

## LOW DROP 3.3V POWER SCHOTTKY RECTIFIERS

### MAIN PRODUCT CHARACTERISTICS

$I_{F(AV)}$	<b>2*10 A</b>
$V_{RRM}$	<b>25 V</b>
$V_F (max)$	<b>0.35 V</b>

### PRELIMINARY DATASHEET

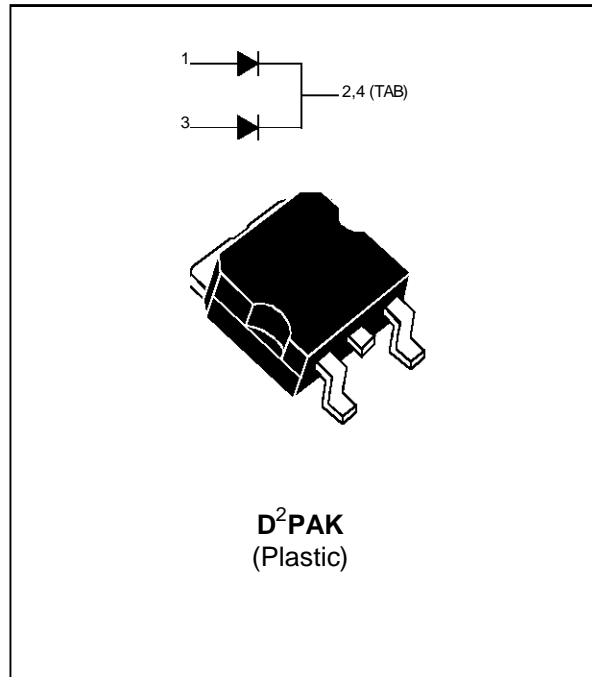
### FEATURES AND BENEFITS

- VERY LOW FORWARD VOLTAGE DROP FOR LESS POWER DISSIPATION AND REDUCED HEATSINK
- OPTIMIZED CONDUCTION/REVERSE LOSSES TRADE-OFF WHICH PROVIDES THE HIGHEST YIELD IN THE APPLICATIONS

### DESCRIPTION

Dual center tap Schottky rectifier suited to Switched Mode Power Supplies and high frequency DC to DC converters.

Packaged in D<sup>2</sup>PAK, this device is especially intended for use as a Rectifier at the secondary of 3.3V SMPS or DC/DC units.



### ABSOLUTE RATINGS (limiting values) PER DIODE

Symbol	Parameter		Value	Unit
$V_{RRM}$	Repetitive Peak Reverse Voltage		25	V
$I_{F(RMS)}$	RMS Forward Current		30	A
$I_{F(AV)}$	Average Forward Current	$T_c = 115^{\circ}C$ $\delta = 0.5$	10	A
$I_{FSM}$	Surge Non Repetitive Forward Current	$t_p = 10 \text{ ms}$ Sinusoidal	200	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	$V/\mu s$

## STPS20L25CG

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### THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
R <sub>th(j-c)</sub>	Junction to Case Thermal Resistance	Per diode	1.5	°C/W
		Total	0.8	
R <sub>th(c)</sub>	Coupling Thermal Resistance		0.1	

### STATIC ELECTRICAL CHARACTERISTICS (per diode)

Symbol	Tests Conditions	Tests Conditions		Min.	Typ.	Max.	Unit
I <sub>R</sub> *	Reverse leakage Current	T <sub>j</sub> = 25°C	V <sub>R</sub> = V <sub>RRM</sub>			800	μA
		T <sub>j</sub> = 125°C			125	400	mA
V <sub>F</sub> *	Forward Voltage drop	T <sub>j</sub> = 25°C	I <sub>F</sub> = 10 A			0.46	V
		T <sub>j</sub> = 125°C	I <sub>F</sub> = 10 A		0.30	0.35	
		T <sub>j</sub> = 125°C	I <sub>F</sub> = 20 A			0.48	

