

## POWER SCHOTTKY RECTIFIER

### MAIN PRODUCT CHARACTERISTICS

$I_{F(AV)}$	<b>2 x 10 A</b>
$V_{RRM}$	<b>60 V</b>
$V_F$ (max)	<b>0.58 V</b>

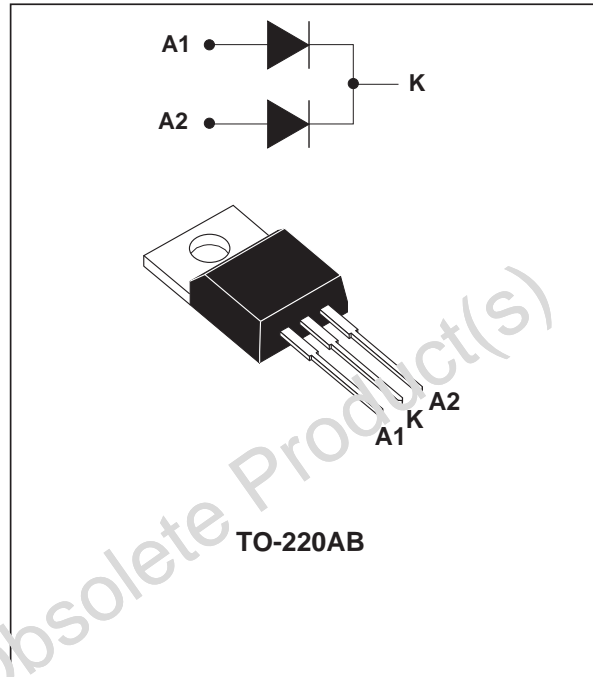
### FEATURES AND BENEFITS

- NEGLIGIBLE SWITCHING LOSSES
- LOW FORWARD DROP VOLTAGE
- LOW CAPACITANCE
- HIGH REVERSE AVALANCHE SURGE CAPABILITY

### DESCRIPTION

High voltage dual Schottky rectifier suited to Switch Mode Power Supplies and other Power Converters.

Packaged in TO-220AB, this device is intended for use in medium voltage operation, and particularly, in high frequency circuitries where low switching losses are required.



### ABSOLUTE RATINGS (limiting values)

Symbol	Parameter	Value	Unit
$V_{RRM}$	Repetitive peak reverse voltage	60	V
$I_{F(RMS)}$	RMS forward current	Per diode 30	A
$I_{F(AV)}$	Average forward current	$T_{case} = 120^{\circ}C$ Per diode $V_R = 60V$ Per device $\delta = 0.5$ 10 20	A
$I_{FSM}$	Surge non repetitive forward current	$t_p = 10$ ms Sinusoidal Per diode 200	A
$I_{RRM}$	Repetitive peak reverse current	$t_p = 2$ $\mu s$ $F = 1$ kHz Per diode 1	A
$I_{RSM}$	Non repetitive peak reverse current	$t_p = 100$ $\mu s$ Per diode 1	A
$T_{stg}$	Storage temperature range	- 65 to + 150	$^{\circ}C$
$T_j$	Maximum junction temperature	150	
dV/dt	Critical rate of rise of reverse voltage	10000	V/ $\mu s$

## STPS2060CT

### THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	Junction to case	Per diode	1.6	°C/W
		Total	0.9	
$R_{th(c)}$		Coupling	0.15	°C/W

When the diodes 1 and 2 are used simultaneously :

$$T_j - T_c(\text{diode 1}) = P(\text{diode 1}) \times R_{th(j-c)}(\text{Per diode}) + P(\text{diode 2}) \times R_{th(c)}$$

