

## SCHOTTKY RECTIFIER

### MAIN PRODUCT CHARACTERISTICS

$I_{F(AV)}$	1 A
$V_{RRM}$	60 V
$V_F (max)$	0.57 V

### PRELIMINARY DATASHEET

### FEATURES AND BENEFITS

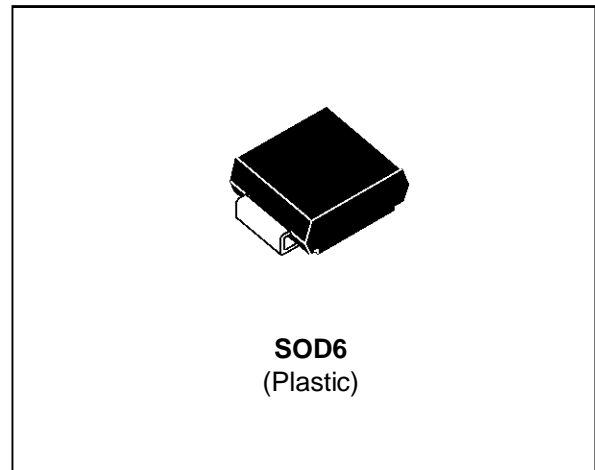
- VERY SMALL CONDUCTION LOSSES
- NEGLIGIBLE SWITCHING LOSSES
- LOW FORWARD VOLTAGE DROP
- LOW THERMAL RESISTANCE
- EXTREMELY FAST SWITCHING
- SURFACE MOUNTED DEVICE

### DESCRIPTION

Single chip Schottky rectifier suited for Switch-mode Power Supplies and high frequency DC to DC converters.

Packaged in SOD6(\*), this device is intended for surface mounting and used in low voltage, high frequency inverters, free wheeling and polarity protection applications.

(\*) in accordance with DO214AA standard



### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
$V_{RRM}$	Repetitive Peak Reverse Voltage	60	V
$I_{F(RMS)}$	RMS Forward Current	10	A
$I_{F(AV)}$	Average Forward Current	$T_{Lead} = 90^{\circ}C$ $d = 0.5$	A
$I_{FSM}$	Surge Non Repetitive Forward Current	$t_p = 10\ ms$ Sinusoidal	A
$I_{RRM}$	Repetitive Peak Reverse Current	$t_p = 2\ \mu s$ $F = 1\ KHz$	A
$T_{stg}$	Storage Temperature Range	- 65 to + 150	$^{\circ}C$
$T_j$	Max. Junction Temperature	125	$^{\circ}C$
$dV/dt$	Critical Rate of Rise of Reverse Voltage	1000	$V/\mu s$

## STPS160U

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### THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-l)}$	Junction to Lead Thermal Resistance	20	°C/W

### STATIC ELECTRICAL CHARACTERISTICS

Symbol	Tests Conditions	Tests Conditions	Min.	Typ.	Max.	Unit
$I_R^*$	Reverse Leakage Current	$T_j = 25^\circ\text{C}$	$V_R = 60\text{V}$		5	$\mu\text{A}$
		$T_j = 125^\circ\text{C}$		1.1	4	mA
$V_F^{**}$	Forward Voltage drop	$T_j = 25^\circ\text{C}$	$I_F = 1\text{ A}$		0.67	V
		$T_j = 125^\circ\text{C}$	$I_F = 1\text{ A}$	0.49	0.57	

