

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

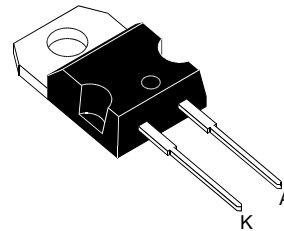
PRELIMINARY DATASHEET
FEATURES AND BENEFITS

- 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	$T_C = 90^\circ\text{C}$ $\delta = 0.5$ $V_R = 10\text{V}$	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

REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	10.0	10.4	0.393	0.409
B	15.2	15.9	0.598	0.626
C	13	14	0.511	0.551
D	6.2	6.6	0.244	0.260
E	16.4 typ.		0.645 typ.	
F	3.5	4.2	0.137	0.165
G	2.65	2.95	0.104	0.116
H	4.4	4.6	0.173	0.181
I	3.75	3.85	0.147	0.151
J	1.23	1.32	0.048	0.051
K	1.27 typ.		0.050 typ.	
L	0.49	0.70	0.019	0.027
M	2.4	2.72	0.094	0.107
N	4.95	5.15	0.194	0.203
O	1.14	1.70	0.044	0.067
P	0.61	0.88	0.024	0.034

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