W2D200TBS16

Rectifier Diode Module

Rev.02 - 17 November 2026 Product data sheet

1. General description

Planar passivated Diode module in WeEnTOP-B for use in applications requiring high blocking voltage capability, high inrush current capability and high thermal cycling performance.

2. Features and benefits

- Heat transfer through aluminum oxide DBC, ceramic isolated metal baseplate
- High voltage capability
- High inrush current capability
- Planar process
- High operating temperature capability ($T_{j\,(max)}$ = 150°C)

3. Applications

- EV Charger
- HVDC
- Oring diode
- Rectifier

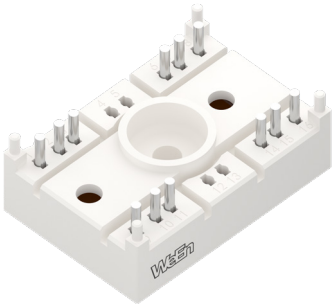
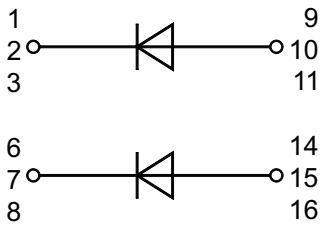
4. Quick reference data

Table 1. Quick reference data

Symbol	Parameter	Conditions	Values				Unit
Absolute maximum rating							
V_{RRM}	repetitive peak reverse voltage		1600				V
$I_{F(AV)}$	average forward current	δ = 0.5 ; square-wave pulse	200				A
I_{FSM}	non-repetitive peak forward current	t_p = 10 ms; $T_{j(init)}$ = 25 °C; sine-wave pulse	2800				A
		t_p = 10 ms; $T_{j(init)}$ = 135 °C; sine-wave pulse	2520				A
		t_p = 8.3 ms; $T_{j(init)}$ = 25 °C; sine-wave pulse	3080				A
		t_p = 8.3 ms; $T_{j(init)}$ = 135 °C; sine-wave pulse	2772				A
Symbol	**Parameter**	**Conditions**		**Min**	**Typ**	**Max**	**Unit**
Static characteristics							
V_F	forward voltage	I_F = 200 A; T_j = 25 °C		-	-	1.4	V

5. Pinning information

Table 2. Pinning information

Simplified outline	Graphic symbol
	

6. Ordering information

Table 3. Ordering information

Type number	Package Name	Orderable part number	Packing method	Small packing quantity	Package version	Package issue date
W2D200TBS16	WeEnTOP-B	W2D200TBS16T	Blister	30	WeEnTOP-BPSD-A	15-July-2026

7. Marking

Table 4. Marking codes

Type number	Marking codes
W2D200TBS16	W2D200TBS16

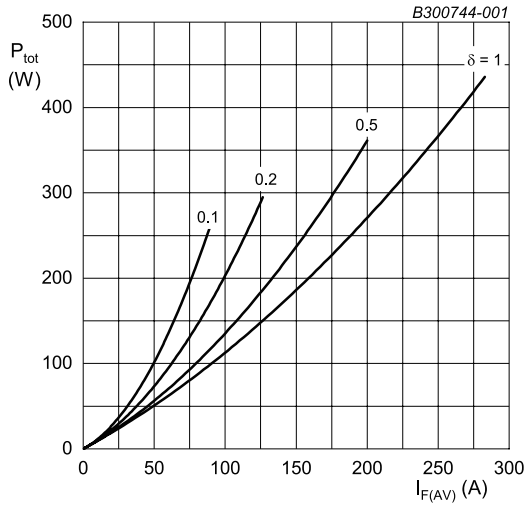
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8. Limiting values

Table 5. Limiting values

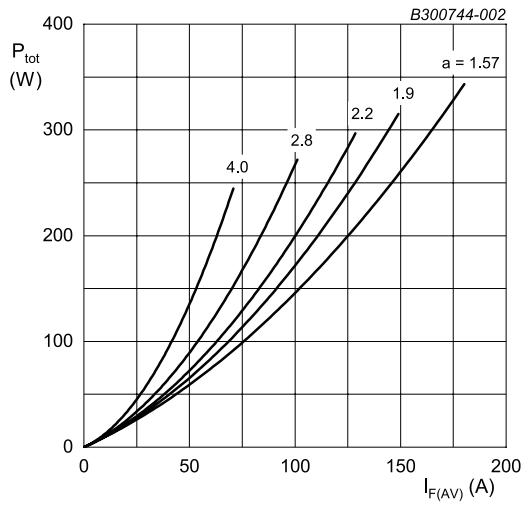
In accordance with the Absolute Maximum Rating System (IEC 60134).

