SGS-THOMSON MICROELECTRONICS

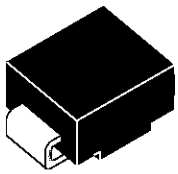
STPS1100U

HIGH VOLTAGE POWER SCHOTTKY RECTIFIER

PRELIMINARY DATASHEET

MAIN PRODUCT CHARACTERISTICS

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



SOD 6
(Plastic)

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°C δ = 0.5 V_R = 60V	1.5	A
I_{FSM}	Surge Non Repetitive Forward Current	tp = 10 ms Sinusoidal	75	A
I_{RRM}	Peak Repetitive Reverse Current	tp=2 µs F=1KHz	1	A
I_{RSM}	Non Repetitive Peak Reverse Current	tp=100 µs	1	A
T_{stg}	Storage Temperature Range		- 65 to + 150	°C
T_j	Max. Junction Temperature		115	°C
dV/dt	Critical Rate of Rise of Reverse Voltage		1000	V/µs

THERMAL RESISTANCE

Symbol	Parameter	Value	Unit
$R_{th\ (j-l)}$	Junction-leads	20	°C/W

ELECTRICAL CHARACTERISTICS

STATIC CHARACTERISTICS

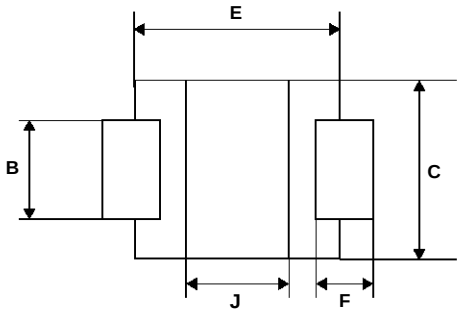
Symbol	Parameter	Tests Conditions		Min.	Typ.	Max.	Unit
V_F *	Forward Voltage Drop	Tj = 25°C	I_F = 100 mA			0.43	V
		Tj = 25°C	I_F = 3 A			0.95	
		Tj = 100°C	I_F = 1.5 A		0.57	0.71	
		Tj = 100°C	I_F = 3 A		0.67	0.85	
I_R **	Reverse Leakage Current	Tj = 25°C	$V_R = V_{RRM}$			30	µA
		Tj = 100°C			1	5	mA

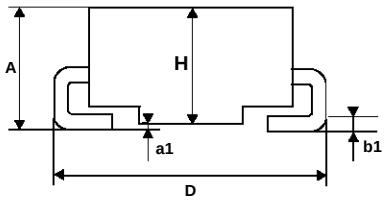
Pulse test : * tp = 380 µs, duty cycle < 2 %
** tp = 5 ms, duty cycle < 2%

To evaluate the conduction losses use the following equation :
$P = 0.65 \times I_{F(AV)} + 0.067\ I_{F}^{2}{}_{(RMS)}$
Typical junction capacitance, V_R = 0V F = 1MHz Tj = 25°C C = 365pF

PACKAGE MECHANICAL DATA

SOD 6 (Plastic)

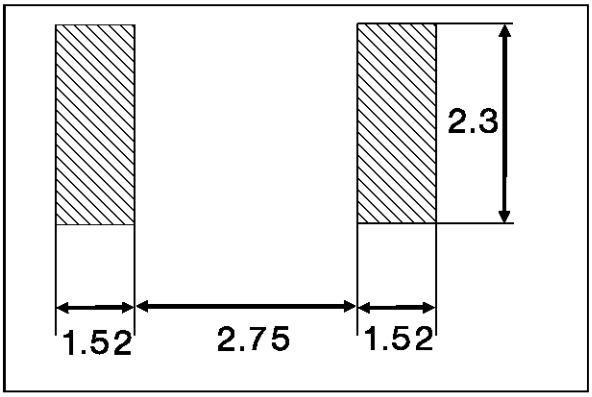




REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.44	2.62	0.096	0.103
a1	0.10	0.20	0.004	0.008
B	1.96	2.11	0.077	0.083
b1	0.25	0.35	0.010	0.014
C	3.65	3.93	0.143	0.155
D	5.39	5.59	0.212	0.220
E	4.15	4.30	0.163	0.170
F	1.00	1.27	0.039	0.050
H	2.33	2.41	0.092	0.095
J	2.05	2.13	0.080	0.084

Weight = 0.12 g.
Laser marking
Logo indicates cathode

FOOTPRINT DIMENSIONS (in millimeters)
SOD6 (Plastic)



Voltage (V)	100
Marking	E11