

HIGH VOLTAGE POWER SCHOTTKY RECTIFIER

MAIN PRODUCT CHARACTERISTICS

$I_{F(AV)}$	3 A
V_{RRM}	100 V
$V_F(max)$	0.59 V

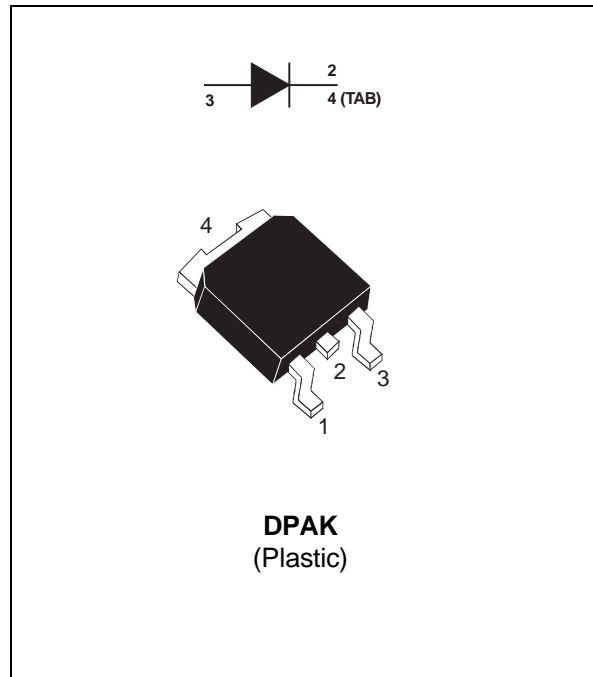
PRELIMINARY DATASHEET
FEATURES AND BENEFITS

- NEGLIGIBLE SWITCHING LOSSES
- LOW FORWARD DROP VOLTAGE
- LOW CAPACITANCE
- HIGH REVERSE AVALANCHE SURGE CAPABILITY
- TAPE AND REEL OPTION : -TR

DESCRIPTION

High voltage Schottky rectifier suited for Switch Mode Power Supplies and other Power Converters.

Packaged in DPAK, this device is intended for use in medium voltage operation, and particularly, in high frequency circuitries where low switching losses are required.


ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter		Value	Unit
V_{RRM}	Repetitive Peak Reverse Voltage		100	V
$I_{F(RMS)}$	RMS Forward Current		6	A
$I_{F(AV)}$	Average Forward Current	$T_{case} = 120^{\circ}C$ $\delta = 0.5$	3	A
I_{FSM}	Surge Non Repetitive Forward Current	$t_p = 10\text{ ms}$ Sinusoidal	50	A
I_{RRM}	Repetitive Peak Reverse Current	$t_p = 2\ \mu s$ $F = 1\text{ KHz}$	1	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	$V/\mu s$

STPS3100B(-TR)

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{TH(j-c)}$	Junction to Case Thermal Resistance	3.5	°C/W

STATIC ELECTRICAL CHARACTERISTICS

Symbol	Tests Conditions	Tests Conditions		Min.	Typ.	Max.	Unit
I_R^*	Reverse leakage Current	$T_j = 25^\circ\text{C}$	$V_R = 100\text{ V}$			30	μA
		$T_j = 125^\circ\text{C}$			4.5	10	mA
V_F^{**}	Forward Voltage drop	$T_j = 25^\circ\text{C}$	$I_F = 3\text{ A}$			0.65	V
		$T_j = 125^\circ\text{C}$	$I_F = 3\text{ A}$		0.55	0.59	

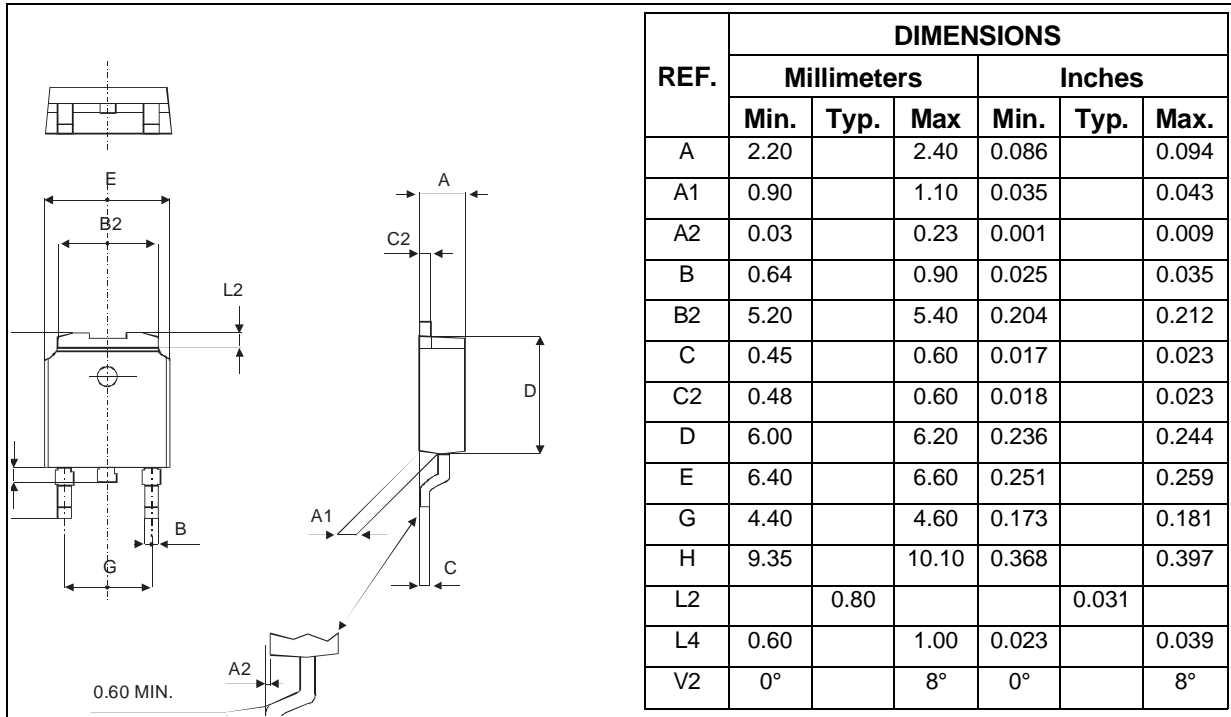
Pulse test : * $t_p = 5\text{ ms}$, duty cycle $< 2\%$

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

To evaluate the maximum conduction losses use the following equation :

$$P = 0.49 \times I_{F(AV)} + 0.035 I_{F(RMS)}^2$$

PACKAGE MECHANICAL DATA
DPAK



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