

SIDC14D60F6

Fast switching diode

Features:

- 600V Emitter Controlled technology 70 μm chip
- soft , fast switching
- low reverse recovery charge
- small temperature coefficient

This chip is used for:

 power modules and discrete devices



Applications:

SMPS, resonant applications, drives

Chip Type	V_{R}	I _F	Die Size	Package
SIDC14D60F6	600V	45A	3.8 x 3.8 mm ²	sawn on foil

Mechanical Parameters

Mechanica i arameters	_		
Raster size	3.8 x 3.8		
Area total	14.44	mm ²	
Anode pad size	3.08 x 3.08		
Thickness	70	μm	
Wafer size	150	mm	
Max. possible chips per wafer	ible chips per wafer 1018		
Passivation frontside Photoimide			
Pad metal	3200 nm AlSiCu		
Backside metal	Ni Ag –system suitable for epoxy and soft solder die bonding		
Die bond	Electrically conductive glue or solder		
Wire bond AI, ≤250μm			
Reject ink dot size	Ø 0.65mm; max 1.2mm		
Recommended storage environment	Store in original container, in dry nitrogen, in dark environment, < 6 month at an ambient temperature of 23°C		



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Maximum Ratings

Parameter	Symbol Condition		Value	Unit	
Repetitive peak reverse voltage	V_{RRM}	<i>T</i> _{vj} = 25 °C	600	V	
Continuous forward current	I _F	<i>T</i> _{vj} < 150°C	1)	۸	
Maximum repetitive forward current	I _{FRM}	<i>T</i> _{vj} < 150°C	90	A	
Junction temperature range	T _{vj}		-40+175	°C	
Operating junction temperature	T _{vj}		-40+150	°C	
Dynamic ruggedness ²⁾	P _{max}	$I_{\text{Fmax}} = 90\text{A}, \ V_{\text{Rmax}} = 600\text{V}, \ T_{\text{vj}} \le 150^{\circ}\text{C}$	tbd	kW	

¹⁾ depending on thermal properties of assembly

Static Characteristic (tested on wafer), T_{vj} = 25 °C

Parameter	Symbol	Conditions	Value			Unit
			min.	typ.	max.	Oilit
Reverse leakage current	I_{R}	V _R =600V			27	μA
Cathode-Anode breakdown Voltage	V _{BR}	I _R =3mA	600			V
Diode forward voltage	V _F	/ _F =45A		1.6		V

Further Electrical Characteristics

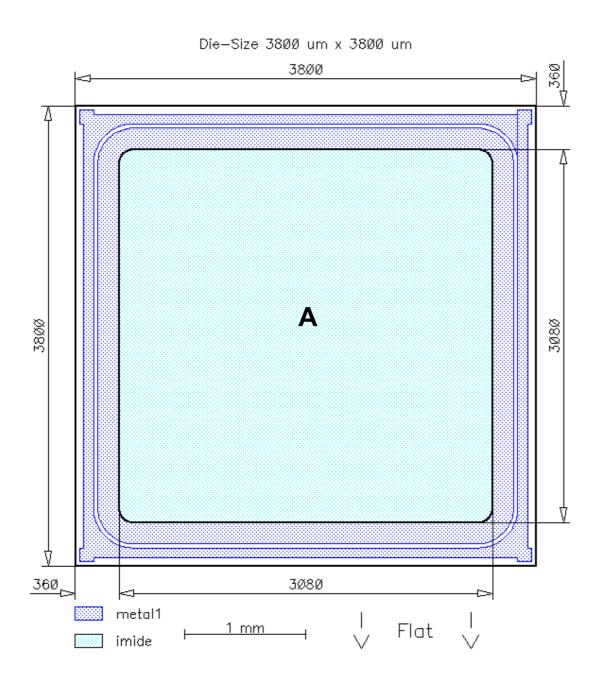
Switching characteristics and thermal properties are depending strongly on module design and mounting technology and can therefore not be specified for a bare die.

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





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

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