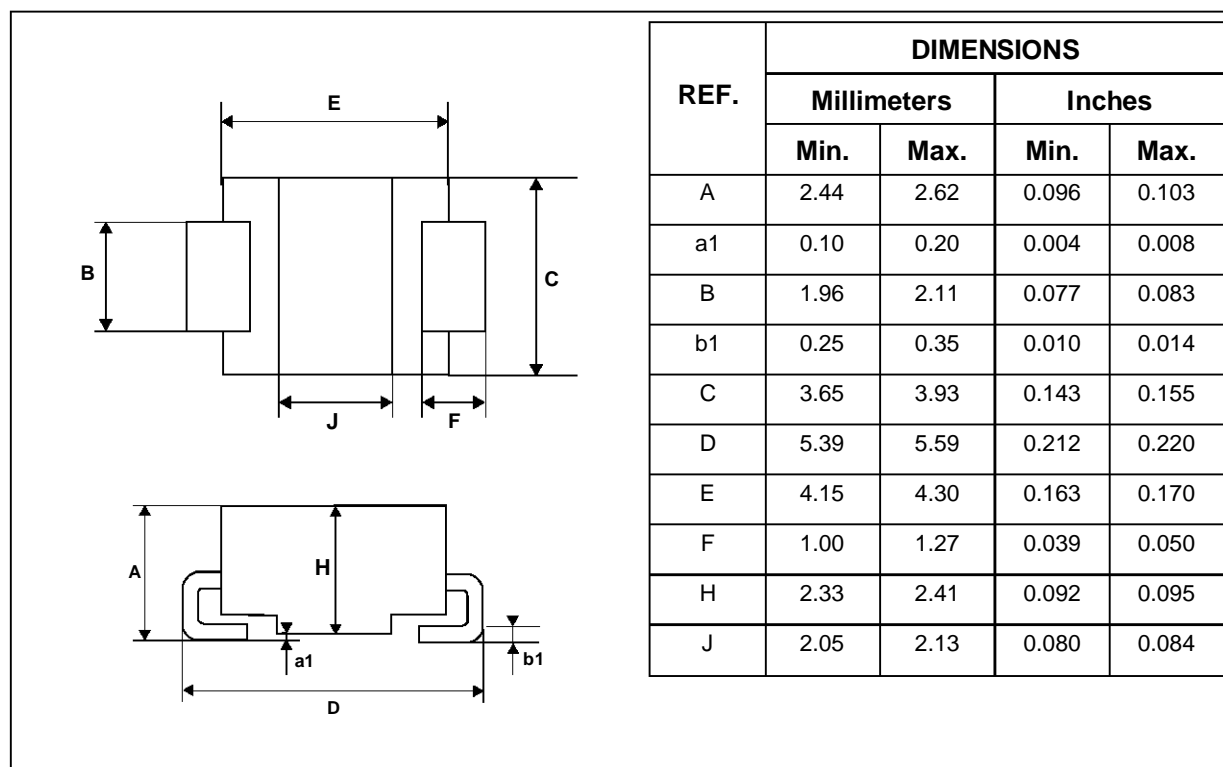
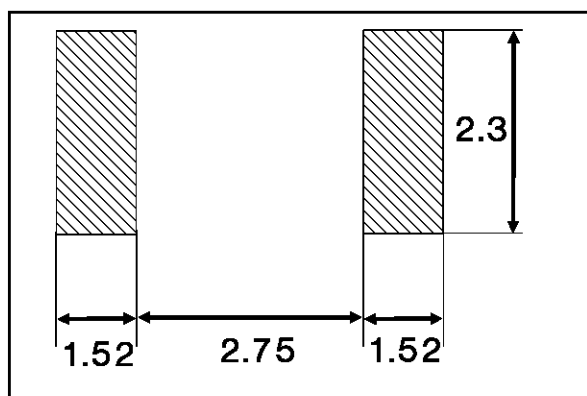
Pulse test : \*  $t_p = 5\text{ ms}$ , duty cycle < 2 %

\*\*  $t_p = 380\ \mu\text{s}$ , duty cycle < 2%

To evaluate the maximum conduction losses use the following equation :

$$P = 0.65 \times I_{F(AV)} + 0.067 \times I_{F(RMS)}^2$$

Typical junction capacitance,  $V_R = 0\text{V}$        $F = 1\text{MHz}$        $T_j = 25^\circ\text{C}$        $C_j = 300\text{pF}$

**PACKAGE MECHANICAL DATA**  
 SOD6 Plastic

**FOOT PRINT (in millimeters)**


Marking: E16

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