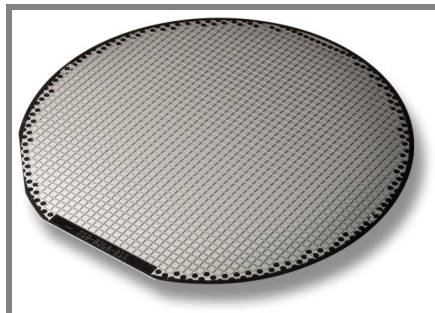




SEMICELL CAL-DIODE

SKCD 09 C 060 I3

$I_F = 20\text{ A}$

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

Size: 2,95 mm X 2,95 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}	$T_{vj} = 25\text{ °C}$, $I_R = 0,1\text{ mA}$	600	V
$I_{F(AV)}$	$T_h = 80\text{ °C}$, $T_{vjmax} = 150\text{ °C}$	15	A
I_{FSM}	$T_{vj} = 25\text{ °C}$, 10 ms, half sine wave	120	A
	$T_{vjmax} = 150\text{ °C}$, 10 ms, half sine wave	100	A
T_{vjmax}		+ 150	°C

Electrical Characteristics

Symbol	Conditions	min.	typ.	max.	Units
I^2t	T_{vjmax} , 10 ms, half sine wave			50	A ² s
I_R	$T_{vj} = 25\text{ °C}$, V_{RRM}			0,1	mA
	$T_{vj} = 125\text{ °C}$, V_{RRM}			0,5	mA
V_F	$T_{vj} = 25\text{ °C}$, $I_F = 15\text{ A}$		1,35	1,6	V
	$T_{vj} = 125\text{ °C}$, $I_F = 15\text{ A}$		1,35	1,6	V
$V_{(TO)}$	$T_{vj} = 125\text{ °C}$		0,9		V
r_T	$T_{vj} = 125\text{ °C}$		33		mΩ

Dynamic Characteristics

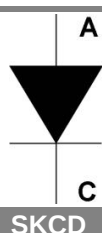
Symbol	Conditions	min.	typ.	max.	Units
t_{rr}	$T_{vj} = 25\text{ °C}$, 10 A, 300 V, 200 A/μs				ns
	$T_{vj} = 125\text{ °C}$, 10 A, 300 V, 200 A/μs				ns
Q_{rr}	$T_{vj} = 25\text{ °C}$, 10 A, 300 V, 200 A/μs		0,8		μC
	$T_{vj} = 125\text{ °C}$, 10 A, 300 V, 200 A/μs		1,2		μC
I_{rrm}	$T_{vj} = 25\text{ °C}$, 10 A, 300 V, 200 A/μs				A
	$T_{vj} = 125\text{ °C}$, 10 A, 300 V, 200 A/μs		8		A

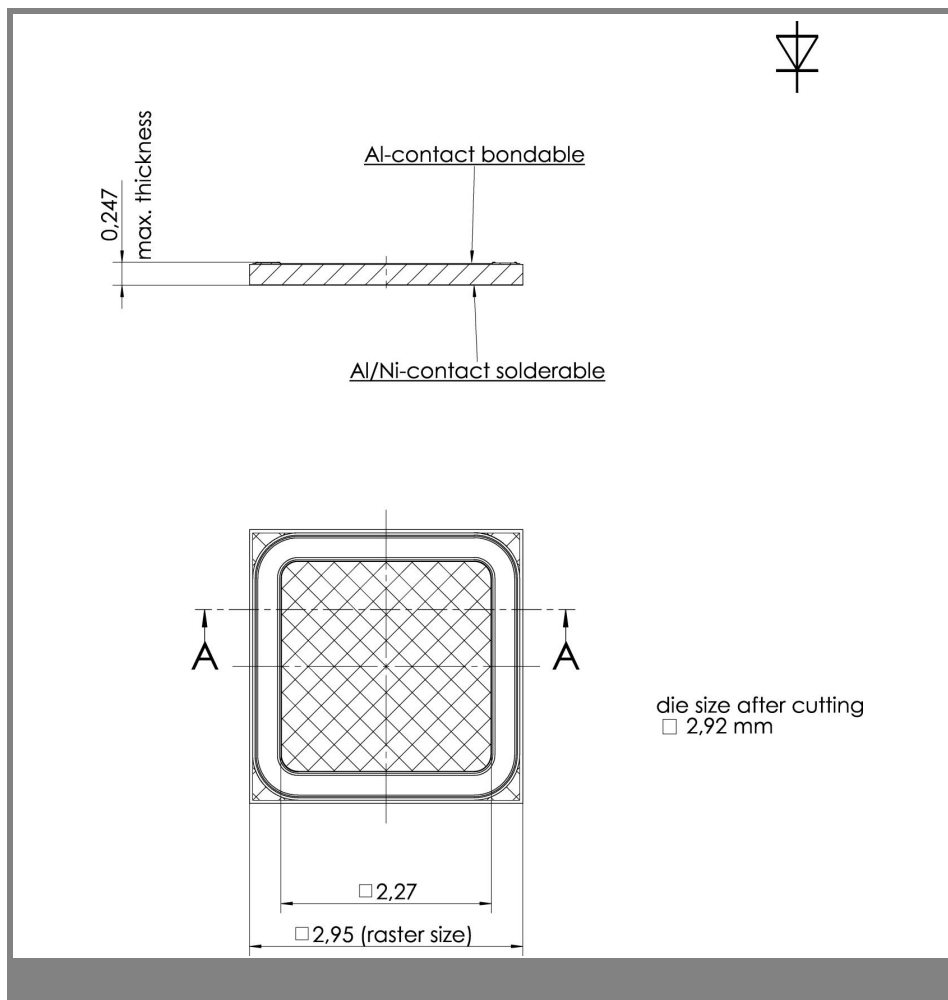
Thermal Characteristics

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.		2,11		K / W

Mechanical Characteristics

Parameter	Units
raster size	2,95 x 2,95 mm
Area total	8,70 mm ²
Chips / wafer	1171 pcs
Anode metallisation	bondable (Al)
Cathode metallisation	solderable (Ag / Ni)
wire bond	Al, diameter ≤ 500 μm





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