

LOW DROP OR-ing POWER SCHOTTKY DIODE

MAIN PRODUCT CHARACTERISTICS

$I_{F(AV)}$	15 A
V_{RRM}	10 V
$V_F (max)$	0.33 V

PRELIMINARY DATASHEET

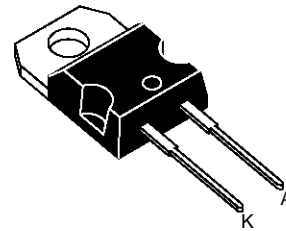
FEATURES AND BENEFITS

- VERY LOW FORWARD VOLTAGE DROP FOR LESS POWER DISSIPATION AND REDUCED HEATSINK
- OPTIMIZED CONDUCTION/REVERSE LOSSES TRADE-OFF WHICH MEANS THE HIGHEST YIELD IN THE APPLICATIONS

DESCRIPTION

Single Schottky rectifier suited to Switched Mode Power Supplies and DC/DC converters.

Packaged in TO220AC, this device is especially intended for use as a OR-ing diode in fault tolerant power supplies equipments.



TO220AC
(Plastic)

ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
V_{RRM}	Repetitive Peak Reverse Voltage		10	V
$I_{F(RMS)}$	RMS Forward Current		30	A
$I_{F(AV)}$	Average Forward Current	$T_c = 90^\circ\text{C}$ $\delta = 0.5 \quad V_R = 10\text{V}$	15	A
I_{FSM}	Surge Non Repetitive Forward Current	$t_p = 10 \text{ ms}$ Sinusoidal	310	A
I_{RRM}	Repetitive Peak Reverse Current	$t_p = 2 \mu\text{s}$ $F = 1\text{KHz}$	2	A
T_{stg}	Storage Temperature Range		- 65 to + 150	$^\circ\text{C}$
T_j	Max. Junction Temperature		100	$^\circ\text{C}$
dV/dt	Critical Rate of Rise of Reverse Voltage		1000	$\text{V}/\mu\text{s}$

STPS15L10D

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	Junction to Case Thermal Resistance	1.5	°C/W

STATIC ELECTRICAL CHARACTERISTICS

Symbol	Tests Conditions	Tests Conditions	Min.	Typ.	Max.	Unit	
I_R^*	Reverse Leakage Current	$T_j = 100^\circ\text{C}$	$V_R = 5\text{V}$		80		mA
		$T_j = 25^\circ\text{C}$	$V_R = 10\text{V}$			4	
		$T_j = 100^\circ\text{C}$			120	420	
V_F^*	Forward Voltage drop	$T_j = 25^\circ\text{C}$	$I_F = 15\text{A}$			0.41	V
		$T_j = 100^\circ\text{C}$	$I_F = 15\text{A}$		0.28	0.33	

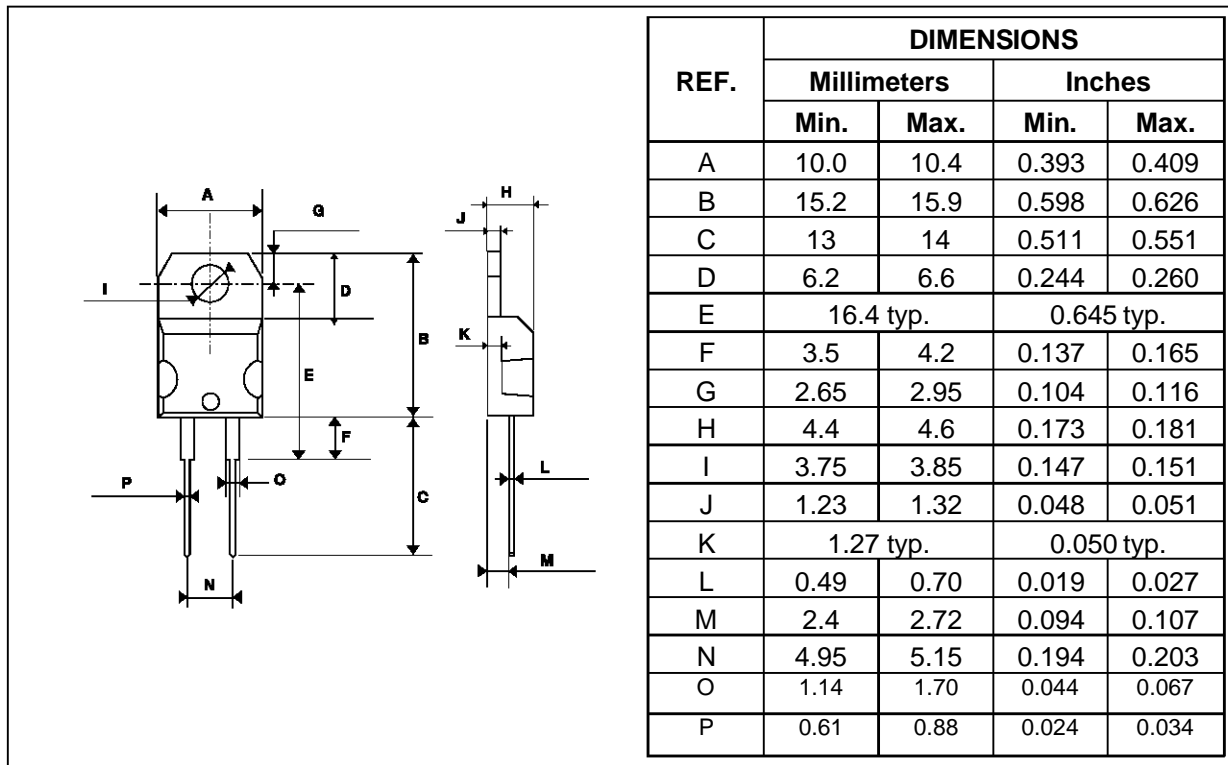
Pulse test : * $t_p = 380\ \mu\text{s}$, duty cycle < 2%

To evaluate the conduction losses use the following equation :

$$P = 0.19 \times I_{F(AV)} + 8.5 \cdot 10^{-3} \times I_{F(RMS)}^2$$

Typical junction capacitance, $V_R = 5\text{V}$ $F = 1\text{MHz}$ $T_j = 25^\circ\text{C}$: 1.5nF

PACKAGE MECHANICAL DATA
TO220AC Plastic



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