

LOW DROP 3.3V POWER SCHOTTKY RECTIFIERS

MAIN PRODUCT CHARACTERISTICS

$I_{F(AV)}$	2*10 A
V_{RRM}	25 V
$V_F (max)$	0.35 V

PRELIMINARY DATASHEET

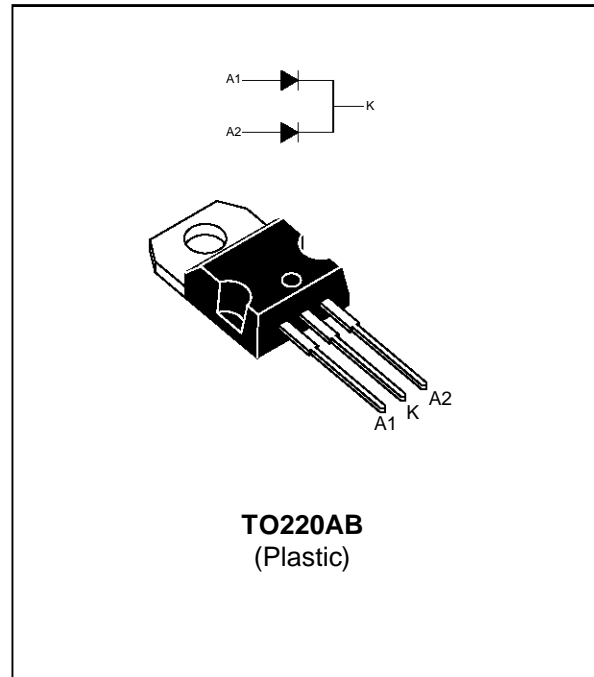
FEATURES AND BENEFITS

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

DESCRIPTION

Dual center tap Schottky rectifier suited to Switched Mode Power Supplies and high frequency DC to DC converters.

Packaged in TO220AB, this device is especially intended for use as a Rectifier at the secondary of 3.3V SMPS units.



ABSOLUTE RATINGS (limiting values) PER DIODE

Symbol	Parameter	Value	Unit
V_{RRM}	Repetitive Peak Reverse Voltage	25	V
$I_{F(RMS)}$	RMS Forward Current	30	A
$I_{F(AV)}$	Average Forward Current	$T_c = 115^\circ\text{C}$ $\delta = 0.5$	A
I_{FSM}	Surge Non Repetitive Forward Current	$t_p = 10 \text{ ms}$ Sinusoidal	A
I_{RRM}	Repetitive Peak Reverse Current	$t_p = 2 \mu\text{s}$ $F = 1\text{KHz}$	A
T_{stg}	Storage Temperature Range	- 65 to + 150	$^\circ\text{C}$
T_j	Max. Junction Temperature	125	$^\circ\text{C}$
dV/dt	Critical Rate of Rise of Reverse Voltage	1000	$\text{V}/\mu\text{s}$

STPS20L25CT

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
R _{th(j-c)}	Junction to Case Thermal Resistance	Per diode	1.5	°C/W
		Total	0.8	
R _{th(c)}	Coupling Thermal Resistance		0.1	

STATIC ELECTRICAL CHARACTERISTICS (per diode)

Symbol	Tests Conditions	Tests Conditions		Min.	Typ.	Max.	Unit
I _R *	Reverse leakage Current	T _j = 25°C	V _R = V _{RRM}			800	μA
		T _j = 125°C			125	400	mA
V _F *	Forward Voltage drop	T _j = 25°C	I _F = 10 A			0.46	V
		T _j = 125°C	I _F = 10 A		0.30	0.35	
		T _j = 125°C	I _F = 20 A			0.48	

Pulse test : * tp = 380 μs, duty cycle < 2%

To evaluate the maximum conduction losses use the following equation :

$$P = 0.22 \times I_{F(AV)} + 0.013 I_{F(RMS)}^2$$

Typical junction capacitance, V_R = 15V F = 1MHz T_j = 25°C : 700pF

PACKAGE MECHANICAL DATA
TO220AB 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
N1	2.40	2.70	0.094	0.106
O	1.14	1.70	0.044	0.067
P	0.61	0.88	0.024	0.034

Marking : STPS20L25CT

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