

## 1. General description

Standard reverse recovery power diode in a ITO220-2L package.

## 2. Features and benefits

- Low forward voltage drop
- Low leakage current
- High voltage capability
- High inrush current capability
- Isolated mounting base with 2500 V (RMS) isolation

## 3. Applications

- Input rectifier
- Regulator diode

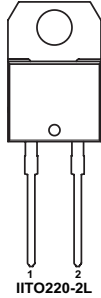
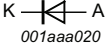
## 4. Quick reference data

Table 1. Quick reference data

Symbol	Parameter	Conditions	Values			Unit
<b>Absolute maximum rating</b>						
$V_{RRM}$	repetitive peak reverse voltage		800			V
$I_{F(AV)}$	average forward current	$\delta = 0.5$ ; square-wave pulse; $T_{mb} \leq 116$ °C; <a href="#">Fig. 1</a> ; <a href="#">Fig. 2</a> ; <a href="#">Fig. 3</a>	10			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>	180			A
		$t_p = 8.3$ ms; $T_{j(init)} = 25$ °C; sine-wave pulse	216			A
Symbol	Parameter	Conditions	Min	Typ	Max	Unit
<b>Static characteristics</b>						
$V_F$	forward voltage	$I_F = 10$ A; $T_j = 25$ °C; <a href="#">Fig. 6</a>	-	1.07	1.3	V
		$I_F = 10$ A; $T_j = 150$ °C; <a href="#">Fig. 6</a>	-	-	1.15	V

## 5. Pinning information

Table 2. Pinning information

Pin	Symbol	Description	Simplified outline	Graphic symbol
1	K	cathode		
2	A	anode		
mb	n.c.	mounting base; isolated		

## 6. Ordering information

Table 3. Ordering information

Type number	Package name	Orderable part number	Packing method	Small packing quantity	Package version	Package issue date
WND10P08Y	IITO220-2L	WND10P08YQ	Tube	50	IITO220E-2L	03-Mar-2020

## 7. Marking

Table 4. Marking codes

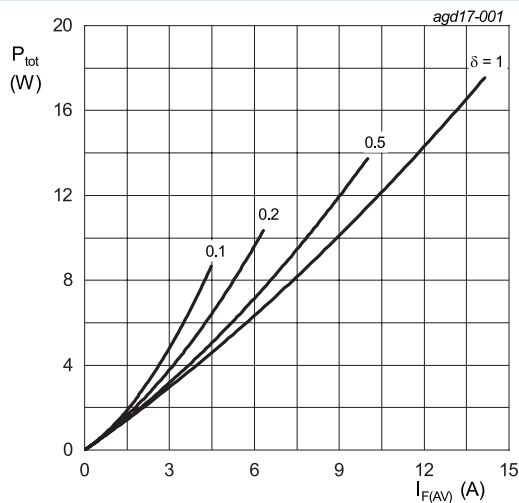
Type number	Marking codes
WND10P08Y	WND 10P08Y

## 8. Limiting values

**Table 5. Limiting values**

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

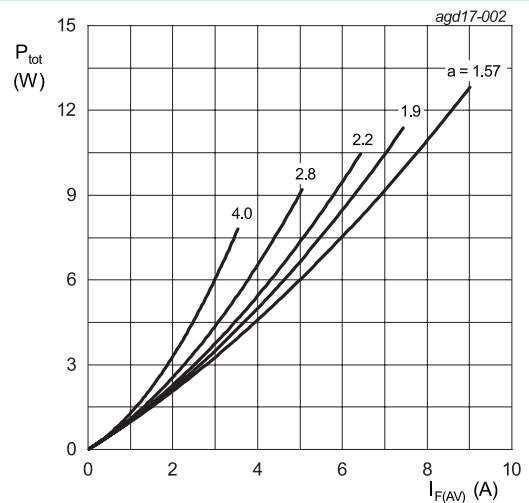
Symbol	Parameter	Conditions	Values	Unit
$V_{RRM}$	repetitive peak reverse voltage		800	V
$V_{RWM}$	crest working reverse voltage		800	V
$V_R$	reverse voltage	DC	800	V
$I_{F(AV)}$	average forward current	$\delta = 0.5$ ; square-wave pulse; $T_{mb} \leq 116\text{ }^\circ\text{C}$ ; <a href="#">Fig. 1</a> ; <a href="#">Fig. 2</a> ; <a href="#">Fig. 3</a>	10	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>	180	A
		$t_p = 8.3\text{ ms}$ ; $T_{j(\text{init})} = 25\text{ }^\circ\text{C}$ ; sine-wave pulse	216	A
$T_{stg}$	storage temperature		-55 to 150	$^\circ\text{C}$
$T_j$	junction temperature		150	$^\circ\text{C}$



