



**THE DATASHEET OF
SIDC56D120F6X1SA1**



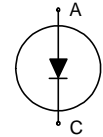
Fast switching diode chip in Emitter Controlled Technology

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
SIDC56D120F6	1200V	75A	7.5 x 7.5 mm ²	sawn on foil

Mechanical Parameters

Die size	7.5 x 7.5	mm ²
Area total	56.25	
Anode pad size	6.78 x 6.78	
Thickness	120	μm
Wafer size	150	mm
Max. possible chips per wafer	248	
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



SIDC56D120F6

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 ¹⁾	A
Maximum repetitive forward current ²⁾	I_{FRM}	$T_{vj} < 150\text{ °C}$	150	
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	$I_F = 75\text{ A}$	1.68	2.1	2.42	

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

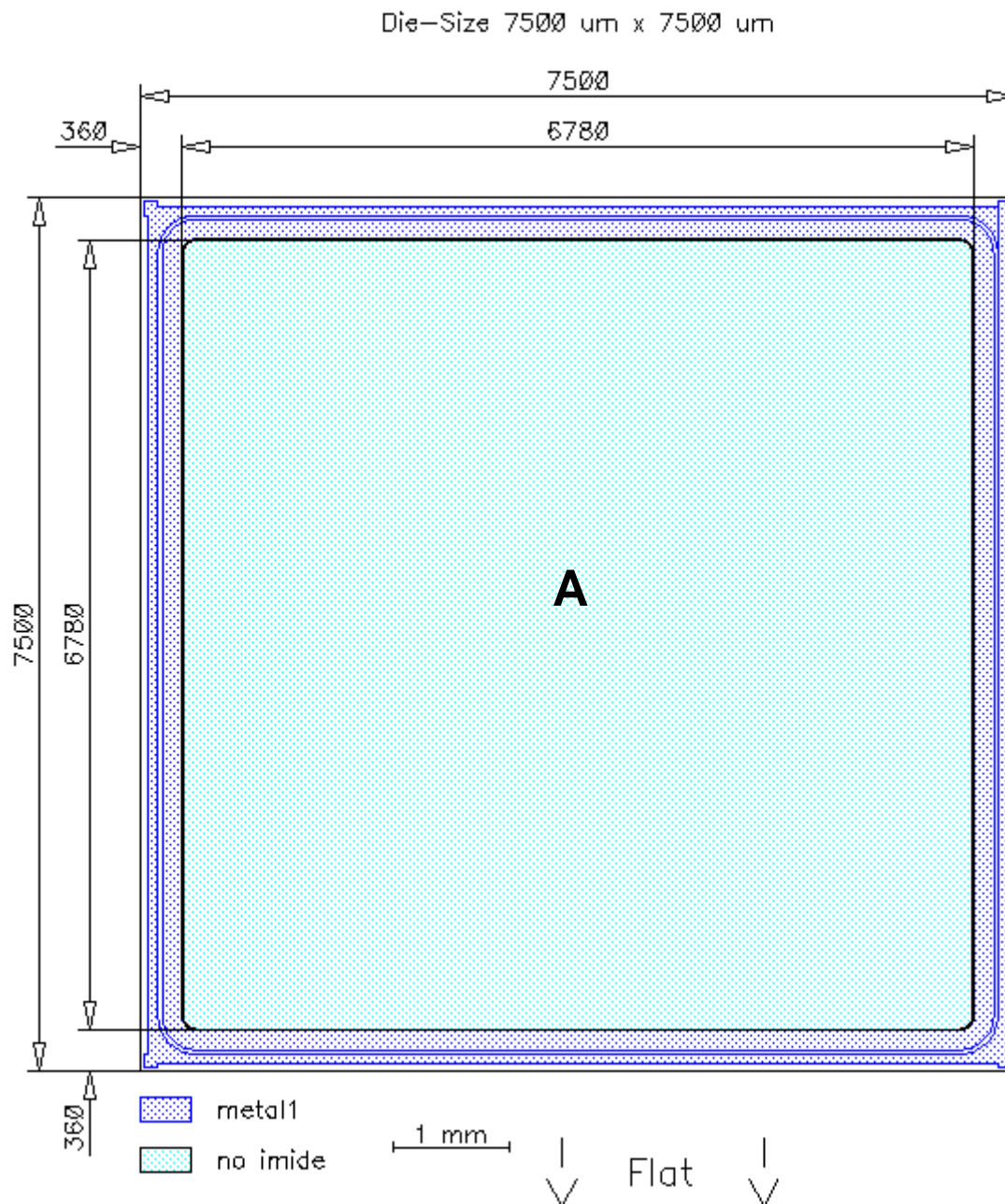
Parameter	Symbol	Conditions	Value			Unit
			min.	typ.	max.	
Forward voltage drop	$T_{vj} = 125\text{ °C}$ V_F	$I_F = 75\text{ A}$		1.7		V

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	F4-75R12KS4_B11	Rev. 2.0
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Chip Drawing



A: Anode pad



SIDC56D120F6

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

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