

## 1. General description

Standard reverse recovery power diode in a TO252 package.

## 2. Features and benefits

- Low forward voltage drop
- Low leakage current
- High voltage capability
- High inrush current capability

## 3. Applications

- Input rectifier
- Bypass diode

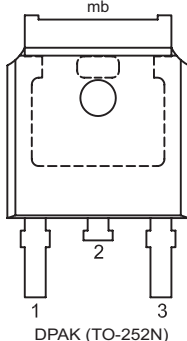
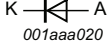
## 4. Quick reference data

Table 1. Quick reference data

Symbol	Parameter	Conditions	Values			Unit
<b>Absolute maximum rating</b>						
$V_{RRM}$	repetitive peak reverse voltage		1600			V
$I_{F(AV)}$	average forward current	$\delta = 0.5$ ; square-wave pulse; $T_{mb} \leq 139$ °C; <a href="#">Fig. 1</a> ; <a href="#">Fig. 2</a> ; <a href="#">Fig. 3</a>	8			A
$I_{FSM}$	non-repetitive peak forward current	$t_p = 10$ ms; $T_{j(init)} = 25$ °C; sine-wave pulse; <a href="#">Fig. 4</a>	150			A
		$t_p = 8.3$ ms; $T_{j(init)} = 25$ °C; sine-wave pulse;	165			A
Symbol	Parameter	Conditions	Min	Typ	Max	Unit
<b>Static characteristics</b>						
$V_F$	forward voltage	$I_F = 8$ A; $T_j = 25$ °C; <a href="#">Fig. 6</a>	-	1.05	1.25	V
		$I_F = 8$ A; $T_j = 150$ °C; <a href="#">Fig. 6</a>	-	0.95	1.15	V

## 5. Pinning information

Table 2. Pinning information

Pin	Symbol	Description	Simplified outline	Graphic symbol
1	A	anode		
2	K	cathode [1]		
3	A	anode		
mb	K	mounting base; connected to cathode		

[1] It is not possible to connect to pin 2 of the TO252 package.

## 6. Ordering information

Table 3. Ordering information

Type number	Package		Version
	Name	Description	
WND08P16D	DAPK	plastic single-ended surface-mounted package (DPAK); 3 leads (one lead cropped)	TO-252N

## 7. Marking

Table 4. Marking codes

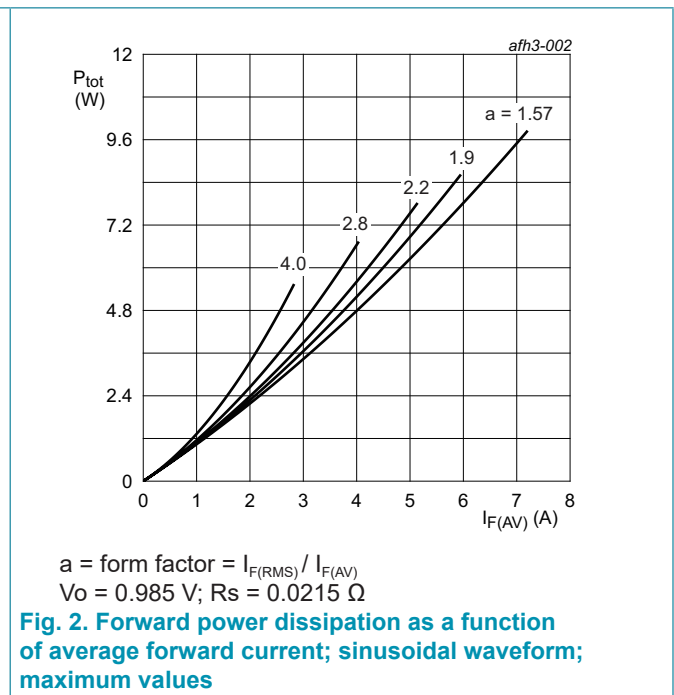
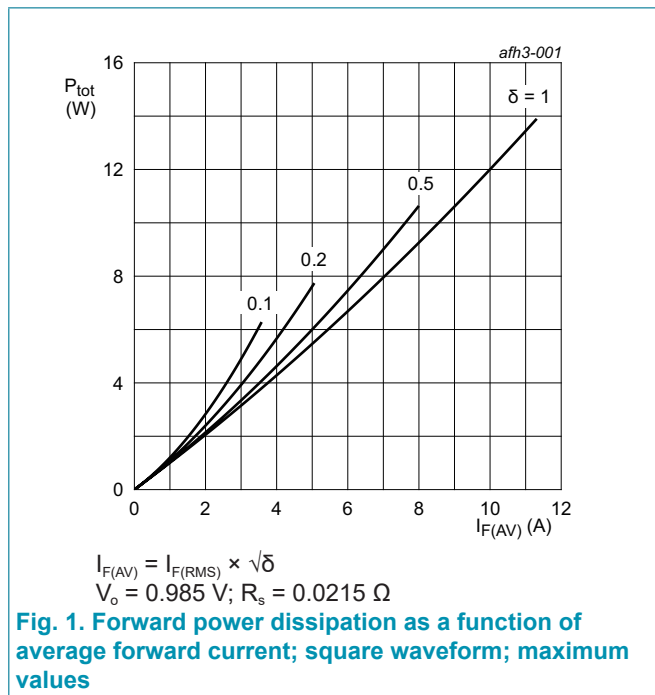
Type number	Marking codes
WND08P16D	D08P16

