

## 1. General description

Power Schottky diode in ITO220-2L plastic package.



## 2. Features and benefits

- High junction temperature up to 175 °C
- Low forward voltage drop, negligible switching losses
- High efficiency

## 3. Applications

- DC to DC converters
- Freewheeling diode
- OR-ing diode
- Switched mode power supply rectifier

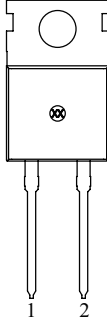

## 4. Quick reference data

Table 1. Quick reference data

Symbol	Parameter	Conditions	Notes	Values			Unit
<b>Absolute maximum rating</b>							
$V_{RRM}$	repetitive peak reverse voltage			200			V
$I_{F(AV)}$	average forward current	$\delta = 0.5$ ; square-wave pulse; $T_{mb} \leq 134$ °C; per diode; <a href="#">Fig. 1</a> ; <a href="#">Fig. 2</a> ; <a href="#">Fig. 3</a>		15			A
Symbol	Parameter	Conditions	Notes	Min	Typ	Max	Unit
<b>Static characteristics</b>							
$V_F$	forward voltage	$I_F = 15$ A; $T_j = 25$ °C; per diode; <a href="#">Fig. 6</a>		-	0.88	0.95	V
$I_R$	reverse current	$V_R = 200$ V; $T_j = 25$ °C; per diode; <a href="#">Fig. 7</a>		-	0.04	5	$\mu$ A

## 5. Pinning information

Table 2. Pinning information

Pin	Symbol	Description	Simplified outline	Graphic symbol
1	K	cathode		 001aaa020
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
WN3S15200YT	IITO220-2L	WN3S15200YTQ	Tube	50	IITO220P-2L	13-Mar-2023

## 7. Marking

Table 4. Marking codes

Type number	Marking codes
WN3S15200YT	WN3S15 200YT

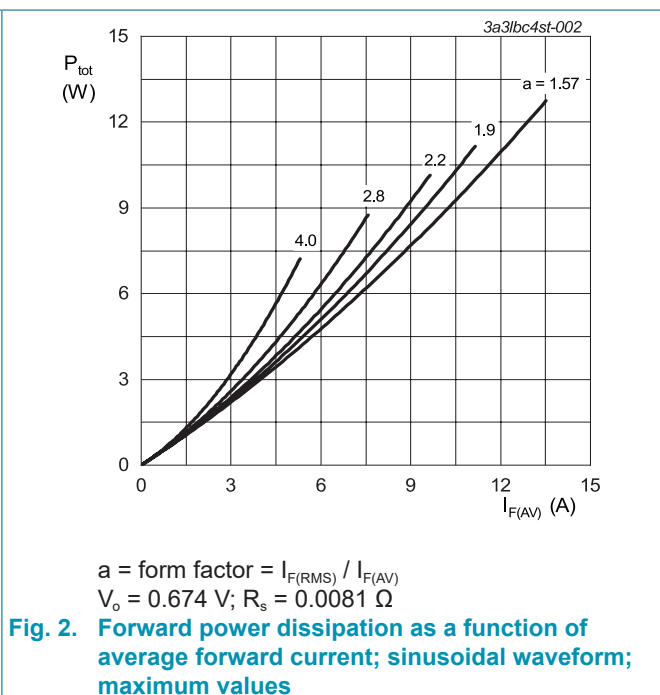
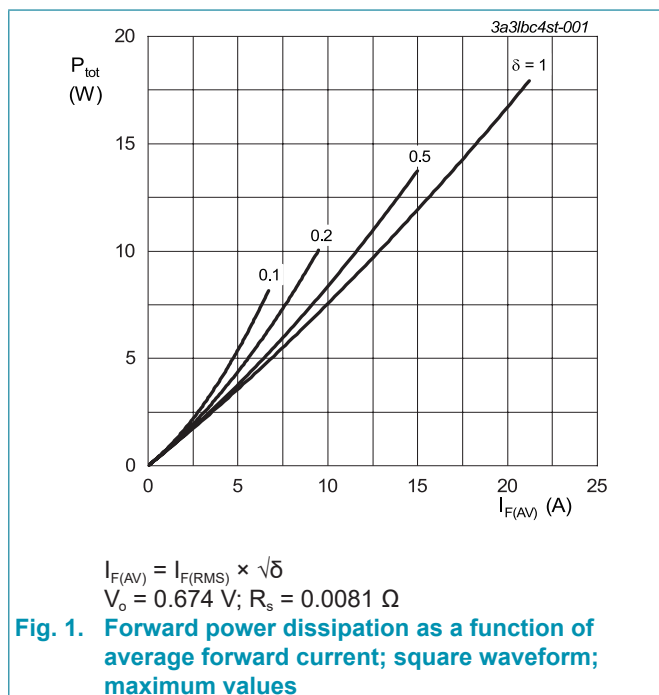
## 8. Limiting values

