

POWER SCHOTTKY RECTIFIER

MAIN PRODUCT CHARACTERISTICS

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

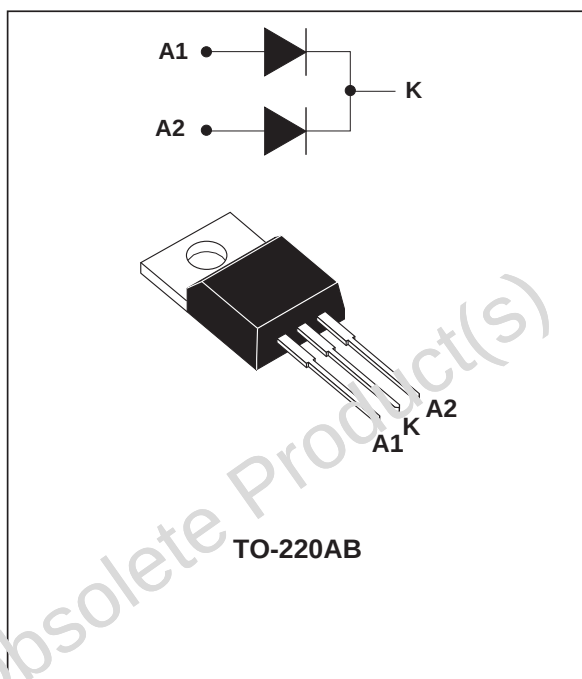
FEATURES AND BENEFITS

- 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	$T_{case} = 120^{\circ}C$ $V_R = 60V$ $\delta = 0.5$	Per diode Per device	10 20	A
I_{FSM}	Surge non repetitive forward current	$t_p = 10\text{ ms}$ Sinusoidal	Per diode	200	A
I_{RRM}	Repetitive peak reverse current	$t_p = 2\text{ }\mu s$ $F = 1\text{ kHz}$	Per diode	1	A
I_{RSM}	Non repetitive peak reverse current	$t_p = 100\text{ }\mu s$	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/ μs

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)

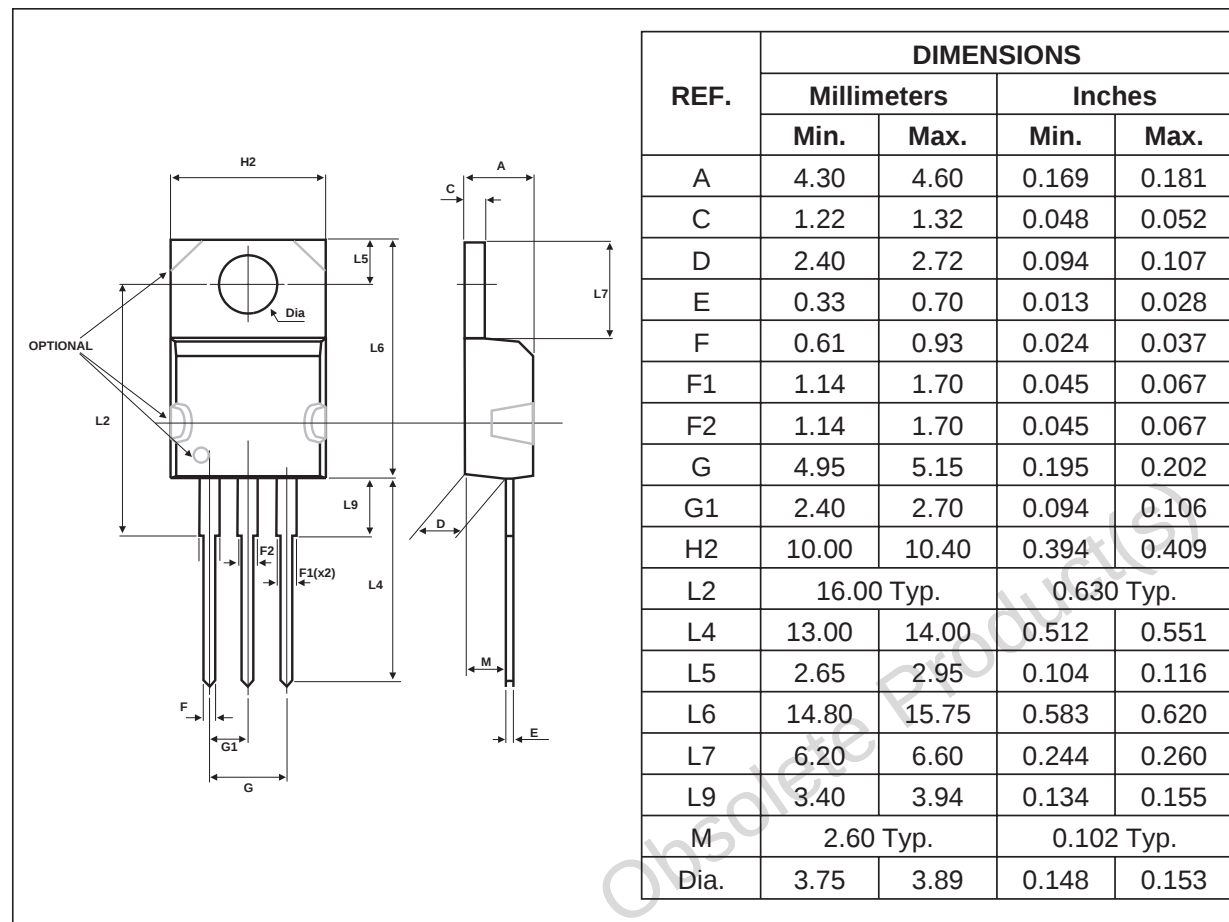
Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I_R^*	Reverse leakage current	$V_R = V_{RRM}$	$T_j = 25^\circ\text{C}$			70	μA
			$T_j = 125^\circ\text{C}$			33	mA
V_F^{**}	Forward voltage drop	$I_F = 20\text{ A}$	$T_j = 125^\circ\text{C}$			0.8	V
		$I_F = 10\text{ A}$	$T_j = 125^\circ\text{C}$		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 %

** $t_p = 380\text{ }\mu\text{s}$, 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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