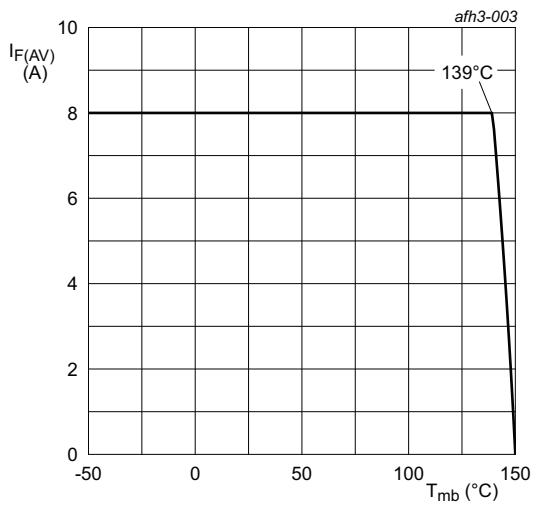
## 8. Limiting values

**Table 5. Limiting values**

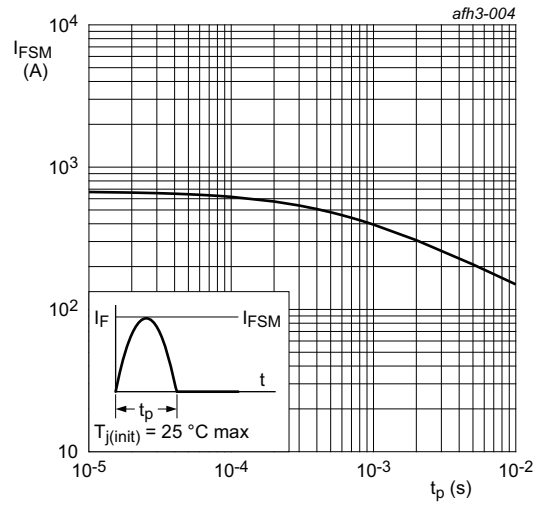
In accordance with the Absolute Maximum Rating System (IEC 60134).

