

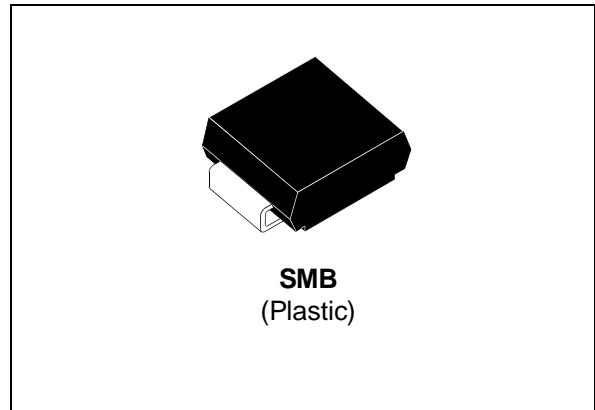
POWER SCHOTTKY RECTIFIERS

MAIN PRODUCT CHARACTERISTICS

$I_{F(AV)}$	1.5 A
V_{RRM}	100 V
V_F (max)	0.70 V

FEATURES AND BENEFITS

- NEGLIGIBLE SWITCHING LOSSES
- LOW FORWARD VOLTAGE DROP
- LOW CAPACITANCE
- HIGH REVERSE AVALANCHE SURGE CAPABILITY



DESCRIPTION

High voltage Schottky rectifier suited for SLIC protection during the card insertion operation.

ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
V_{RRM}	Repetitive Peak Reverse Voltage		100	V
$I_{F(RMS)}$	RMS Forward Current		10	A
$I_{F(AV)}$	Average Forward Current	$T_L = 90^\circ\text{C}$ $\delta = 0.5$ $V_R = 60\text{V}$	1.5	A
I_{FSM}	Surge Non Repetitive Forward Current	$t_p = 10\text{ ms}$ Sinusoidal	75	A
I_{RRM}	Peak Repetitive Reverse Current	$t_p = 2\ \mu\text{s}$ $F = 1\text{KHz}$	1	A
I_{RSM}	Non Repetitive Peak Reverse Current	$t_p = 100\ \mu\text{s}$	1	A
T_{stg} T_J	Storage Temperature Range Max. Operating Junction Temperature		- 65 to + 150 115	$^\circ\text{C}$
dV/dt	Critical Rate of Rise of Reverse Voltage		1000	$\text{V}/\mu\text{s}$

STPS1100U

THERMAL RESISTANCE

Symbol	Parameter	Value	Unit
Rth (j-l)	Junction-leads	20	°C/W

ELECTRICAL CHARACTERISTICS STATIC CHARACTERISTICS

Symbol	Parameter	Tests Conditions		Min.	Typ.	Max.	Unit
I _R *	Reverse leakage current	T _J = 25°C	V _R = V _{RRM}			30	μA
		T _J = 100°C			1	5	mA
V _F **	Forward voltage drop	T _J = 25°C	I _F = 100 mA			0.43	V
		T _J = 25°C	I _F = 3 A			0.95	
		T _J = 100°C	I _F = 1.5 A		0.57	0.71	
		T _J = 100°C	I _F = 3 A		0.67	0.85	

Pulse test : * t_p = 5 ms, duty cycle < 2 %

** t_p = 380 μs, duty cycle < 2%

To evaluate the conduction losses use the following equation:

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

Typical junction capacitance, V_R = 0V F = 1MHz T_J = 25°C C = 365pF

Fig. 1: Average forward power dissipation versus average forward current.

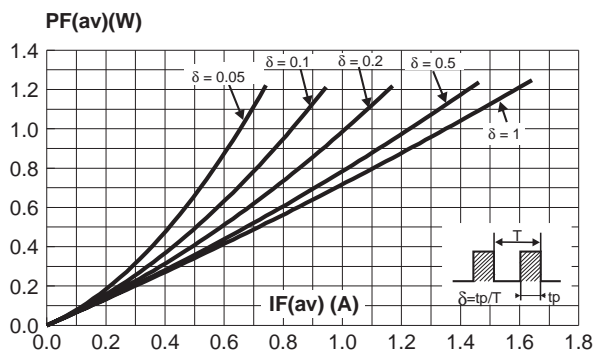


Fig. 2: Average forward current versus ambient temperature (delta=0.5).