**Table 5. Limiting values**

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

Symbol	Parameter	Conditions	Notes	Values	Unit
$V_{RRM}$	repetitive peak reverse voltage			200	V
$V_{RWM}$	crest working reverse voltage			200	V
$V_R$	reverse voltage	DC		200	V
$I_{F(AV)}$	average forward current	$\delta = 0.5$ ; square-wave pulse; $T_{mb} \leq 134\text{ }^\circ\text{C}$ ; per diode; <a href="#">Fig. 1</a> ; <a href="#">Fig. 2</a> ; <a href="#">Fig. 3</a>		15	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; per diode; <a href="#">Fig. 4</a>		200	A
		$t_p = 8.3\text{ ms}$ ; $T_{j(\text{init})} = 25\text{ }^\circ\text{C}$ ; sine-wave pulse; per diode		220	A
$T_{stg}$	storage temperature			-40 to 175	$^\circ\text{C}$
$T_j$	junction temperature		[1]	-40 to 175	$^\circ\text{C}$

[1] The heat generated must be less than the thermal conductivity from Junction to Ambient:  $dP_{tot}/dT_j < 1/R_{th(j-a)}$



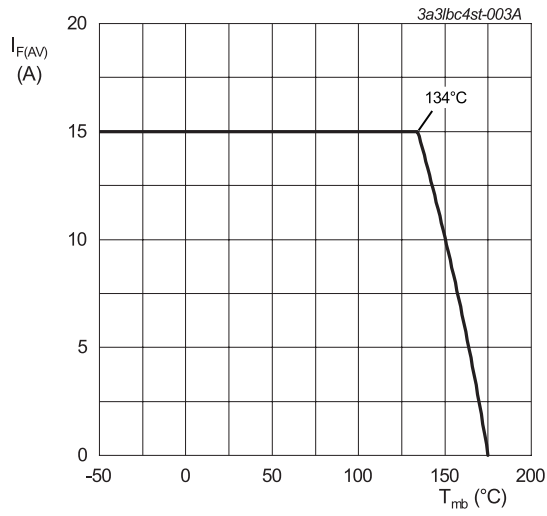


Fig. 3. Average forward current as a function of mounting base temperature; maximum values