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	$\delta = 0.5$ ; square-wave pulse; $T_{mb} \leq 139\text{ }^\circ\text{C}$ ; <a href="#">Fig. 1</a> ; <a href="#">Fig. 2</a> ; <a href="#">Fig. 3</a>	8	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; <a href="#">Fig. 4</a>	150	A
		$t_p = 8.3\text{ ms}$ ; $T_{j(\text{init})} = 25\text{ }^\circ\text{C}$ ; sine-wave pulse;	165	A
$T_{stg}$	storage temperature		-55 to 150	$^\circ\text{C}$
$T_j$	junction temperature		150	$^\circ\text{C}$





**Fig. 3. Forward current as a function of mounting base temperature; maximum values**



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

## 9. Thermal characteristics

Table 6. Thermal characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$R_{th(j-mb)}$	thermal resistance from junction to mounting base	<a href="#">Fig. 5</a>	-	-	1	K/W
$R_{th(j-a)}$	thermal resistance from junction to ambient free air	in free air	-	60	-	K/W

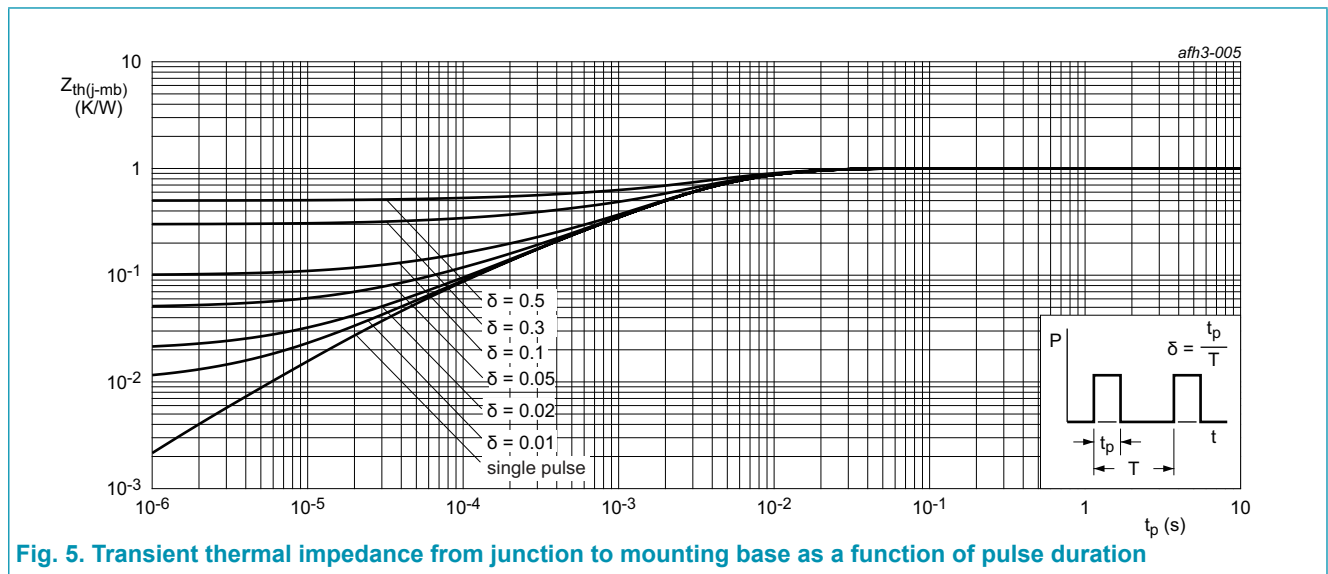
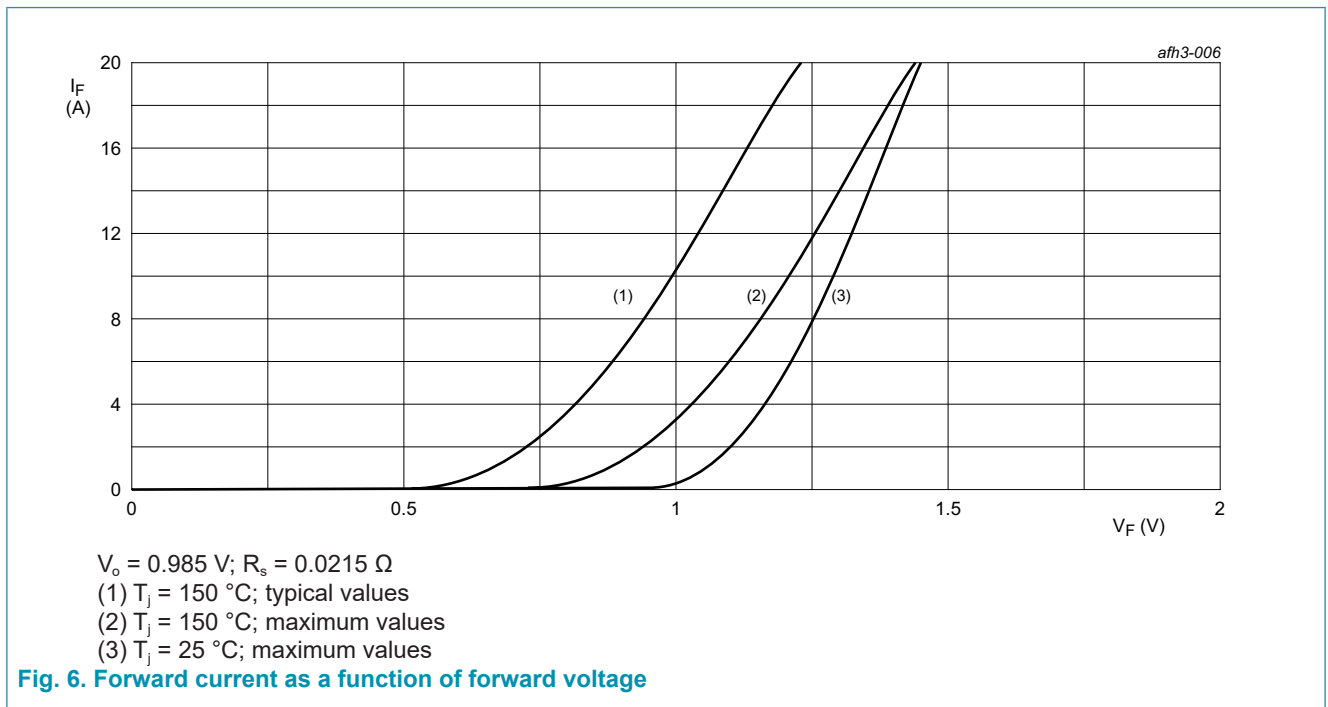