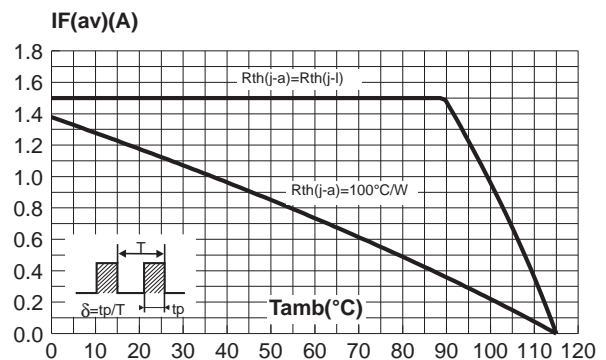


Fig. 3: Non repetitive surge peak forward current versus overload duration; device mounted on printed circuit board S(Cu)=1cm² (maximum values).

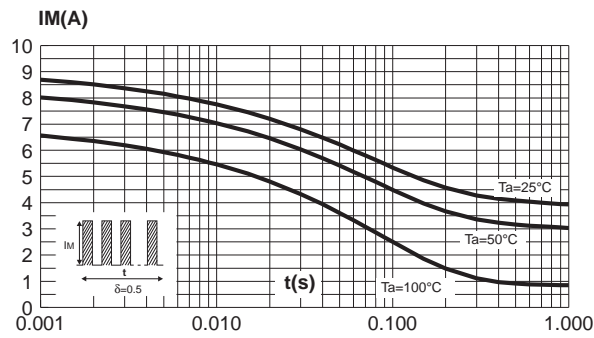


Fig. 4: Relative variation of thermal impedance junction to ambient versus pulse duration.

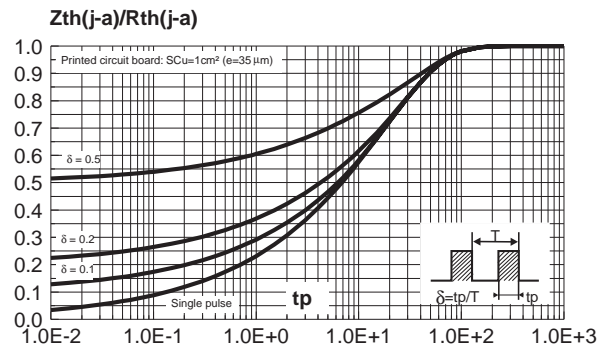


Fig. 5: Variation of thermal resistance junction to ambient versus copper surface under each lead.

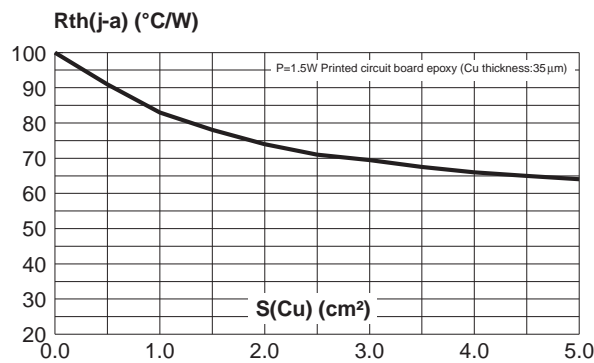


Fig. 6: Reverse leakage current versus reverse voltage applied (typical values).

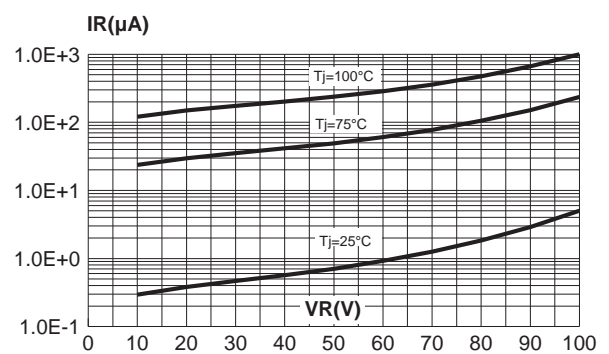


Fig. 7: Junction capacitance versus reverse voltage applied (typical values).