$$I_{F(AV)} = I_{F(RMS)} \times \sqrt{\delta}$$

$$V_o = 0.919\text{ V}; R_s = 0.0227\text{ }\Omega$$

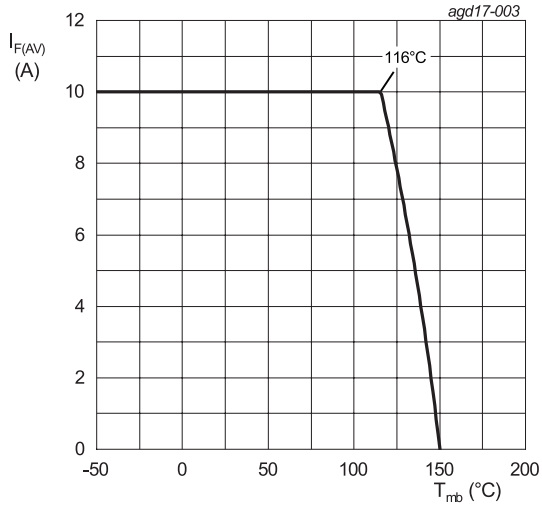
**Fig. 1. Forward power dissipation as a function of average forward current; square waveform; maximum values**



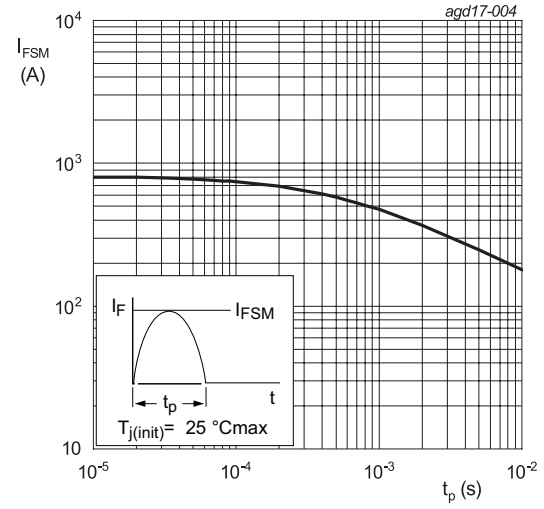
$$a = \text{form factor} = I_{F(RMS)} / I_{F(AV)}$$

$$V_o = 0.919\text{ V}; R_s = 0.0227\text{ }\Omega$$

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



**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>	-	-	2.5	K/W
$R_{th(j-a)}$	thermal resistance from junction to ambient free air	in free air	-	60	-	K/W

