Product data sheet

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		Va	lues		Unit
Absolute	maximum rating						
V_{RRM}	repetitive peak reverse voltage			10	600		V
I _{F(AV)}	average forward current	$δ = 0.5$; square-wave pulse; $T_{mb} \le 139$ °C; Fig. 1; Fig. 2; Fig. 3			8		А
I _{FSM}	non-repetitive peak forward current	t_p = 10 ms; $T_{j(init)}$ = 25 °C; sine-wave pulse; Fig. 4	150			А	
		t_p = 8.3 ms; $T_{j(init)}$ = 25 °C; sine-wave pulse;		1	65		Α
Symbol	Parameter	Conditions		Min	Тур	Max	Unit
Static ch	aracteristics						
V _F	forward voltage	I _F = 8 A; T _j = 25 °C; <u>Fig. 6</u>		-	1.05	1.25	V
		I _F = 8 A; T _j = 150 °C; <u>Fig. 6</u>		-	0.95	1.15	V

5. Pinning information

Table 2. Pinning information

Pin	Symbol	Description	Simplified outline	Graphic symbol
1	Α	anode	L	K A 001aaa020
2	K	cathode [1]		00 Tala020
3	Α	anode		
mb	К	mounting base; connected to cathode	1 3 DPAK (TO-252N)	

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

6. Ordering information

Table 3. Ordering information

Type number	Package						
	Name	Description	Version				
WND08P16D	DPAK	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	$δ = 0.5$; square-wave pulse; $T_{mb} \le 139$ °C; Fig. 1; Fig. 2; Fig. 3	8	Α
I _{FSM}	non-repetitive peak forward current	t_p = 10 ms; $T_{j(init)}$ = 25 °C; sine-wave pulse; Fig. 4	150	Α
		t_p = 8.3 ms; $T_{j(init)}$ = 25 °C; sine-wave pulse;	165	А
T _{stg}	storage temperature		-55 to 150	°C
T _j	junction temperature		150	°C

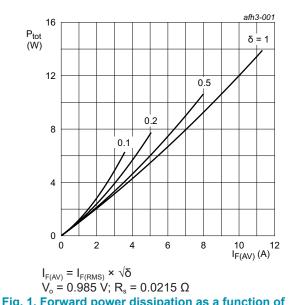
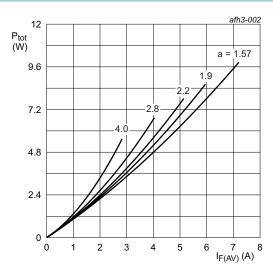


Fig. 1. Forward power dissipation as a function of average forward current; square waveform; maximum values

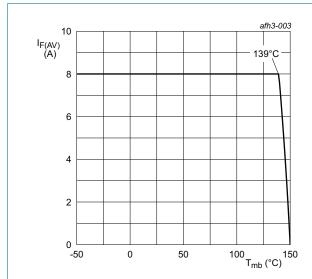


a = form factor = $I_{\text{F(RMS)}}/I_{\text{F(AV)}}$ Vo = 0.985 V; Rs = 0.0215 Ω

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

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Standard power diode





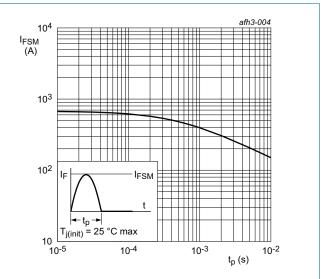


Fig. 4. Non-repetitive peak forward current as a function of pulse width; sinusoidal waveform; maximum values

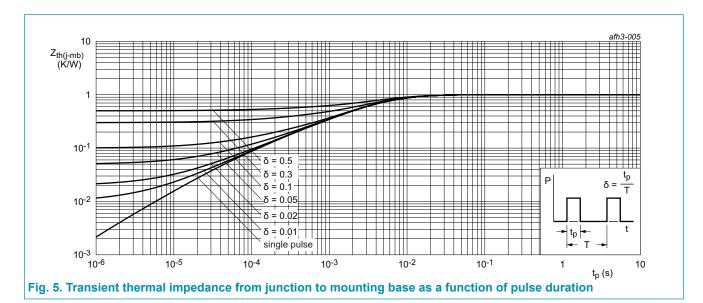
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9. Thermal characteristics