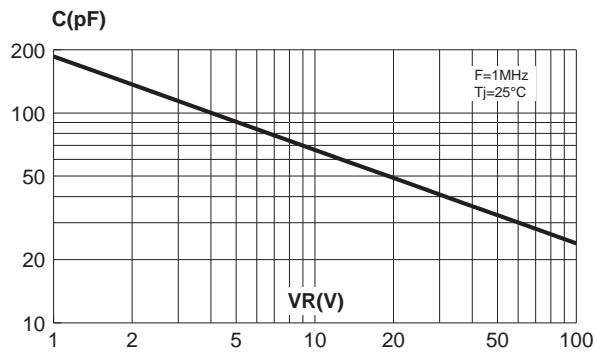
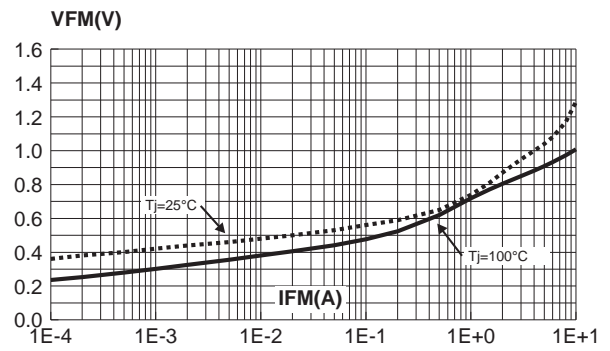
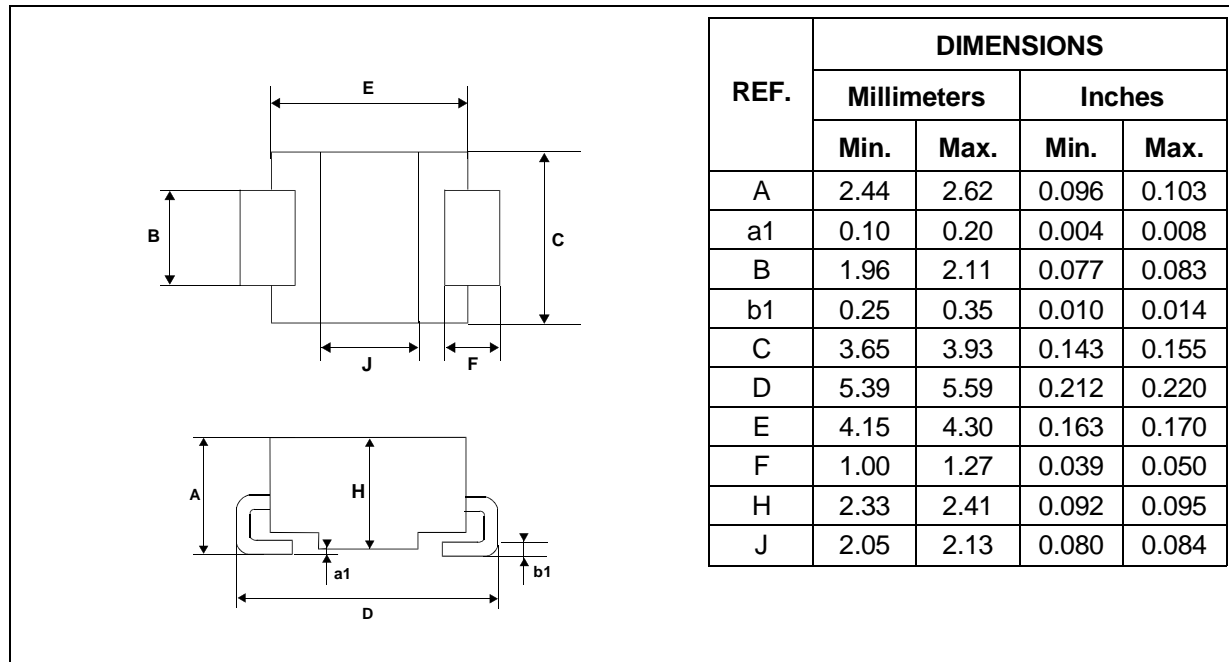


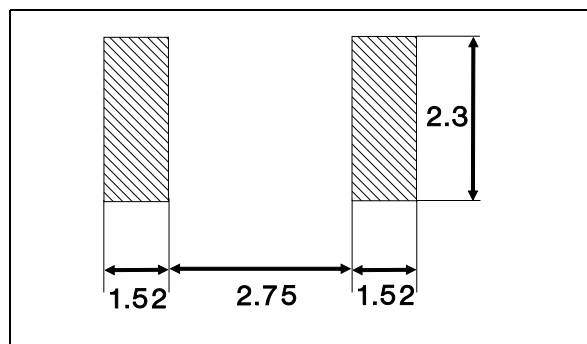
Fig. 8: Forward voltage drop versus forward current (maximum values).



PACKAGE MECHANICAL DATA
SMB (plastic)



FOOTPRINT DIMENSIONS (in millimeters)
SMB (plastic)



Voltage (V)	100
Marking	E11

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