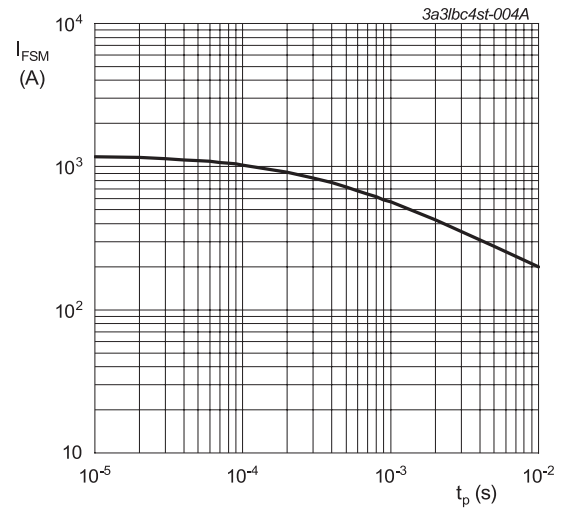
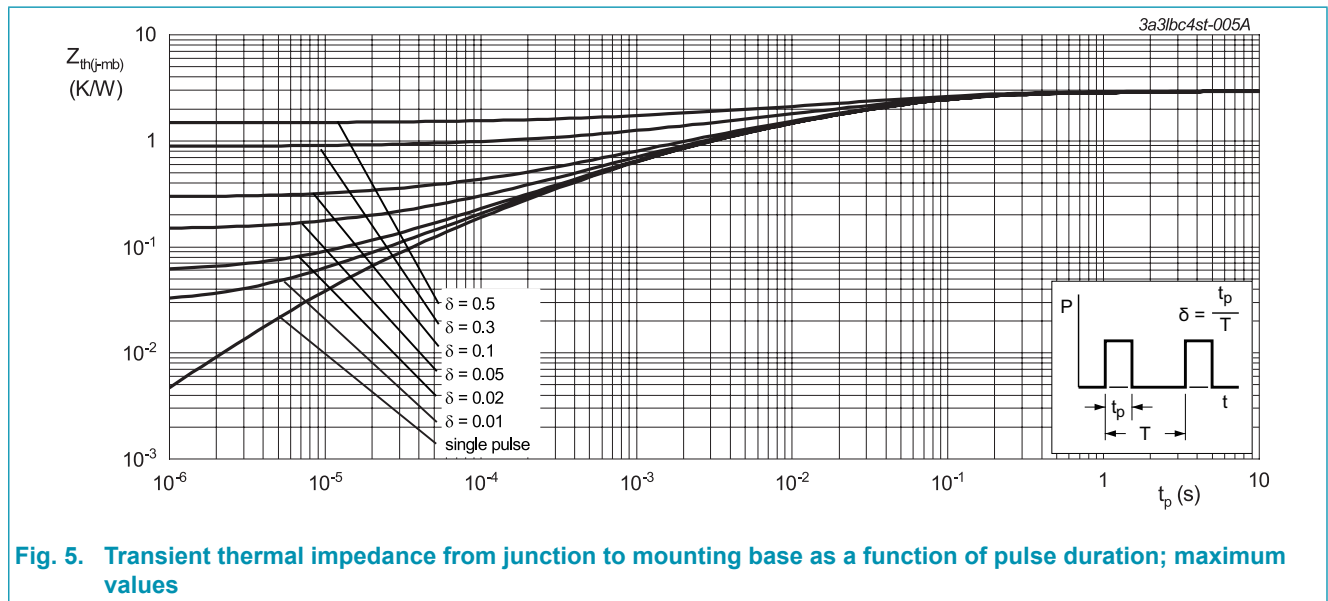


Fig. 4. Non-repetitive peak forward current as a function of pulse width; sinusoidal waveform; maximum values

## 9. Thermal characteristics

Table 6. Thermal characteristics

Symbol	Parameter	Conditions	Notes	Min	Typ	Max	Unit
$R_{th(j-mb)}$	thermal resistance from junction to mounting base	Fig. 5		-	-	2.96	K/W
$R_{th(j-a)}$	thermal resistance from junction to ambient free air	in free air		-	60	-	K/W



