



SEMICELL CAL-DIODE

SKCD 14 C 060 I3

$I_F = 25 \text{ A}$

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

Size: 3,7 mm X 3,7 mm

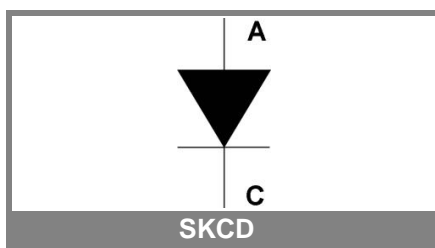
Package: wafer frame

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}	$T_{vj} = 25 \text{ }^\circ\text{C}, I_R = 0,1 \text{ mA}$	600	V
$I_{F(AV)}$	$T_{vjmax} = 150 \text{ }^\circ\text{C}$	22	A
I_{FSM}	$T_{vj} = 25 \text{ }^\circ\text{C}, 10 \text{ ms, half sine wave}$		A
	$T_{vjmax} = 150 \text{ }^\circ\text{C}, 10 \text{ ms, half sine wave}$		A
T_{vjmax}		+ 150	$^\circ\text{C}$

Electrical Characteristics

Symbol	Conditions	min.	typ.	max.	Units
I^2t	$T_{vjmax}, 10 \text{ ms, half sine wave}$				A^2s
I_R	$T_{vj} = 25 \text{ }^\circ\text{C}, V_{RRM}$			0,1	mA
	$T_{vj} = 125 \text{ }^\circ\text{C}, V_{RRM}$				mA
V_F	$T_{vj} = 25 \text{ }^\circ\text{C}, I_F = 20 \text{ A}$		1,35	1,7	V
	$T_{vj} = 125 \text{ }^\circ\text{C}, I_F = 20 \text{ A}$		1,4		V
$V_{(TO)}$	$T_{vj} = 125 \text{ }^\circ\text{C}$		0,8	0,9	V
r_T	$T_{vj} = 125 \text{ }^\circ\text{C}$		21		$\text{m}\Omega$

Dynamic Characteristics

Symbol	Conditions	min.	typ.	max.	Units
t_{rr}	$T_{vj} = 25 \text{ }^\circ\text{C}, , V, \text{ A}/\mu\text{s}$				ns
	$T_{vj} = 125 \text{ }^\circ\text{C}, , V, \text{ A}/\mu\text{s}$				ns
Q_{rr}	$T_{vj} = 25 \text{ }^\circ\text{C}, A, V, \text{ A}/\mu\text{s}$				μC
	$T_{vj} = 125 \text{ }^\circ\text{C}, A, V, \text{ A}/\mu\text{s}$				μC
I_{rrm}	$T_{vj} = 25 \text{ }^\circ\text{C}, A, V, \text{ A}/\mu\text{s}$				A
	$T_{vj} = 125 \text{ }^\circ\text{C}, A, V, \text{ A}/\mu\text{s}$				A

Thermal Characteristics

Symbol	Conditions	min.	typ.	max.	Units
T_{vj}		-40		+ 150	$^\circ\text{C}$
T_{stg}		-40		+ 150	$^\circ\text{C}$
T_{solder}	10 min			+ 250	$^\circ\text{C}$
T_{solder}	5 min			+ 320	$^\circ\text{C}$
$R_{th(j-c)}$			1,7		K / W

Mechanical Characteristics

Parameter	Units
raster size	3,7 x 3,7 mm
Area total	13,69 mm^2
Chips / wafer	720 pcs
Anode metallisation	bondable (Al)
Cathode metallisation	solderable (Ag / Ni)
wire bond	Al, diameter $\leq 500 \mu\text{m}$

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