

## 1. General description

Silicon Carbide Schottky diode in a DFN 8\*8 plastic package, designed for high frequency switched-mode power supplies.



## 2. Features and benefits

- Highly stable switching performance
- High forward surge capability  $I_{FSM}$
- Extremely fast reverse recovery time
- Superior in efficiency to Silicon Diode alternatives
- Reduced losses in associated MOSFET
- Reduced EMI
- Reduced cooling requirements
- RoHS compliant

## 3. Applications

- Power factor correction
- Telecom / Server SMPS
- UPS
- PV inverter
- PC Silverbox
- LED / OLED TV
- Motor Drives

## 4. Quick reference data

Table 1. Quick reference data

Symbol	Parameter	Conditions	Values			Unit
Absolute maximum rating						
$V_{RRM}$	repetitive peak reverse voltage		650			V
$I_{F(AV)}$	average forward current	$\delta = 0.5$ ; square-wave pulse; $T_c \leq 142$ °C; <a href="#">Fig. 1</a> ; <a href="#">Fig. 2</a> ; <a href="#">Fig. 3</a>	10			A
$T_j$	junction temperature		175			°C
Symbol	Parameter	Conditions	Min	Typ	Max	Unit
Static characteristics						
$V_F$	forward voltage	$I_F = 10$ A; $T_j = 25$ °C; <a href="#">Fig. 5</a>	-	1.5	1.7	V
		$I_F = 10$ A; $T_j = 150$ °C; <a href="#">Fig. 5</a>	-	1.68	2	V
Dynamic characteristics						
$Q_r$	recovered charge	$I_F = 10$ A; $di_F/dt = 500$ A/ $\mu$ s; $V_R = 400$ V; $T_j = 25$ °C; <a href="#">Fig. 7</a>	-	16	-	nC