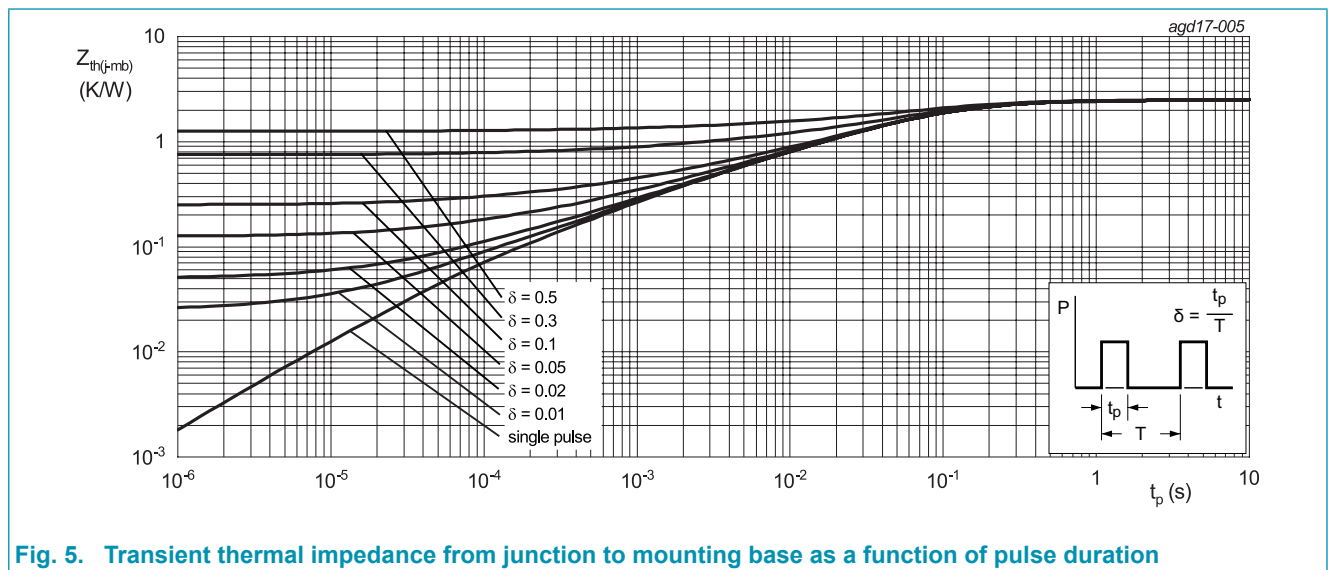


Fig. 5. Transient thermal impedance from junction to mounting base as a function of pulse duration

## 10. Isolation characteristics

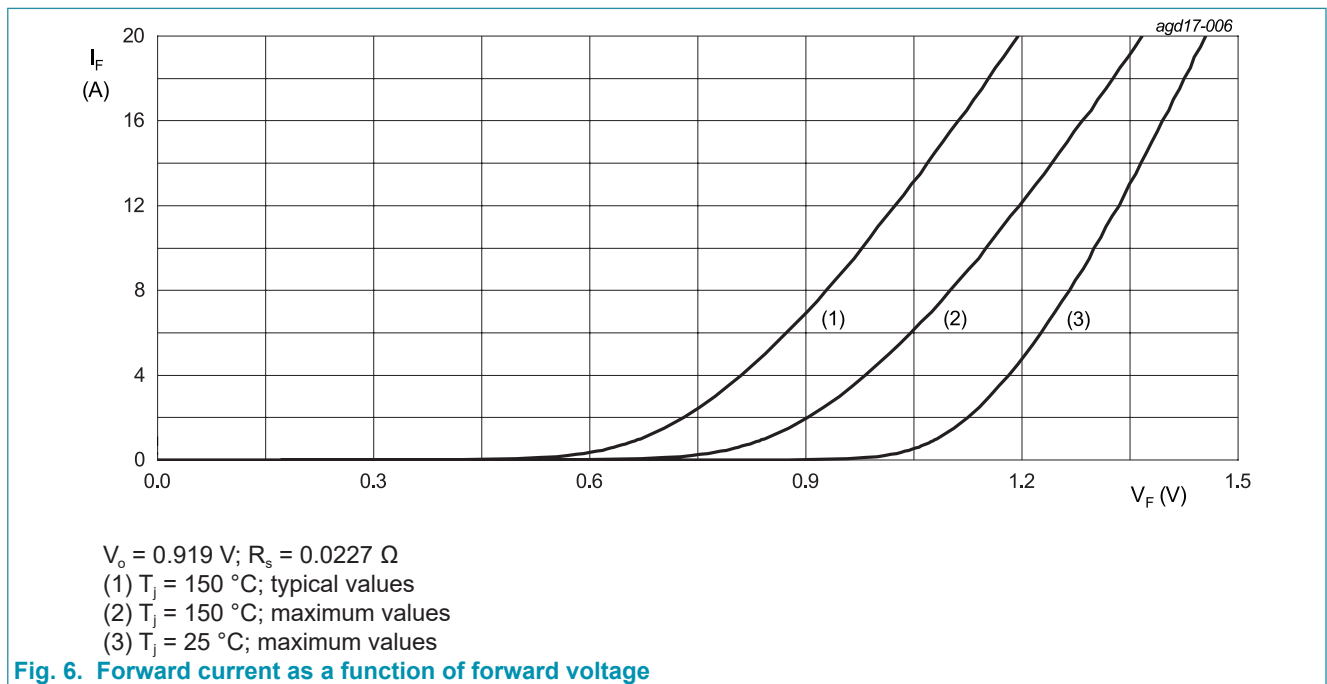
Table 7. Isolation characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$V_{isol(RMS)}$	RMS isolation voltage	50 Hz $\leq$ f $\leq$ 60 Hz; RH $\leq$ 65 %; from all pins to external heatsink; sinusoidal waveform; clean and dust free	-	-	2500	V
$C_{isol}$	isolation capacitance	from cathode to external heatsink	-	10	-	PF