### ELECTRICAL STATIC CHARACTERISTICS (per diode)

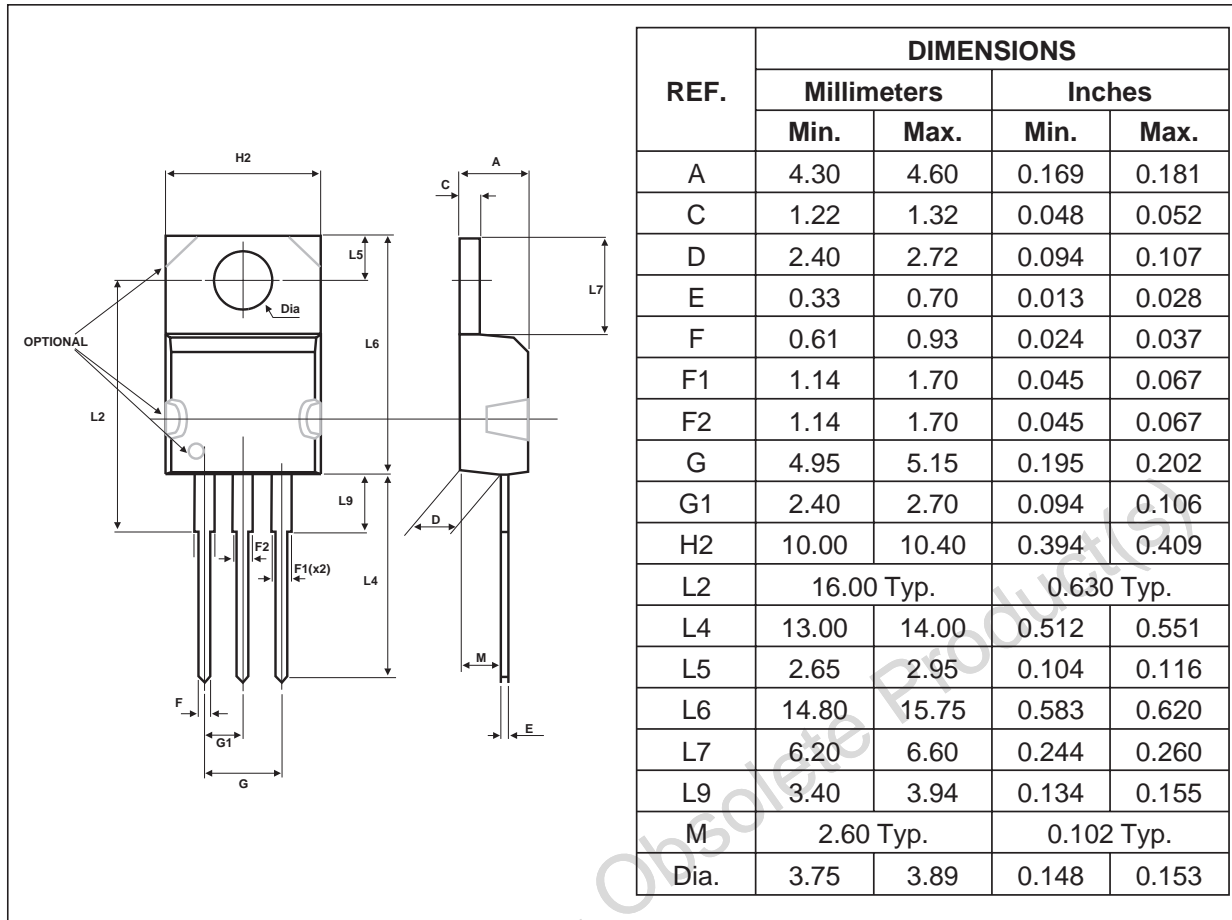
Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
$I_R^*$	Reverse leakage current	$V_R = V_{RRM}$	$T_j = 25^\circ\text{C}$			70	$\mu\text{A}$
			$T_j = 125^\circ\text{C}$			33	mA
$V_F^{**}$	Forward voltage drop	$I_F = 20 \text{ A}$	$T_j = 125^\circ\text{C}$			0.8	V
		$I_F = 10 \text{ A}$	$T_j = 125^\circ\text{C}$		0.58	0.67	
		$I_F = 20 \text{ A}$	$T_j = 25^\circ\text{C}$			0.94	
C	Capacitance	60 V, 1MHz	$T_j = 125^\circ\text{C}$		150		pF

Pulse test : \*  $t_p = 5 \text{ ms}$ , duty cycle < 2 %  
\*\*  $t_p = 380 \mu\text{s}$ , duty cycle < 2 %

To evaluate the conduction losses use the following equation :

$$P = 0.54 \times I_F(\text{AV}) + 0.013 \times I_F^2(\text{RMS})$$

**PACKAGE MECHANICAL DATA**  
TO-220AB



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