## 5. Pinning information

Table 2. Pinning information

Pin	Symbol	Description	Simplified outline	Graphic symbol
1	n.c.	not connected		

## 6. Ordering information

Table 3. Ordering information

## 7. Marking

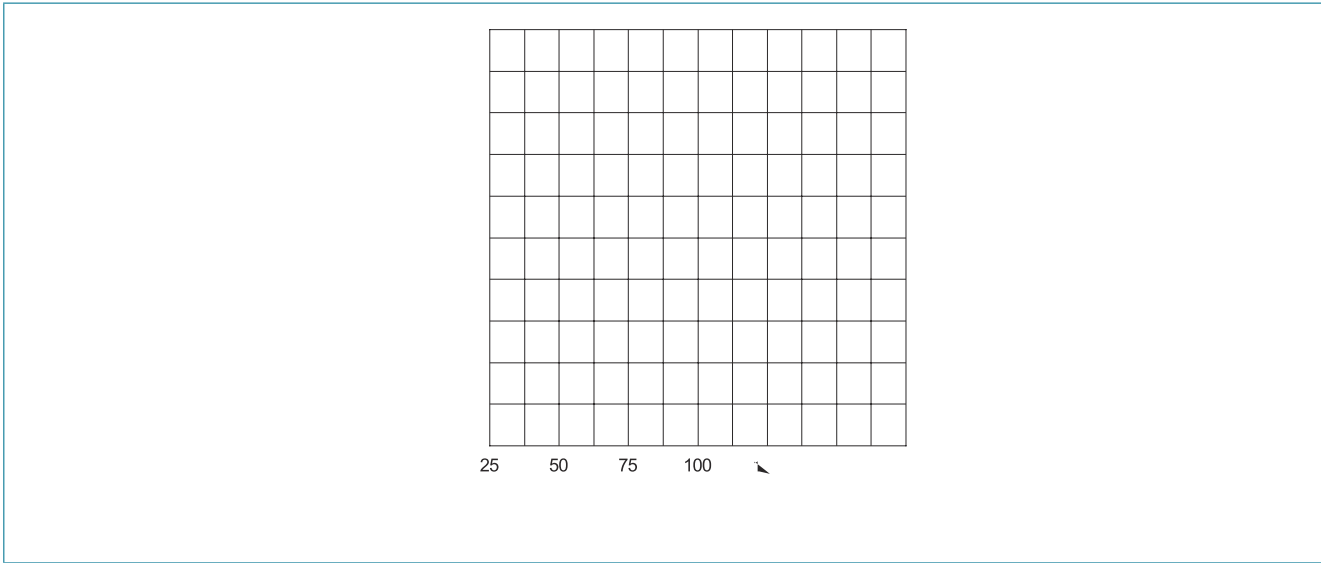
Table 4. Marking codes

## 8. Limiting values

Table 5. Limiting values

In accordance with the Absolute Maximum Rating System (IEC 60134).

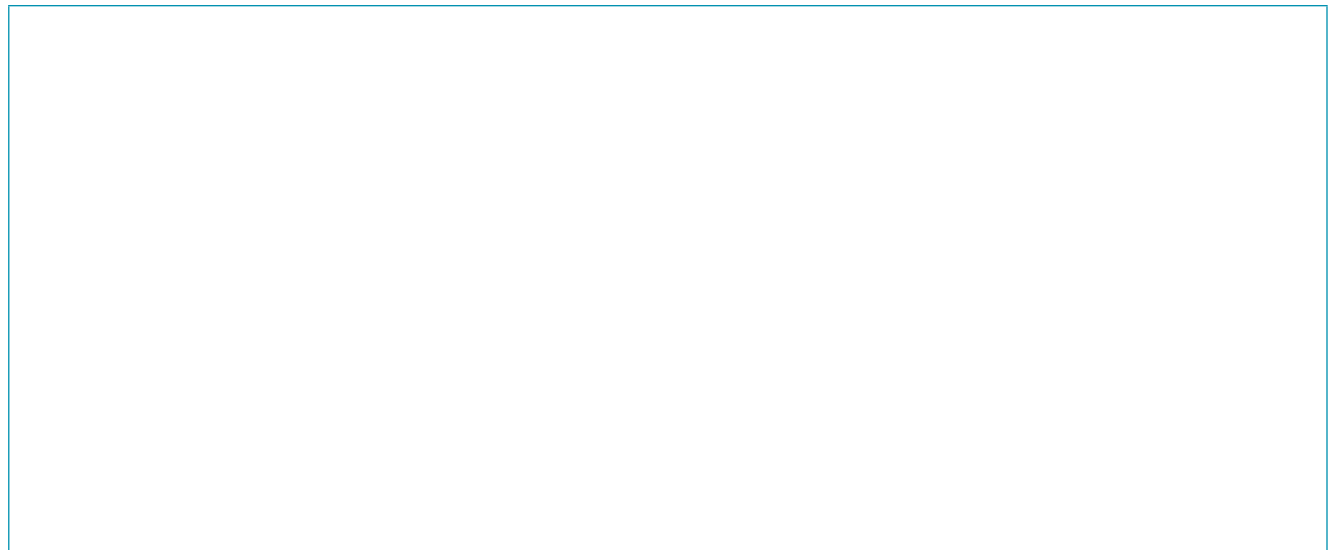
Symbol	Parameter	Conditions	Values	Unit
$V_{RRM}$	repetitive peak reverse voltage		650	V
$V_{RWM}$	crest working reverse voltage		650	V
$V_R$	reverse voltage	DC	650	V
$I_{F(AV)}$	average forward current	$\delta = 0.5$ ; square-wave pulse; $T_c \leq 142\text{ }^\circ\text{C}$ ; Fig. 1; Fig. 2; Fig. 3		