## 10. Isolation characteristics

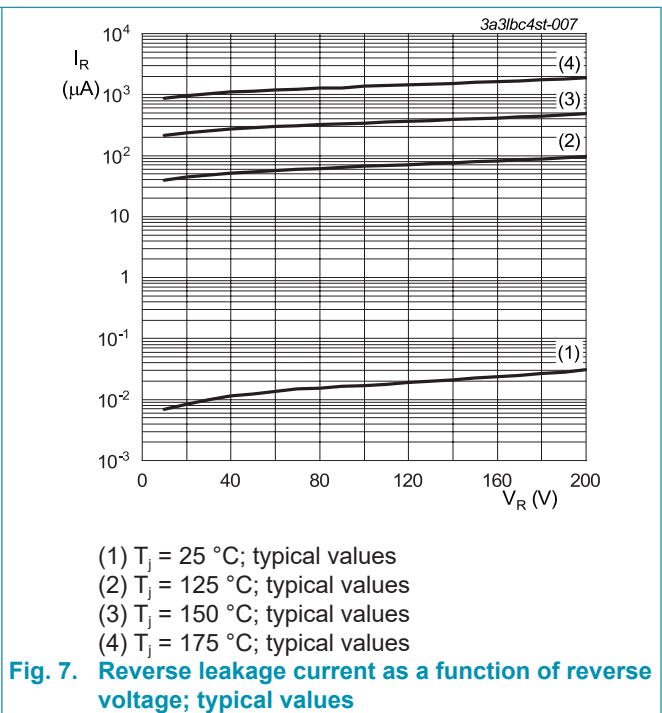
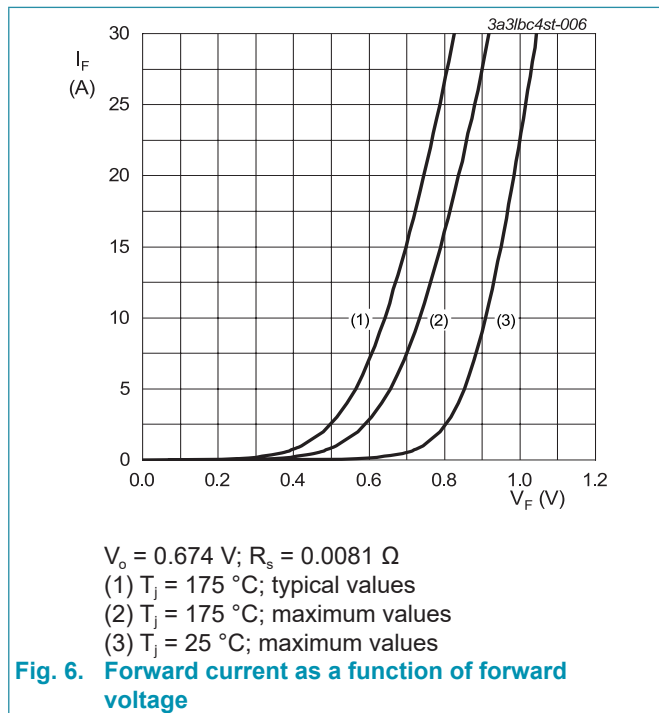
Table 7. Isolation characteristics

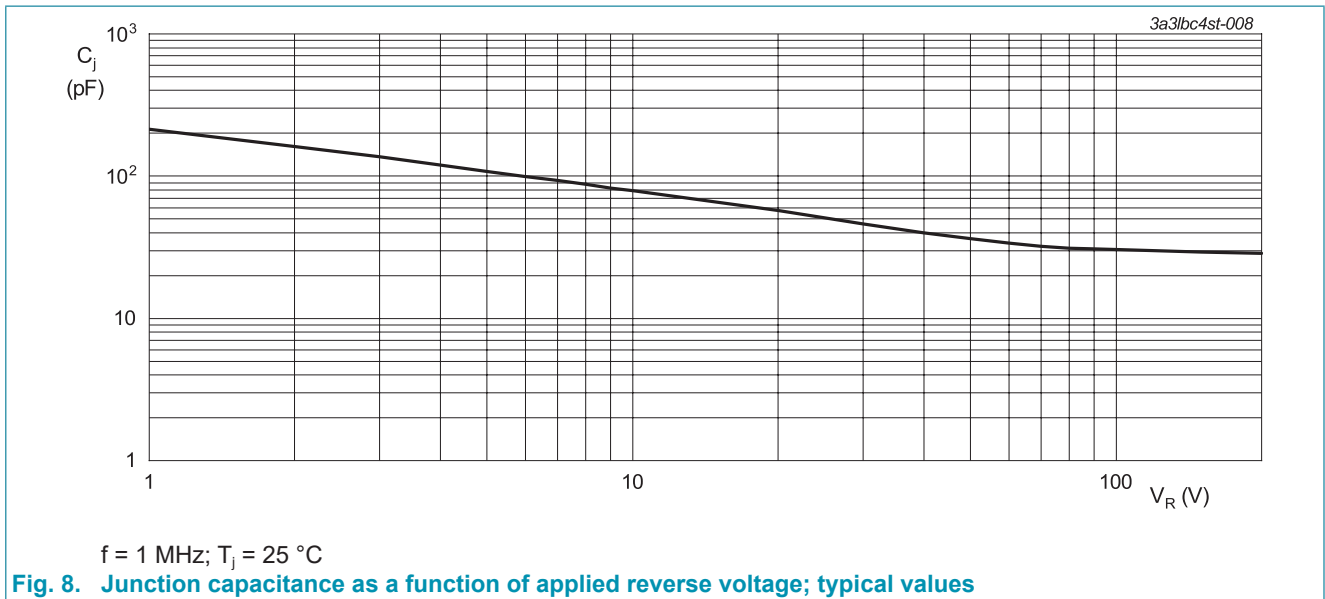
Symbol	Parameter	Conditions	Notes	Min	Typ	Max	Unit
$V_{isol(RMS)}$	RMS isolation voltage	50 Hz ≤ f ≤ 60 Hz; RH ≤ 65 %; from all pins to external heatsink; sinusoidal waveform; clean and dust free		-	-	2500	V
$C_{isol}$	isolation capacitance	f = 1 MHz; from cathode to external heatsink		-	10	-	pF

