

## POWER SCHOTTKY RECTIFIER

### MAIN PRODUCT CHARACTERISTICS

<b>I<sub>F(AV)</sub></b>	<b>2 x 10 A</b>
<b>V<sub>RRM</sub></b>	<b>60 V</b>
<b>V<sub>F</sub> (max)</b>	<b>0.58 V</b>

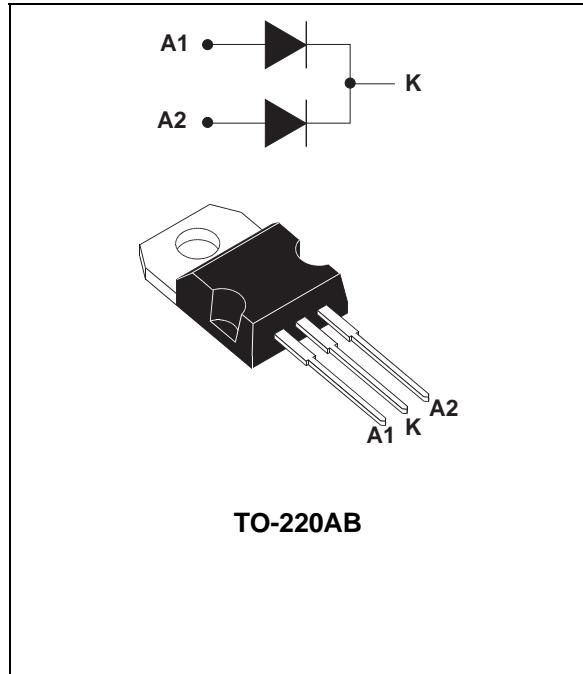
### FEATURES AND BENEFITS

- 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 <sub>RRM</sub>	Repetitive peak reverse voltage			60	V
I <sub>F(RMS)</sub>	RMS forward current		Per diode	30	A
I <sub>F(AV)</sub>	Average forward current	Tcase = 120°C V <sub>R</sub> = 60V $\delta$ = 0.5	Per diode Per device	10 20	A
I <sub>FSM</sub>	Surge non repetitive forward current	tp = 10 ms Sinusoidal	Per diode	200	A
I <sub>RRM</sub>	Repetitive peak reverse current	tp = 2 $\mu$ s F = 1kHz	Per diode	1	A
I <sub>RSM</sub>	Non repetitive peak reverse current	tp = 100 $\mu$ s	Per diode	1	A
T <sub>stg</sub>	Storage temperature range			- 65 to + 150	°C
T <sub>j</sub>	Maximum junction temperature			150	
dV/dt	Critical rate of rise of reverse voltage			10000	V/ $\mu$ s

## STPS2060CT

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### THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	Junction to case	Per diode	1.6
		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	µA
			$T_j = 125^\circ\text{C}$			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 :

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