## 9. Thermal characteristics

Table 6. Thermal characteristics

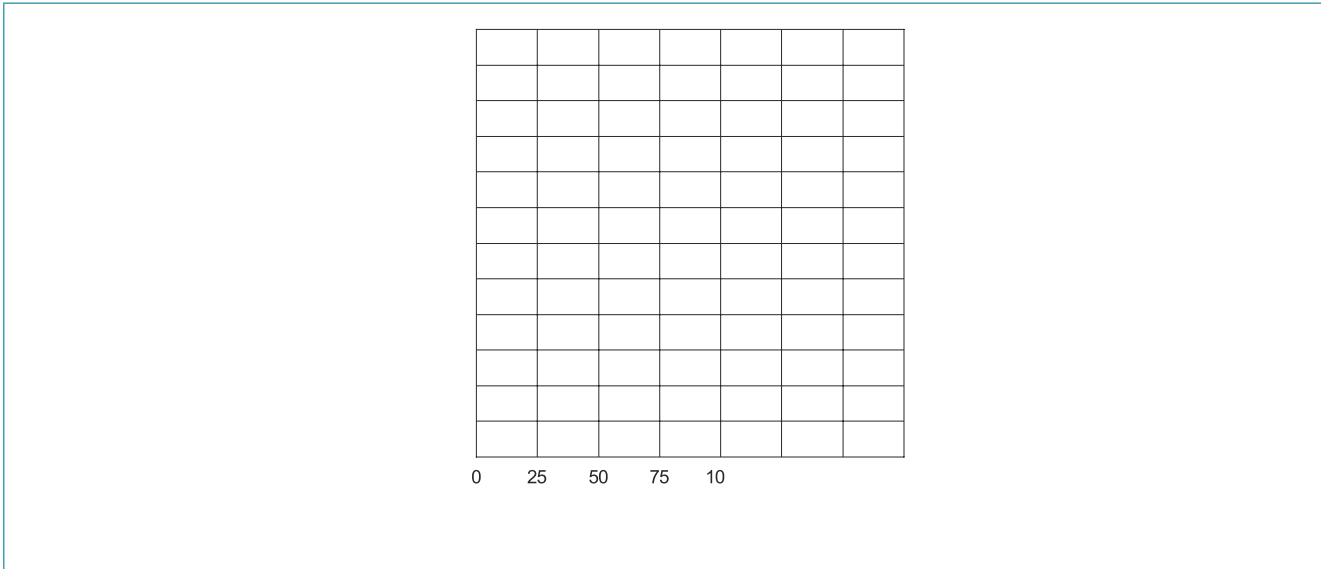
Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$R_{th(j-c)}$	thermal resistance from junction to case	<a href="#">Fig. 4</a>	-	0.8	1.1	K/W
$R_{th(j-a)}$	thermal resistance from junction to ambient free air	in free air	-	50	-	K/W

