300 V, 1500 A/ $\mu\text{s}$		22		$\mu\text{C}$
$I_{rrm}$	$T_{vj} = 25 \text{ }^\circ\text{C}$ , 150 A, 300 V, 1500 A/ $\mu\text{s}$				A
	$T_{vj} = 150 \text{ }^\circ\text{C}$ , 150 A, 300 V, 1500 A/ $\mu\text{s}$		88		A

Thermal Characteristics					
Symbol	Conditions	min.	typ.	max.	Units
$T_{vj}$		- 40		+ 175	$^\circ\text{C}$
$T_{stg}$		- 40		+ 175	$^\circ\text{C}$
$T_{solder}$	10 min			+ 250	$^\circ\text{C}$
$T_{solder}$	5 min			+ 320	$^\circ\text{C}$
$R_{th(j-h)}$	soldered on 0,38 mm DCB, reference point on copper heatsink close to the chip.		0,54		K / W

Mechanical Characteristics		
Parameter		Units
raster size	7,8 x 7,8	mm
Area total	60,84	$\text{mm}^2$
Chips / wafer	156	pcs
Anode metallisation	bondable (Al)	
Cathode metallisation	solderable (Ag / Ni)	
wire bond	Al, diameter $\leq 500 \text{ }\mu\text{m}$	





This technical information specifies semiconductor devices. No warranty or guarantee expressed or implied is made regarding delivery, performance or suitability.