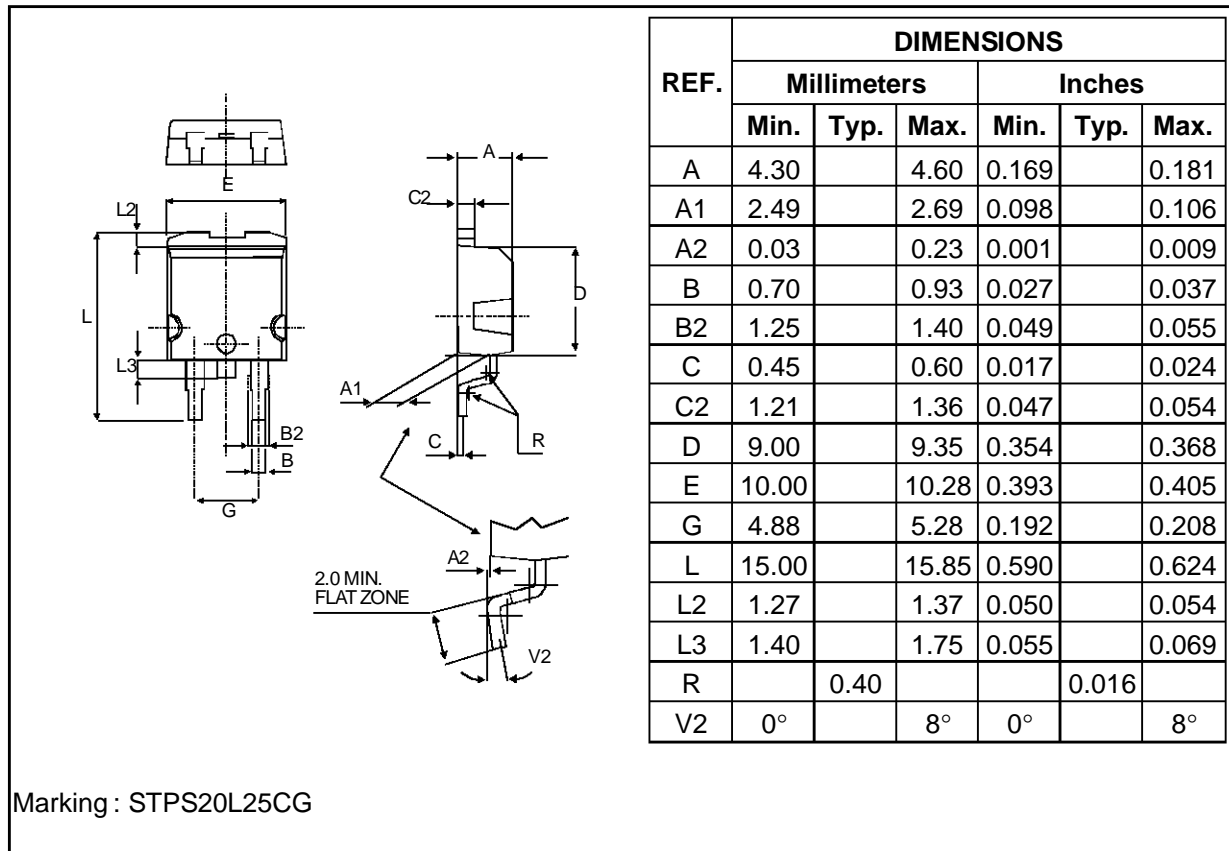
Pulse test : \* tp = 380 μs, duty cycle < 2%

To evaluate the maximum conduction losses use the following equation :

$$P = 0.22 \times I_{F(AV)} + 0.013 I_{F(RMS)}^2$$

Typical junction capacitance, V<sub>R</sub> = 15V      F = 1MHZ      T<sub>j</sub> = 25°C      : 700pF

**PACKAGE MECHANICAL DATA**  
D<sup>2</sup>PAK Plastic



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