### 11. Characteristics

Table 8. Characteristics

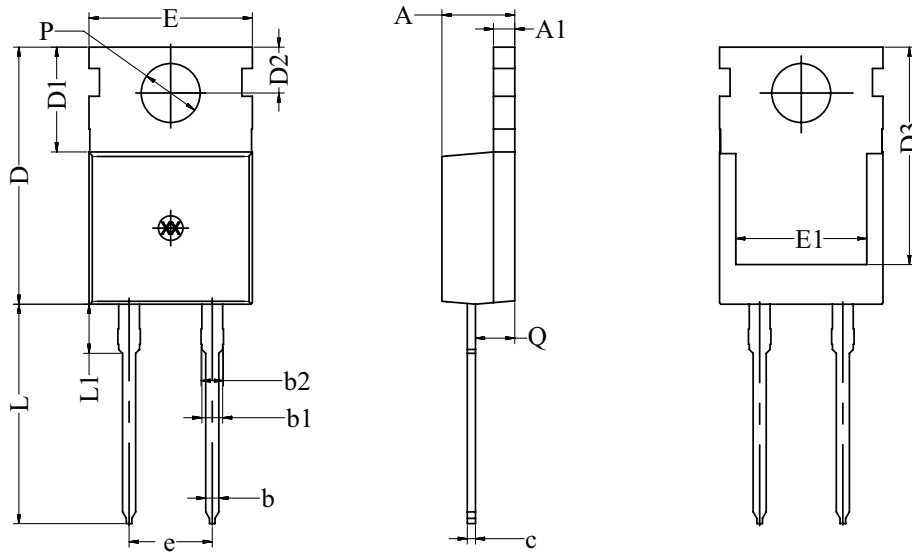
Symbol	Parameter	Conditions	Notes	Min	Typ	Max	Unit
<b>Static characteristics</b>							
V <sub>F</sub>	forward voltage	I <sub>F</sub> = 15 A; T <sub>j</sub> = 25 °C; per diode; <a href="#">Fig. 6</a>		-	0.88	0.95	V
		I <sub>F</sub> = 15 A; T <sub>j</sub> = 125 °C; per diode		-	0.77	-	V
		I <sub>F</sub> = 15 A; T <sub>j</sub> = 175 °C; per diode; <a href="#">Fig. 6</a>		-	0.72	0.79	V
I <sub>R</sub>	reverse current	V <sub>R</sub> = 200 V; T <sub>j</sub> = 25 °C; per diode; <a href="#">Fig. 7</a>		-	0.04	5	μA
		V <sub>R</sub> = 200 V; T <sub>j</sub> = 125 °C; per diode; <a href="#">Fig. 7</a>		-	0.1	-	mA





## 12. Package outline

Plastic single-ended package; isolated heatsink mounted; 1 mounting hole; 2 leads TO-220 IITO220-2L



Dim	All Dimensions in Millimeters		
	Min	Typ	Max
A	4.30	4.45	4.70
A1	1.25	1.30	1.40
b	0.60	0.80	0.90
b1	1.10	1.27	1.40
b2	1.32	1.37	1.72
c	0.40	0.50	0.60
D	15.20	15.70	16.00
D1	6.20	6.40	6.60
D2	2.70	2.80	3.00
D3	12.98	13.28	13.58
E	9.70	10.00	10.30
E1	7.50	8.00	8.50
e	5.08(BSC)		
L	12.80	13.40	14.00
L1	2.80	3.00	3.20
P	3.50	3.60	3.70
Q	2.20	2.40	2.60



## 13. 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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