Table 6. Thermal characteristics

Symbol	Parameter	Conditions	Min	Тур	Max	Unit
$R_{\text{th(j-mb)}}$	thermal resistance from junction to mounting base	Fig. 5	-	-	1	K/W
$R_{\text{th(j-a)}}$	thermal resistance from junction to ambient free air	in free air	-	60	-	K/W



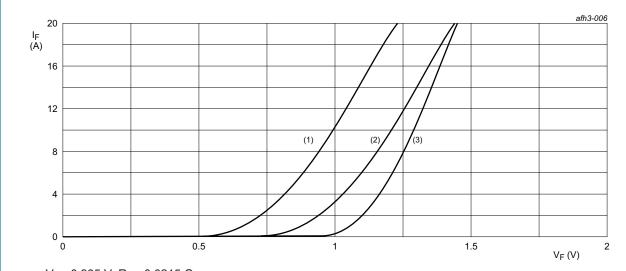
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Standard power diode

10. Characteristics

Table 7. Characteristics

Symbol	Parameter	Conditions	Min	Тур	Max	Unit
Static cha	racteristics					
V_{F}	forward current	I _F = 8 A; T _j = 25 °C; <u>Fig. 6</u>	-	1.05	1.25	V
		I _F = 8 A; T _j = 150 °C; <u>Fig. 6</u>	-	0.95	1.15	V
I _R	reverse current	V _R = 1600 V; T _j = 25 °C	-	-	50	μA
		V _R = 1600 V; T _j = 150 °C	-	-	1.5	mA

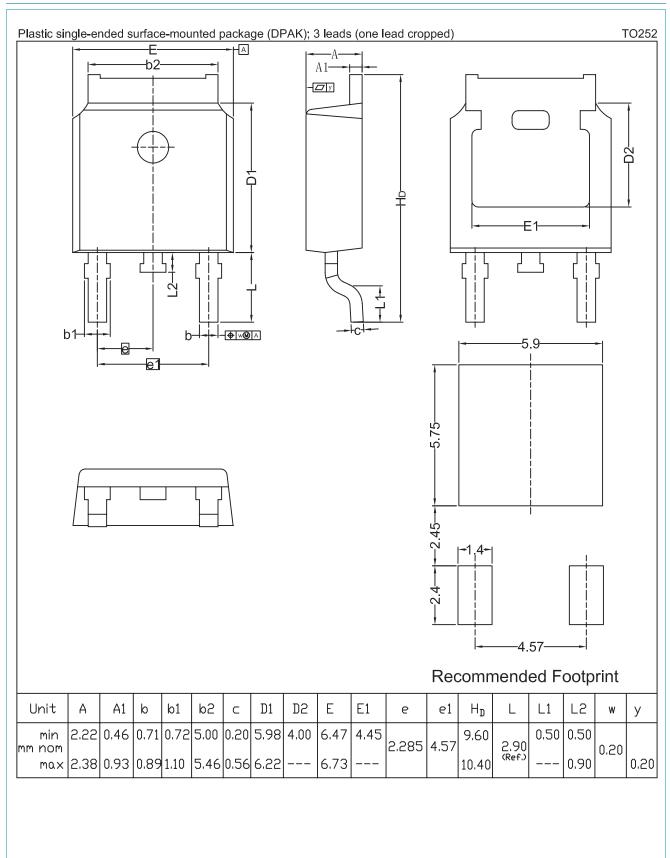


 $V_o = 0.985 \text{ V}; R_s = 0.0215 \Omega$

(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

11. Package outline



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.
Preliminary [short] data sheet	Qualification	This document contains data from the preliminary specification.
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Date of release: 1 August 2018

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