Fig. 5. Transient thermal impedance from junction to mounting base as a function of pulse duration

## 10. Characteristics

Table 7. Characteristics

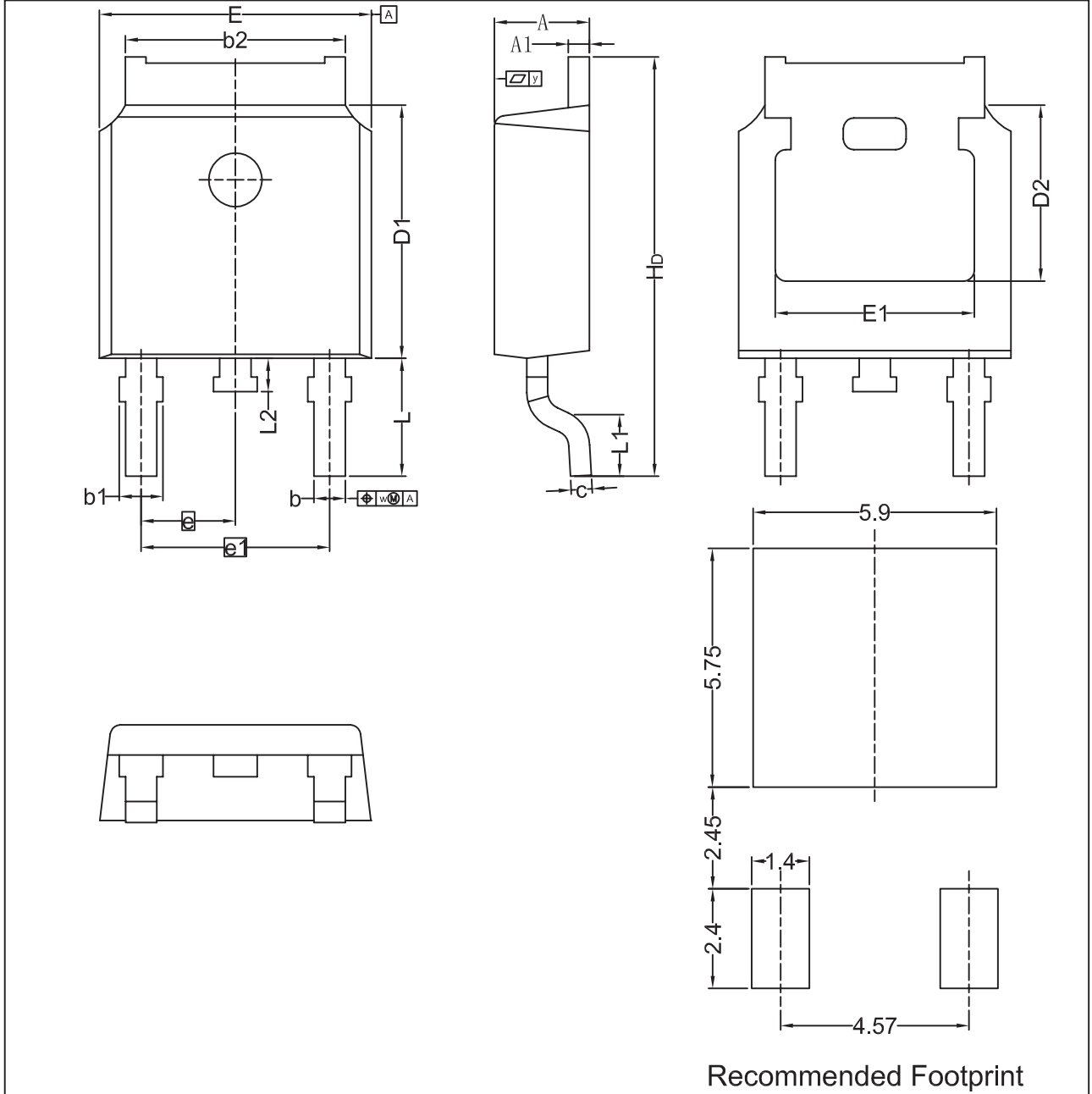
Symbol	Parameter	Conditions	Min	Typ	Max	Unit
<b>Static characteristics</b>						
$V_F$	forward current	$I_F = 8\text{ A}; T_j = 25\text{ °C}; \text{Fig. 6}$	-	1.05	1.25	V
		$I_F = 8\text{ A}; T_j = 150\text{ °C}; \text{Fig. 6}$	-	0.95	1.15	V
$I_R$	reverse current	$V_R = 1600\text{ V}; T_j = 25\text{ °C}$	-	-	50	$\mu\text{A}$
		$V_R = 1600\text{ V}; T_j = 150\text{ °C}$	-	-	1.5	mA



### 11. Package outline

Plastic single-ended surface-mounted package (DPAK); 3 leads (one lead cropped)

TO252



Recommended Footprint

Unit	A	A1	b	b1	b2	c	D1	D2	E	E1	e	e1	H <sub>D</sub>	L	L1	L2	w	y
min	2.22	0.46	0.71	0.72	5.00	0.20	5.98	4.00	6.47	4.45	2.285	4.57	9.60	2.90 (Ref.)	0.50	0.50	0.20	
mm nom																		
max	2.38	0.93	0.89	1.10	5.46	0.56	6.22	---	6.73	---			10.40		---	0.90		0.20

## 12. Legal information

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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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Product [short] data sheet	Production	This document contains the product specification.

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