## 11. Characteristics

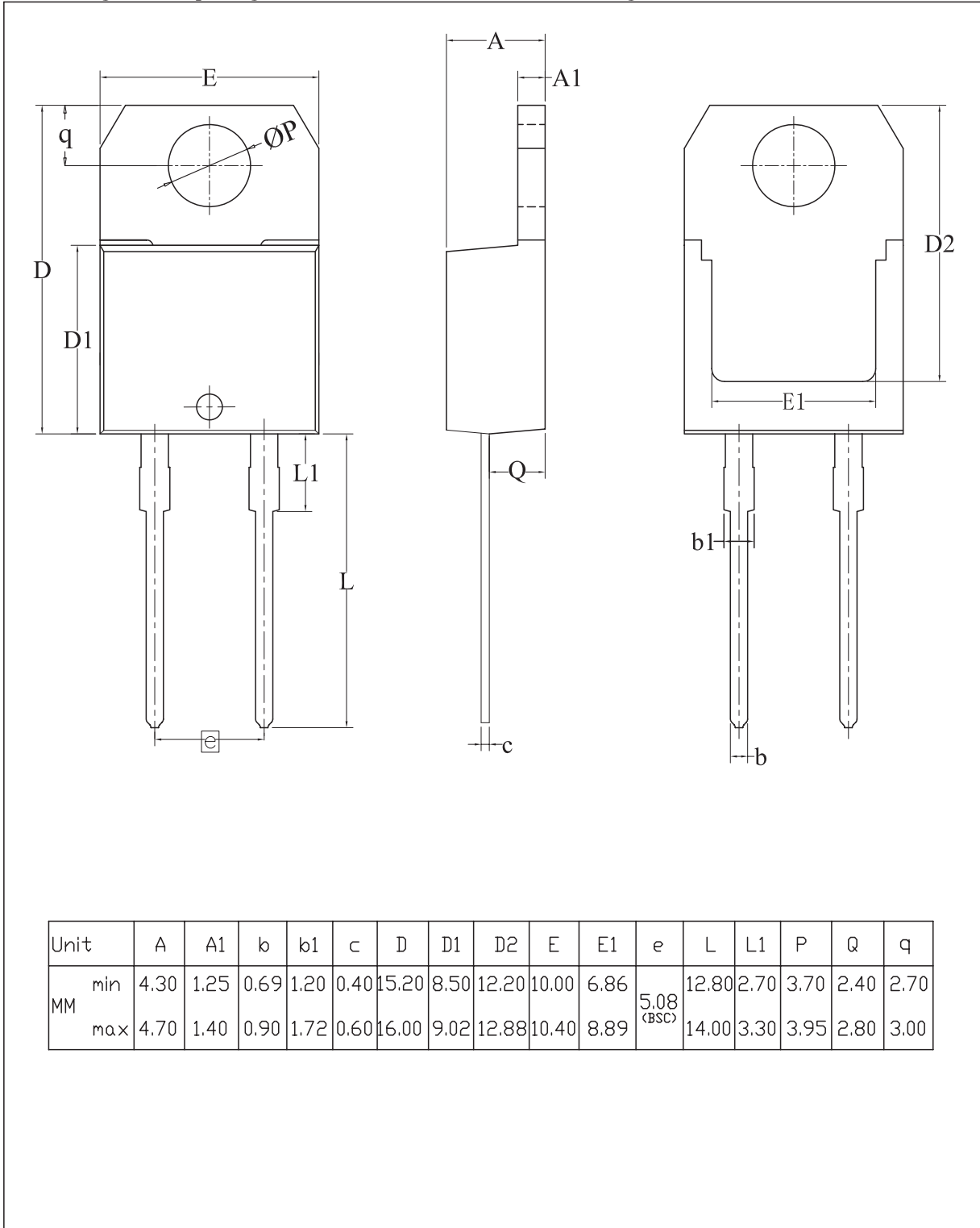
Table 8. Characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
<b>Static characteristics</b>						
$V_F$	forward current	$I_F = 10\text{ A}; T_j = 25\text{ °C}; \text{Fig. 6}$	-	1.07	1.3	V
		$I_F = 10\text{ A}; T_j = 150\text{ °C}; \text{Fig. 6}$	-	-	1.15	V
$I_R$	reverse current	$V_R = 800\text{ V}; T_j = 25\text{ °C}$	-	-	10	$\mu\text{A}$
		$V_R = 800\text{ V}; T_j = 150\text{ °C}$	-	-	1	mA



## 12. Package outline

Plastic single-ended package; isolated heatsink mounted; 1 mounting hole; 2 leads TO-220 ITO220-2L



## 13. 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.
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