

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
SIDC04D60F6	600V	9A	1.85 x 1.85 mm ²	sawn on foil

Mechanical Parameters

Raster size	1.85 x 1.85		
Area total	3.42	mm ²	
Anode pad size	1.368 x 1.368		
Thickness	70	μm	
Wafer size	150	mm	
Max. possible chips per wafer	4497		
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	Al, ≤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		



Maximum Ratings

Parameter	Symbol	Condition	Value	Unit	
Repetitive peak reverse voltage	V _{RRM}	<i>T</i> _{vj} = 25 °C	600	V	
Continuous forward current	1 _F	<i>T</i> _{vj} < 150°C	1)		
Maximum repetitive forward current	current I_{FRM} $T_{vj} < 150^{\circ}C$		18	A	
Junction temperature range	T _{vj}		-40+175	°C	
Operating junction temperature	T _{vj}		-40+150	°C	
Dynamic ruggedness ²⁾	P _{max}	$I_{\rm Fmax}$ = 18A, $V_{\rm Rmax}$ = 600V, $T_{\rm vj} \le 150^{\circ}{\rm C}$	tbd	kW	

¹) depending on thermal properties of assembly

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

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

Parameter	Symbol	Conditions	Value			Unit
Falameter	Symbol	conditions	min.	typ.	max.	Unit
Reverse leakage current	I _R	V _R =600V			27	μA
Cathode-Anode breakdown Voltage	V _{BR}	/ _R =0.8mA	600			V
Diode forward voltage	V _F	/ _F =9A		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.



Chip Drawing



Die-Size 1850 um x 1850 um

A: Anode pad



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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