

## LOW DROP 3.3V POWER SCHOTTKY RECTIFIER

### MAIN PRODUCT CHARACTERISTICS

$I_{F(AV)}$	5 A
$V_{RRM}$	25 V
$V_F (max)$	0.35 V

### PRELIMINARY DATASHEET

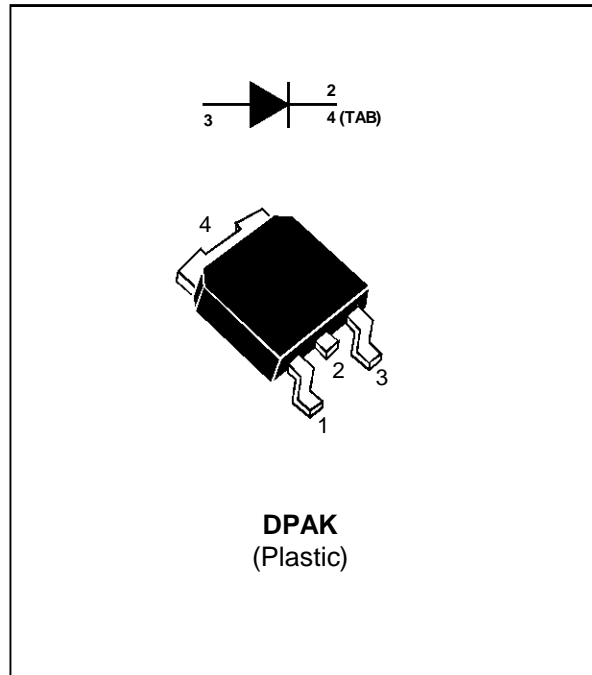
### FEATURES AND BENEFITS

- VERY LOW DROP FORWARD VOLTAGE FOR LESS POWER DISSIPATION AND REDUCED HEATSINK
- OPTIMIZED CONDUCTION/REVERSE LOSSES TRADE-OFF WHICH MEANS THE HIGHEST YIELD IN THE APPLICATIONS
- HIGH POWER SURFACE MOUNT MINIATURE PACKAGE
- TAPE AND REEL OPTION : -TR

### DESCRIPTION

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

Packaged in DPAK, this device is especially intended for use as a Rectifier at the secondary of 3.3V SMPS units.



**DPAK**  
(Plastic)

### ABSOLUTE RATINGS (limiting values)

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	$T_c = 120^\circ\text{C}$ $\delta = 0.5$	5	A
$I_{FSM}$	Surge Non Repetitive Forward Current	$t_p = 10 \text{ ms}$ Sinusoidal	80	A
$I_{RRM}$	Repetitive Peak Reverse Current	$t_p = 2 \mu\text{s}$ $F = 1\text{KHz}$	1	A
$T_{stg}$	Storage Temperature Range		- 65 to + 150	$^\circ\text{C}$
$T_j$	Max. Junction Temperature		125	$^\circ\text{C}$
$dV/dt$	Critical Rate of Rise of Reverse Voltage		1000	$\text{V}/\mu\text{s}$

## STPS5L25B(-TR)

### THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{TH(j-c)}$	Junction to Case Thermal Resistance	2.5	°C/W

### STATIC ELECTRICAL CHARACTERISTICS

Symbol	Tests Conditions	Tests Conditions		Min.	Typ.	Max.	Unit
$I_R^*$	Reverse leakage Current	$T_j = 25^\circ\text{C}$	$V_R = V_{RRM}$			350	$\mu\text{A}$
		$T_j = 125^\circ\text{C}$			55	175	mA
$V_F^*$	Forward Voltage drop	$T_j = 25^\circ\text{C}$	$I_F = 5\text{ A}$			0.47	V
		$T_j = 125^\circ\text{C}$	$I_F = 5\text{ A}$		0.31	0.35	
		$T_j = 125^\circ\text{C}$	$I_F = 10\text{ A}$			0.50	

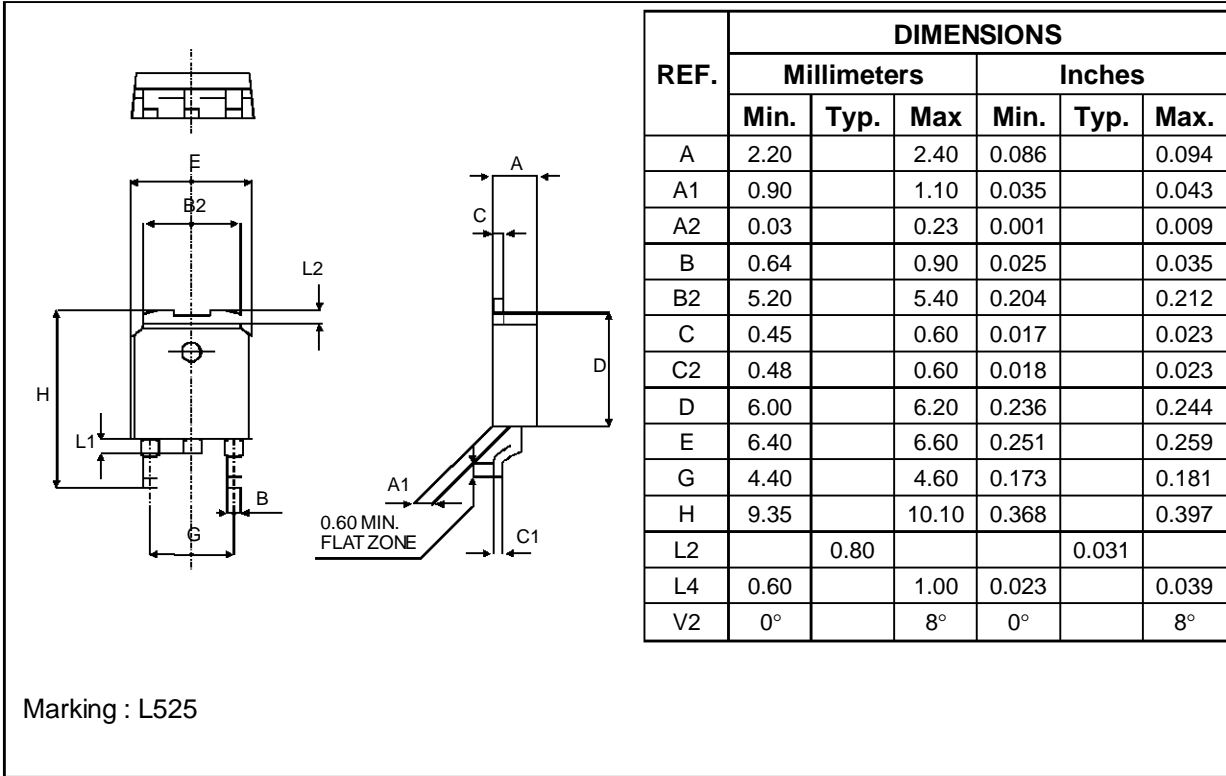
Pulse test : \*  $t_p = 380\ \mu\text{s}$ , duty cycle < 2%

To evaluate the maximum conduction losses use the following equation :

$$P = 0.2 \times I_{F(AV)} + 0.030 I_{F(RMS)}^2$$

Typical junction capacitance,  $V_R = 15\text{V}$      $F = 1\text{MHz}$      $T_j = 25^\circ\text{C}$     : 320pF

**PACKAGE MECHANICAL DATA**  
DPAK



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