

SCHOTTKY RECTIFIER

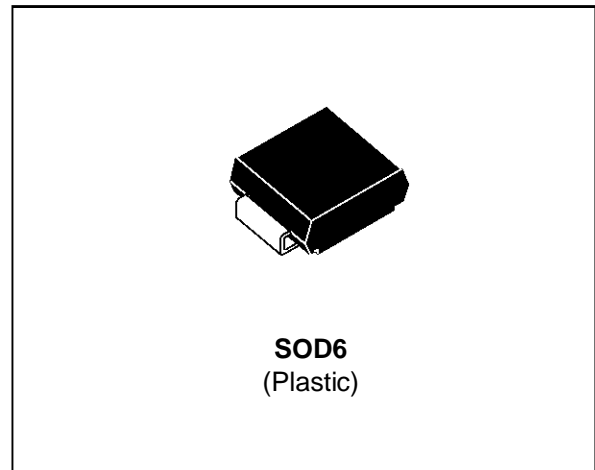
MAIN PRODUCT CHARACTERISTICS

$I_{F(AV)}$	1 A
V_{RRM}	25 V
$V_F (max)$	0.46 V

PRELIMINARY DATASHEET

FEATURES AND BENEFITS

- VERY LOW DROP FORWARD VOLTAGE FOR LESS POWER DISSIPATION
- OPTIMIZED CONDUCTION / REVERSE LOSSES TRADE-OFF WHICH MEANS THE HIGHEST YIELD IN APPLICATIONS
- SURFACE MOUNT MINIATURE PACKAGE



DESCRIPTION

Single Schottky rectifier suited to Switched Mode Power Supplies and high frequency DC/DC converters.

Packaged in SOD6, this device is especially intended for use in parallel with MOSFETs in synchronous rectification.

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{RRM}	Repetitive Peak Reverse Voltage	25	V
$I_{F(RMS)}$	RMS Forward Current	7	A
$I_{F(AV)}$	Average Forward Current	1	A
	$T_{Lead} = 135^{\circ}C$ $\delta = 0.5$		
I_{FSM}	Surge Non Repetitive Forward Current	45	A
	$t_p = 10 \text{ ms}$ Sinusoidal		
I_{RRM}	Repetitive Peak Reverse Current	1	A
	$t_p = 2 \mu s$ $F = 1 \text{ KHz}$		
T_{stg}	Storage Temperature Range	- 65 to + 150	$^{\circ}C$
T_j	Max. Junction Temperature	150	$^{\circ}C$
dV/dt	Critical Rate of Rise of Reverse Voltage	1000	$V/\mu s$

STPS125U

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	Junction to Case Thermal Resistance	23	°C/W

STATIC ELECTRICAL CHARACTERISTICS

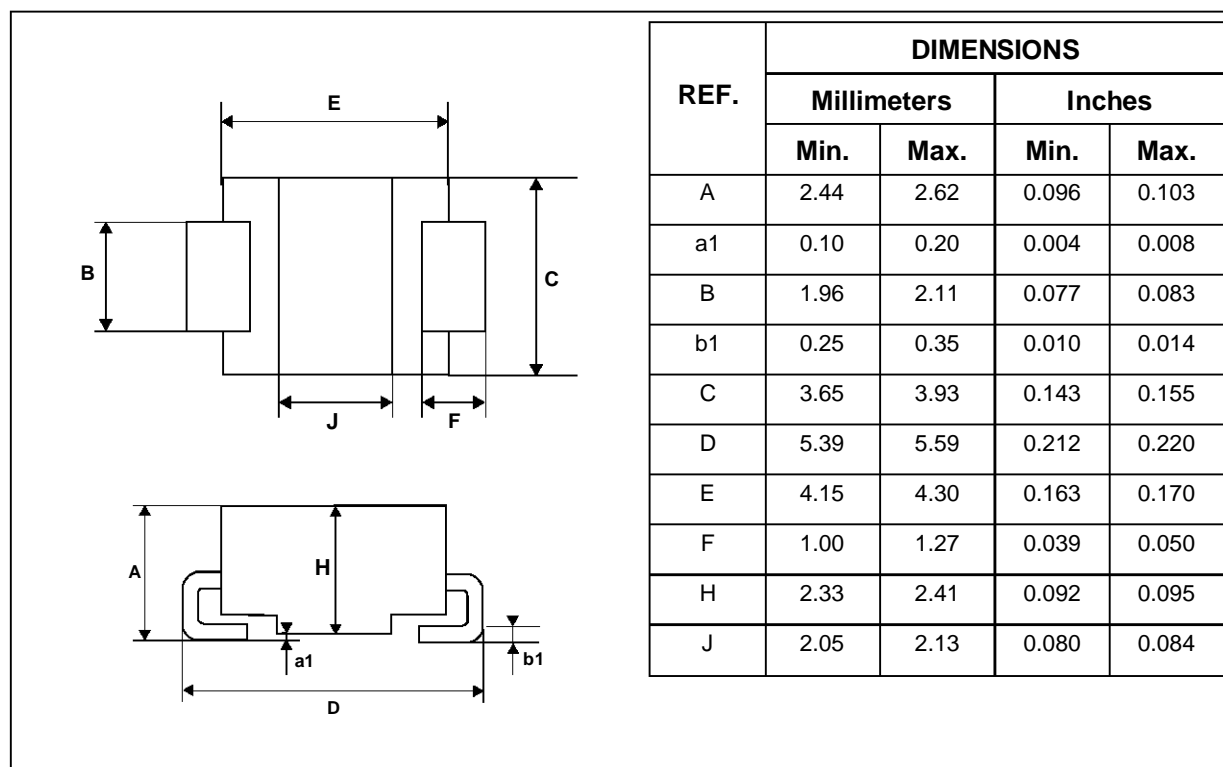
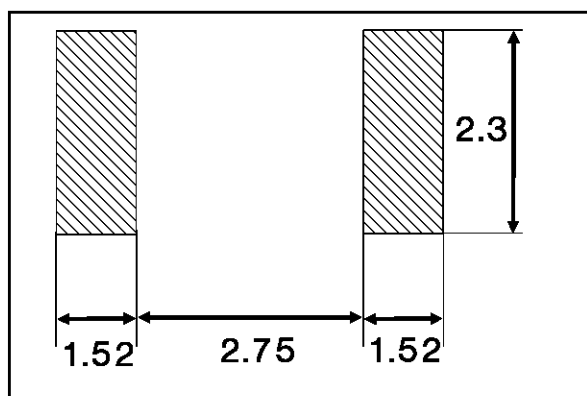
Symbol	Tests Conditions	Tests Conditions	Min.	Typ.	Max.	Unit	
I_R^*	Reverse Leakage Current	$T_j = 25^\circ\text{C}$	$V_R = 25\text{V}$			100	μA
		$T_j = 70^\circ\text{C}$			50	500	
		$T_j = 100^\circ\text{C}$					2
V_F^*	Forward Voltage drop	$T_j = 25^\circ\text{C}$	$I_F = 1\text{ A}$			0.55	V
		$T_j = 70^\circ\text{C}$			0.43	0.50	
		$T_j = 100^\circ\text{C}$			0.37	0.46	

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

To evaluate the maximum conduction losses use the following equation :

$$P = 0.97 \times I_{F(AV)} + 0.090 \times I_{F(RMS)}^2$$

Typical junction capacitance, $V_R = 0\text{V}$ $F = 1\text{MHz}$: 195pF

PACKAGE MECHANICAL DATA
 SOD6 Plastic

FOOT PRINT (in millimeters)


Marking :G12

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