Symbol	Parameter	Conditions	Values	Unit
V_{RRM}	repetitive peak reverse voltage		1600	V
V_{RWM}	crest working reverse voltage		1600	V
V_R	reverse voltage	DC	1600	V
$I_{F(AV)}$	average forward current	δ = 0.5 ; square-wave pulse	200	A
I_{FSM}	non-repetitive peak forward current	t_p = 10 ms; $T_{j(init)}$ = 25 °C; sine-wave pulse	2800	A
		t_p = 10 ms; $T_{j(init)}$ = 135 °C; sine-wave pulse	2520	A
		t_p = 8.3 ms; $T_{j(init)}$ = 25 °C; sine-wave pulse	3080	A
		t_p = 8.3 ms; $T_{j(init)}$ = 135 °C; sine-wave pulse	2772	A
I^2t	I^2t for fusing	t_p = 10 ms; SIN	39.2	kA²s
T_{stg}	storage temperature		-40 to 150	°C
T_{op}	operation temperature		-40 to 150	°C
T_{vj}	virtual junction temperature		-40 to 150	°C



$I_{F(AV)} = I_{F(RMS)} \times \sqrt{\delta}$
V_o = 0.902 V; R_s = 0.00226 Ω

Fig. 1. Forward power dissipation as a function of average forward current; square waveform; maximum values



a = form factor = $I_{F(RMS)} / I_{F(AV)}$
V_o = 0.902 V; R_s = 0.00226 Ω

Fig. 2. Forward power dissipation as a function of average forward current; sinusoidal waveform; maximum values

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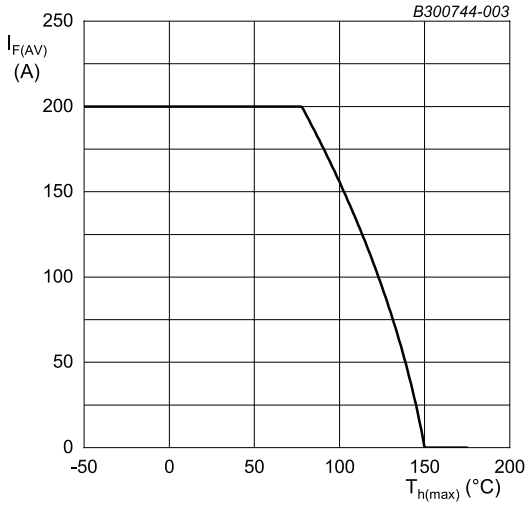


Fig. 3. Forward current as a function of heatsink temperature; maximum values

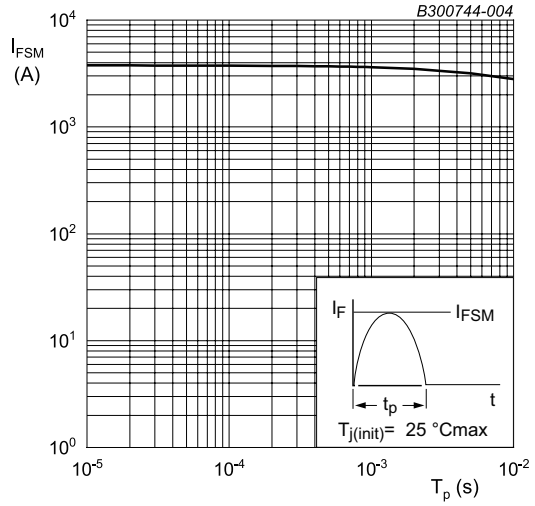


Fig. 4. Non-repetitive peak forward current as a function of pulse width; sinusoidal waveform; maximum values

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9. Thermal characteristics

Table 6. Thermal characteristics

Symbol	Parameter	Conditions		Min	Typ	Max	Unit
$R_{th(j-h)}$	thermal resistance from junction to heatsink	per diode		-	-	0.40	K/W
		per module for diode		-	-	0.20	K/W

