

SIDC23D120F6

Fast switching diode chip in Emitter Controlled Technology

Features:

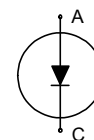
- 1200V technology 120 μm chip
- soft, fast switching
- low reverse recovery charge
- small temperature coefficient
- qualified according to JEDEC for target applications

Recommended for:

- power modules and discrete devices

Applications:

- SMPS, resonant applications, drives



Chip Type	V_R	I_{Fn}	Die Size	Package
SIDC23D120F6	1200V	25A	3.5 x 6.5 mm ²	sawn on foil

Mechanical Parameters

Die size	3.5 x 6.5	mm ²
Area total	22.75	
Anode pad size	2.78 x 5.78	
Thickness	120	μm
Wafer size	150	mm
Max. possible chips per wafer	644	
Passivation frontside	Photoimide	
Pad metal	3200 nm AlSiCu	
Backside metal	Ni Ag –system	
Die bond	Electrically conductive epoxy glue and soft solder	
Wire bond	Al, $\leq 500\mu\text{m}$	
Reject ink dot size	$\varnothing 0.65\text{mm}$; max 1.2mm	
Storage environment	for original and sealed MBB bags	Ambient atmosphere air, Temperature 17°C – 25°C, < 6 month
	for open MBB bags	Acc. to IEC62258-3: Atmosphere >99% Nitrogen or inert gas, Humidity <25%RH, Temperature 17°C – 25°C, < 6 month



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Maximum Ratings

Parameter	Symbol	Condition	Value	Unit
Repetitive peak reverse voltage	V_{RRM}	$T_{vj} = 25\text{ °C}$	1200	V
Continuous forward current	I_F	$T_{vj} < 150\text{ °C}$	¹⁾	A
Maximum repetitive forward current ²⁾	I_{FRM}	$T_{vj} < 150\text{ °C}$	50	
Operating junction and storage temperature	T_{vj}, T_{stg}		-55...+150	°C

¹⁾ depending on thermal properties of assembly

²⁾ not subject to production test - verified by design/characterisation

Static Characteristics (tested on wafer), $T_{vj} = 25\text{ °C}$

Parameter	Symbol	Conditions	Value			Unit
			min.	typ.	max.	
Reverse leakage current	I_R	$V_R = 1200\text{ V}$			20	µA
Cathode-Anode breakdown Voltage	V_{BR}	$I_R = 0.25\text{ mA}$	1200			V
Forward voltage drop	V_F	$I_F = 25\text{ A}$	1.68	2.1	2.42	

Electrical Characteristics (not subject to production test - verified by design/characterization)

Parameter		Symbol	Conditions	Value			Unit
				min.	typ.	max.	
Forward voltage drop	$T_{vj} = 125\text{ °C}$	V_F	$I_F = 25\text{ A}$		1.8		V

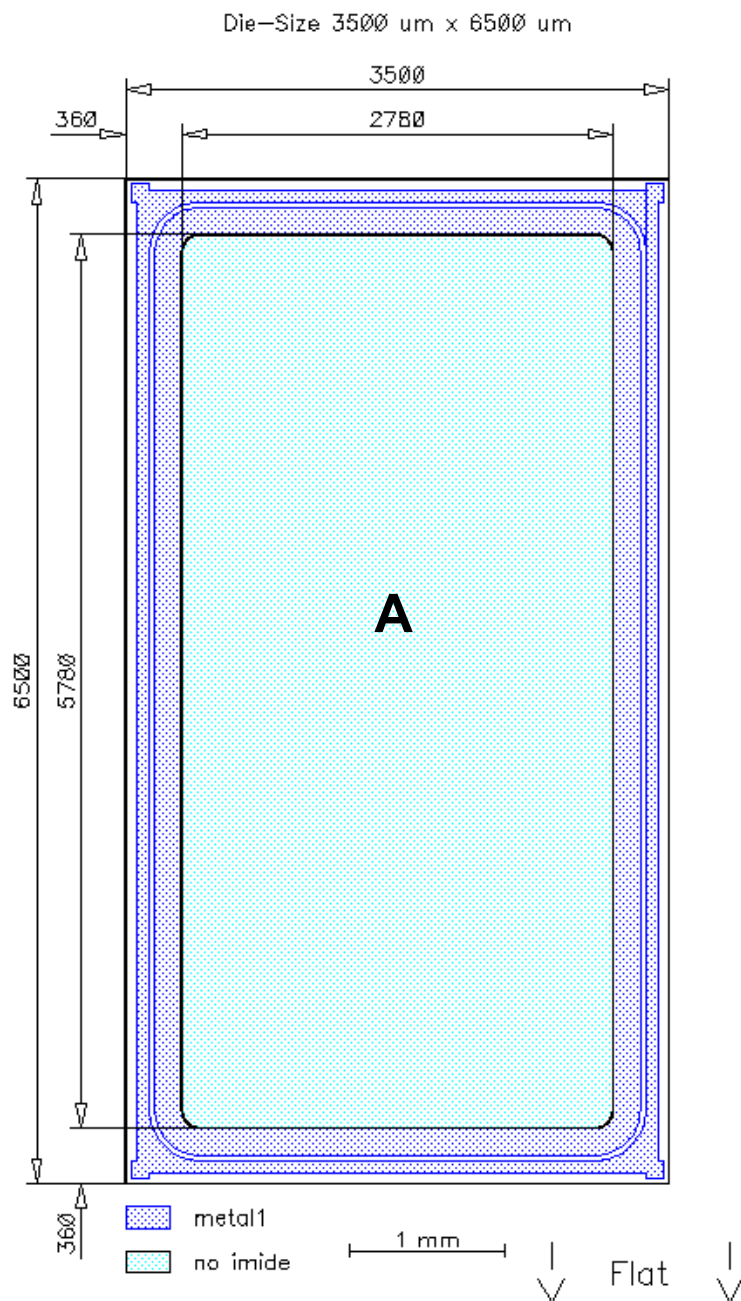
Further Electrical Characteristics

Switching characteristics and thermal properties are depending strongly on module design and mounting technology and can therefore not be specified for a bare die.

This chip data sheet refers to the device data sheet		
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Chip Drawing



A: Anode pad



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Description

AQL 0,65 for visual inspection according to failure catalogue

Electrostatic Discharge Sensitive Device according to MIL-STD 883

Revision History

Version	Subjects (major changes since last revision)	Date
2.0	Final data sheet	11.12.2012
2.1	Operating junction and storage temperature	14.05.2013

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