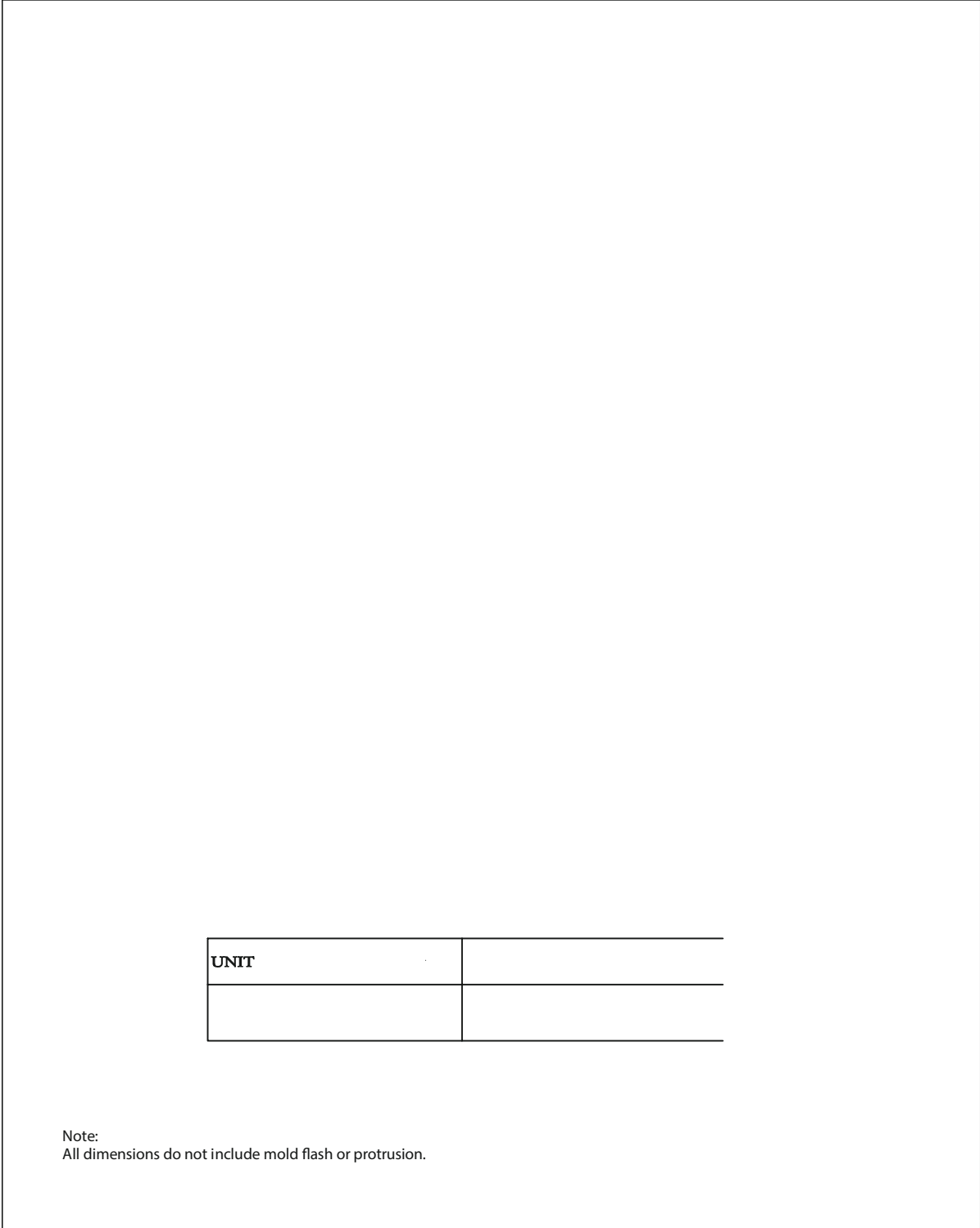


## 10. Characteristics

Table 7. Characteristics

Symbol	Parameter	Conditions		Min	Typ	Max	Unit
Static characteristics							
V <sub>F</sub>	forward current	I <sub>F</sub> = 10 A; T <sub>j</sub> = 25 °C; <a href="#">Fig. 5</a>					





<b>UNIT</b>	

Note:  
All dimensions do not include mold flash or protrusion.



## 12. Legal information

### Data sheet status

Document status [1][2]	Product status [3]	Definition
Objective [short] data sheet	Development	This document contains data from the objective specification for product development.
Preliminary [short] data sheet	Qualification	This document contains data from the preliminary specification.
Product [short] data sheet	Production	This document contains the product specification.

[1] Please consult the most recently issued document before initiating or completing a design.

[2] The term 'short data sheet' is explained in section "Definitions".

[3] The product status of device(s) described in this document may have changed since this document was published and may differ from the product status of the device(s) described in this document.

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## 13. Contents

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1. General description.....	1
<b>2. Features and benefits .....</b>	<b>1</b>
3. Applications .....	1
4. Quick reference data.....	1
5. Pinning information.....	2
6. Ordering information.....	2
7. Marking.....	2
8. Limiting values .....	3
9. Thermal characteristics .....	5
10. Characteristics.....	6
11. Package outline .....	8
12. Legal information .....	9
13. Contents .....	11

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