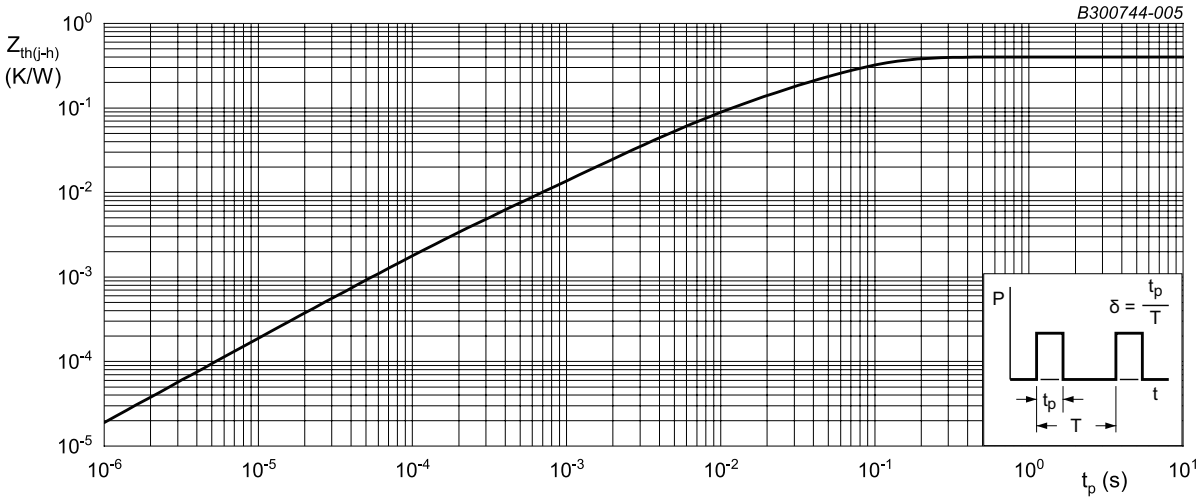


Fig. 5. Transient thermal impedance from junction to heatsink as a function of pulse duration

10. Package characteristics

Table 7. Isolation characteristics

Symbol	Parameter	Conditions		Min	Typ	Max	Unit
V_{isol}	isolation voltage	50/60 Hz; RMS; $I_{ISOL} \leq 1$ mA; t = 1 second; AC		-	-	3600	V
		50/60 Hz; RMS; $I_{ISOL} \leq 1$ mA; t = 1 minute; AC		-	-	3000	V

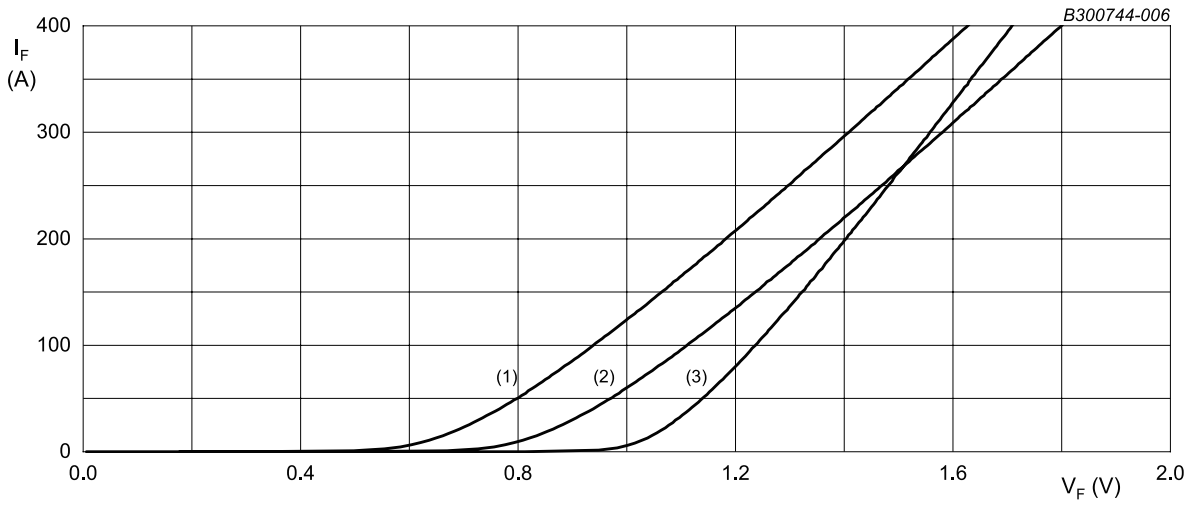
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11. Characteristics

