

SIDC20D65C8

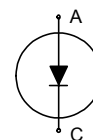
Fast switching diode chip in EMCON 3 -Technology

Features:

- 650V EMCON 3 technology 65 μm chip
- Soft, fast switching
- Low reverse recovery charge
- Small temperature coefficient
- Qualified according to JEDEC for target applications

Recommended for:

- Power module
- Discrete components



Applications:

- Drives
- White goods
- Resonant applications

Chip Type	V_R	$I_{Fn}^{1)}$	Die Size	Package
SIDC20D65C8	650V	75A	5.37 x 3.75 mm ²	sawn on foil

¹⁾ nominal forward current at $T_c = 100^\circ\text{C}$, not subject to production test - verified by design/characterisation

Mechanical Parameters

Mechanical Parameters			
Die size	5.37 x 3.75		mm ²
Area total	20.14		
Anode pad size	4.67 x 3.05		
Thickness	65		µm
Wafer size	200		mm
Max. possible chips per wafer	1354		
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, ≤500µm		
Reject ink dot size	Ø 0.65mm; 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}	$T_{vj} = 25\text{ °C}$	650	V
Continuous forward current	I_F	$T_{vj} < 150\text{ °C}$	¹⁾	A
Maximum repetitive forward current ²⁾	I_{FRM}	$T_{vj} < 150\text{ °C}$	150	
Operating junction temperature	T_{vj}		-40...+175	°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	$V_R = 650\text{ V}$			0.9	µA
Cathode-Anode breakdown Voltage	V_{BR}	$I_R = 0.25\text{ mA}$	650			V
Forward voltage drop	V_F	$I_F = 75\text{ A}$	1.18	1.55	1.82	

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

Parameter	Symbol	Conditions	Value			Unit
			min.	typ.	max.	
Forward voltage drop	V_F	$I_F = 75\text{ A}, T_{vj} = 150\text{ °C}$		1.45		V

Further Electrical Characteristics

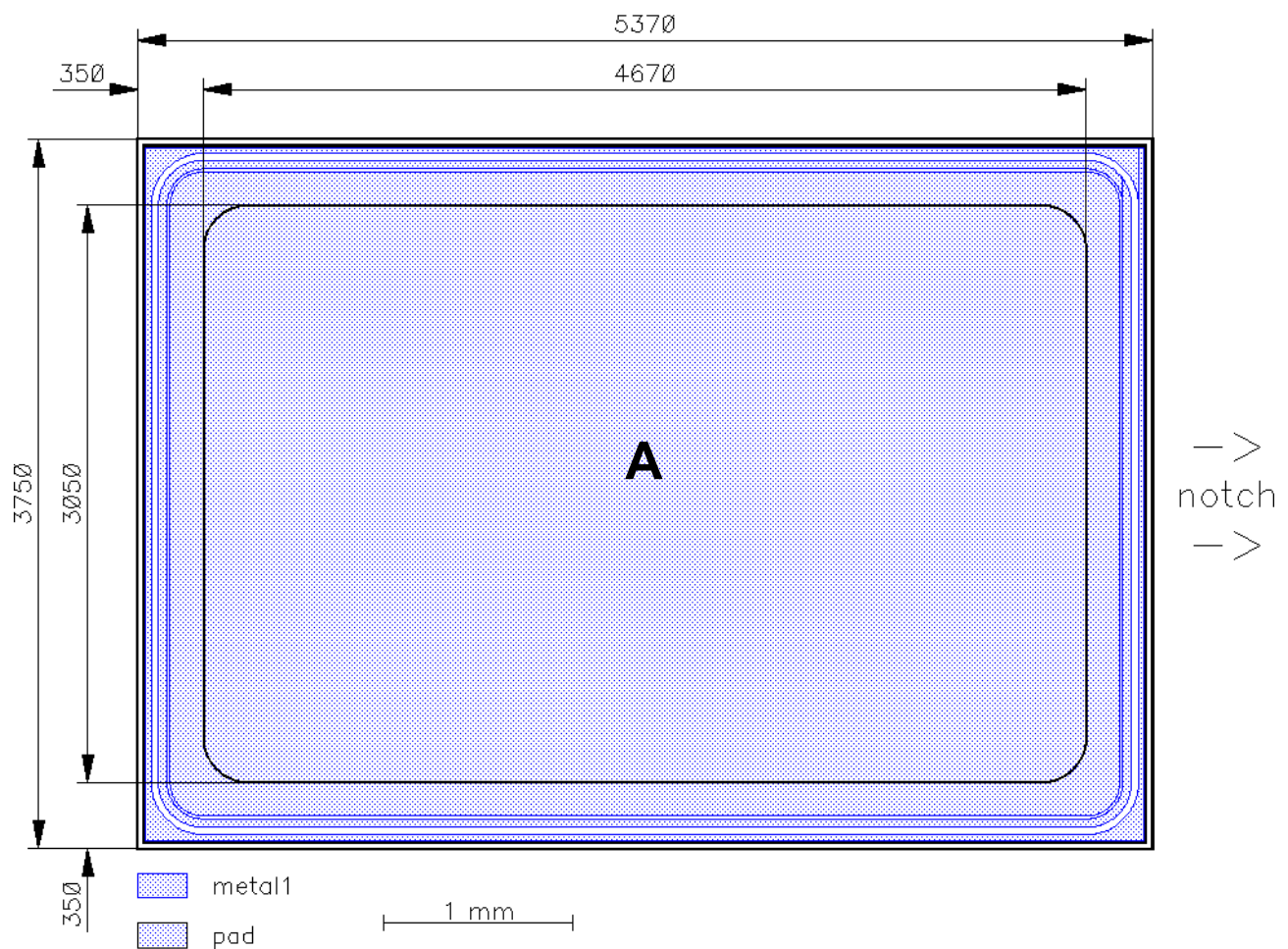
Switching characteristics and thermal properties are depending strongly on module design and mounting technology and can therefore not be specified for a bare die.

This chip data sheet refers to the device data sheet	FS75R07N2E4_B11	Rev. 2.0
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Chip Drawing

Die-Size 5370 μm x 3750 μm



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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