



# WB35SD160AL

Standard power diode - Bare die

Rev.01 - 25 August 2020

Product data sheet

## 1. General description

Standard power diode (unsawn wafer).

## 2. Features and benefits

- Low Forward Voltage Drop
- Low leakage current
- High voltage capability
- High inrush current capability

## 3. Quick reference data

Table 1. Quick reference data

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$V_{RRM}^*$	repetitive peak reverse voltage		-	-	1600	V
$I_{F(AV)}^{**}$	average forward current	$\delta = 0.5$ ; square-wave pulse	-	-	35	A
<b>Static characteristics</b>						
$V_F^{**}$	forward voltage	$I_F = 35\text{ A}$ ; $T_j = 25\text{ °C}$	-	1.15	1.2	V

## 4. Ordering information

Table 2. Ordering information

Product type	Orderable part number	Description	Packing method
WB35SD160AL	WB35SD160ALZ	Bare die on wafer	Unsawn wafer, Vacuum packing

## 5. Limiting values

**Table 3. Limiting values**

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

Symbol	Parameter	Conditions	Min	Max	Unit
$V_{RRM}^*$	repetitive peak reverse voltage		-	1600	V
$V_{RWM}^*$	crest working reverse voltage		-	1600	V
$V_R^*$	reverse voltage	DC	-	1600	V
$I_{F(AV)}^{**}$	average forward current	$\delta = 0.5$ ; square-wave pulse	-	35	A
$I_{FRM}^{**}$	repetitive peak forward current	$\delta = 0.5$ ; $t_p = 25 \mu s$ ; square-wave pulse	-	70	A
$I_{FSM}^{**}$	non-repetitive peak forward current	$t_p = 10 \text{ ms}$ ; $T_{j(\text{init})} = 25 \text{ }^\circ\text{C}$ ; sine-wave pulse	-	450	A
		$t_p = 8.3 \text{ ms}$ ; $T_{j(\text{init})} = 25 \text{ }^\circ\text{C}$ ; sine-wave pulse	-	494	A
$T_{stg}^{**}$	storage temperature		-40	150	$^\circ\text{C}$
$T_j^{**}$	junction temperature			150	$^\circ\text{C}$

## 6. Characteristics

**Table 7. Characteristics**

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
<b>Static characteristics</b>						
$V_F^{**}$	forward voltage	$I_F = 35 \text{ A}$ ; $T_j = 25 \text{ }^\circ\text{C}$	-	1.15	1.2	V
		$I_F = 35 \text{ A}$ ; $T_j = 150 \text{ }^\circ\text{C}$	-	1.1	1.15	V
$I_R^*$	reverse current	$V_R = 1600 \text{ V}$ ; $T_j = 25 \text{ }^\circ\text{C}$	-	-	50	$\mu\text{A}$
		$V_R = 1600 \text{ V}$ ; $T_j = 125 \text{ }^\circ\text{C}$	-	-	1	mA
$I_R^{**}$	reverse current	$V_R = 1600 \text{ V}$ ; $T_j = 150 \text{ }^\circ\text{C}$	-	-	1.5	mA

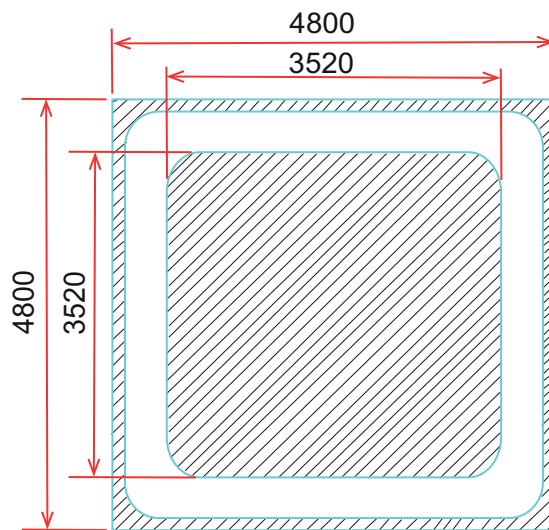
Notes:

(1) \* mean that parameter are 100% test at  $T_{amb} = 25^\circ\text{C}$

(2) \*\* means that the guaranteed ratings and parameter limits will depend on the assembled structure. When correctly assembled with suitable die bonding and wire bonding, the device will have ratings and characteristics guaranteed in this data sheet, similar to the assembled devices.

MECHANICAL PATAMETER		
Chip size	4.8 x 4.8	mm <sup>2</sup>
Anode pad size	3.52 x 3.52	mm <sup>2</sup>
Area total / active	23.04 / 12.39	mm <sup>2</sup>
Thickness	300	μm
Wafer size	125	mm
Max possible chips per wafer	465	pcs
Passivation	Planar	
Front metal	Al	
Back metal	Ti Ni Ag	

**CHIP LAYOUT**



**Die size: 4800μm x 4800μm**  
**Bond pad size: 3520μm x 3520μm**

## 7. 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.

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