Table 8. Characteristics

Symbol	Parameter	Conditions		Min	Typ	Max	Unit
Static characteristics							
V_F	forward voltage	I_F = 200 A; T_j = 25 °C		-	-	1.4	V
V_O	threshold voltage	T_j = 150 °C		-	-	0.9	V
r_S	slope resistance	T_j = 150 °C		-	-	2.3	mΩ
I_R	reverse current	V_R = 1600 V; T_j = 25 °C		-	-	100	μA
		V_R = 1600 V; T_j = 150 °C		-	-	15	mA



V_o = 0.902 V; R_s = 0.00226 Ω
(1) T_j = 150 °C; typical values
(2) T_j = 150 °C; maximum values
(3) T_j = 25 °C; maximum values

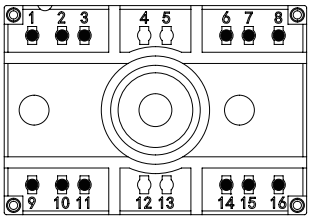
Fig. 6. Forward current as a function of forward voltage

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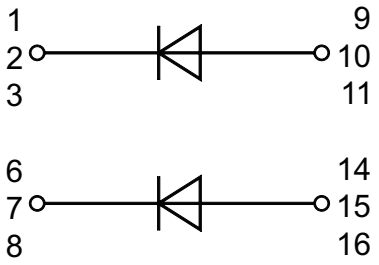
12. Package outline

Dimensions in mm

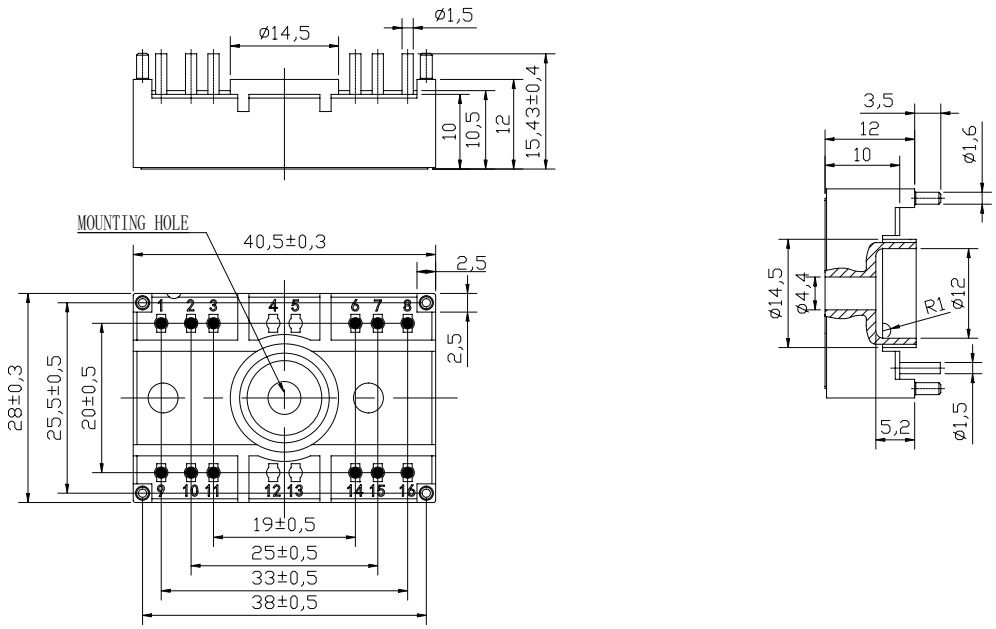
Pinout



Topology



Package Outline



Suggested hole diameter in the PCB for solder pins and mounting pins：2mm

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Document status [1][2]	Product status [3]	Definition
Objective [short] data sheet	Development	This document contains data from the objective specification for product development.
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[2] The term 'short data sheet' is explained in section "Definitions".
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