

## 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>

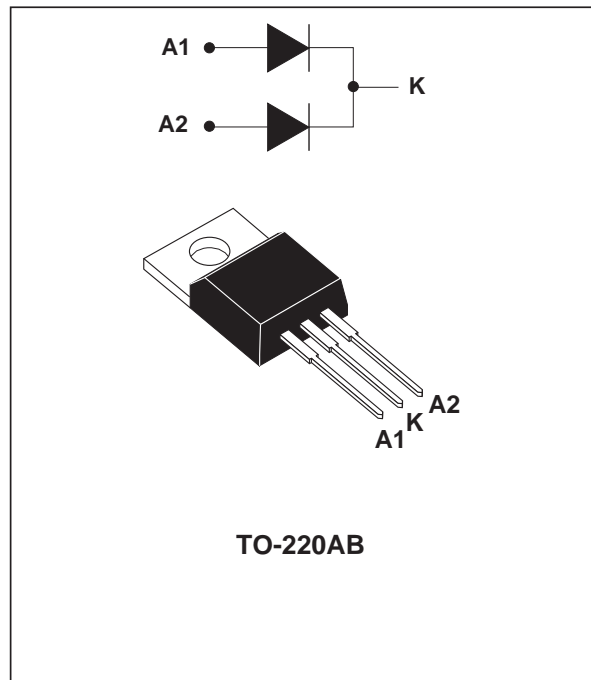
### FEATURES AND BENEFITS

- 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	10	A
		$V_R = 60V$ $\delta = 0.5$	Per device	20	
$I_{FSM}$	Surge non repetitive forward current	$t_p = 10\ ms$ Sinusoidal	Per diode	200	A
$I_{RRM}$	Repetitive peak reverse current	$t_p = 2\ \mu s$ $F = 1kHz$	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/ $\mu s$	

**THERMAL RESISTANCES**

Symbol	Parameter		Value	Unit
R <sub>th(j-c)</sub>	Junction to case	Per diode	1.6	°C/W
		Total	0.9	
R <sub>th(c)</sub>		Coupling	0.15	°C/W

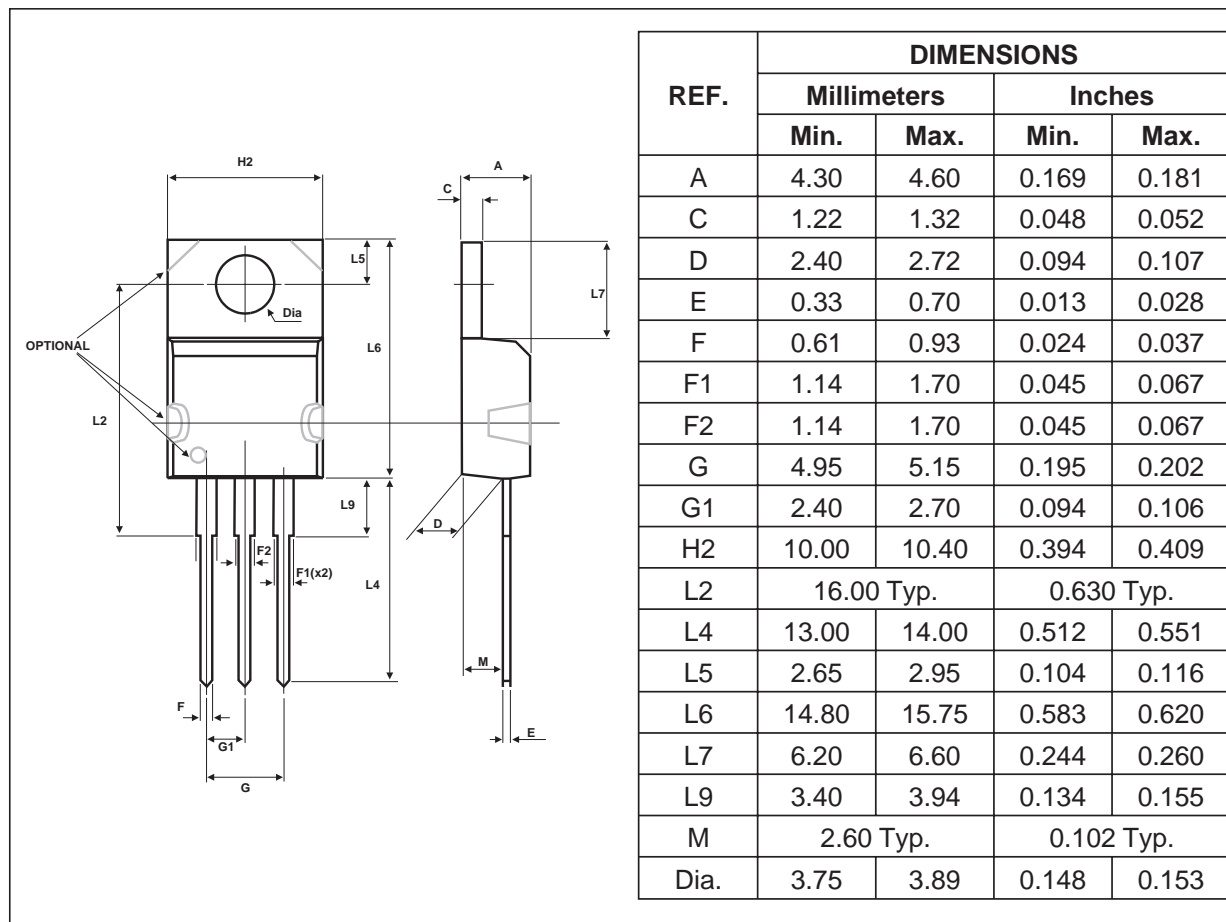
When the diodes 1 and 2 are used simultaneously :  
 $T_j - T_c(\text{diode } 1) = P(\text{diode } 1) \times R_{th(j-c)}(\text{Per diode}) + P(\text{diode } 2) \times R_{th(c)}$

**ELECTRICAL STATIC CHARACTERISTICS (per diode)**

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I <sub>R</sub> *	Reverse leakage current	V <sub>R</sub> = V <sub>RRM</sub>	T <sub>j</sub> = 25°C			70	μA
			T <sub>j</sub> = 125°C			33	mA
V <sub>F</sub> **	Forward voltage drop	I <sub>F</sub> = 20 A	T <sub>j</sub> = 125°C			0.8	V
		I <sub>F</sub> = 10 A	T <sub>j</sub> = 125°C		0.58	0.67	
		I <sub>F</sub> = 20 A	T <sub>j</sub> = 25°C			0.94	
C	Capacitance	60 V, 1MHz	T <sub>j</sub> = 125°C		150		pF

Pulse test : \* tp = 5 ms, duty cycle < 2 %  
 \*\* tp = 380 μs, duty cycle < 2 %

To evaluate the conduction losses use the following equation :  
 $P = 0.54 \times I_F(AV) + 0.013 \times I_F^2(RMS)$

**PACKAGE MECHANICAL DATA**  
 TO-220AB


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