SGS-THOMSON MICROELECTRONICS

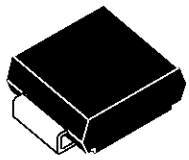
STPS160U

SCHOTTKY RECTIFIER

PRELIMINARY DATASHEET

MAIN PRODUCT CHARACTERISTICS

$I_{F(AV)}$	1 A
V_{RRM}	60 V
V_F (max)	0.57 V



SOD6
(Plastic)

FEATURES AND BENEFITS

- VERY SMALL CONDUCTION LOSSES
- NEGLIGIBLE SWITCHING LOSSES
- LOW FORWARD VOLTAGE DROP
- LOW THERMAL RESISTANCE
- EXTREMELY FAST SWITCHING
- SURFACE MOUNTED DEVICE

DESCRIPTION

Single chip Schottky rectifier suited for Switch-mode Power Supplies and high frequency DC to DC converters.

Packaged in SOD6(*), this device is intended for surface mounting and used in low voltage, high frequency inverters, free wheeling and polarity protection applications.

(*) in accordance with DO214AA standard

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter		Value	Unit
V_{RRM}	Repetitive Peak Reverse Voltage		60	V
$I_{F(RMS)}$	RMS Forward Current		10	A
$I_{F(AV)}$	Average Forward Current	TLead = 90°C d = 0.5	1.5	A
I_{FSM}	Surge Non Repetitive Forward Current	tp = 10 ms Sinusoidal	75	A
I_{RRM}	Repetitive Peak Reverse Current	tp = 2 µs F = 1KHz	1	A
T_{stg}	Storage Temperature Range		- 65 to + 150	°C
Tj	Max. Junction Temperature		125	°C
dV/dt	Critical Rate of Rise of Reverse Voltage		1000	V/µs

THERMAL RESISTANCES

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

STATIC ELECTRICAL CHARACTERISTICS

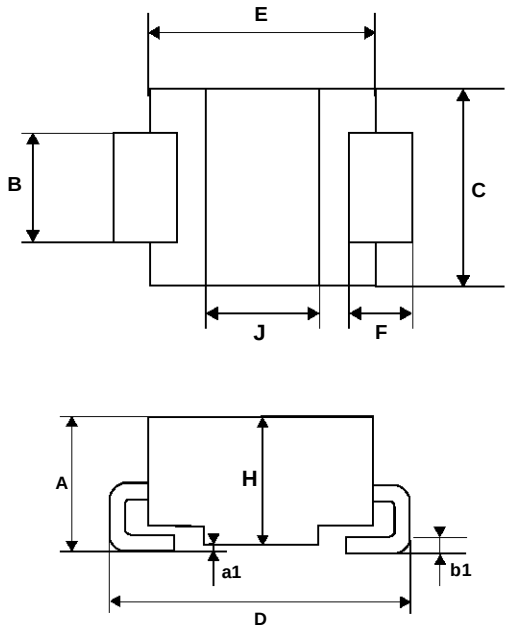
Symbol	Tests Conditions	Tests Conditions		Min.	Typ.	Max.	Unit
I_R *	Reverse Leakage Current	Tj = 25°C	V_R = 60V			5	µA
		Tj = 125°C			1.1	4	mA
V_F **	Forward Voltage drop	Tj = 25°C	I_F = 1 A			0.67	V
		Tj = 125°C	I_F = 1 A		0.49	0.57	

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

To evaluate the maximum conduction losses use the following equation :
$P = 0.65 \times I_{F(AV)} + 0.067 \times I_F{}^2{}_{(RMS)}$
Typical junction capacitance, V_R = 0V F = 1MHz T_j = 25°C C_j = 300pF

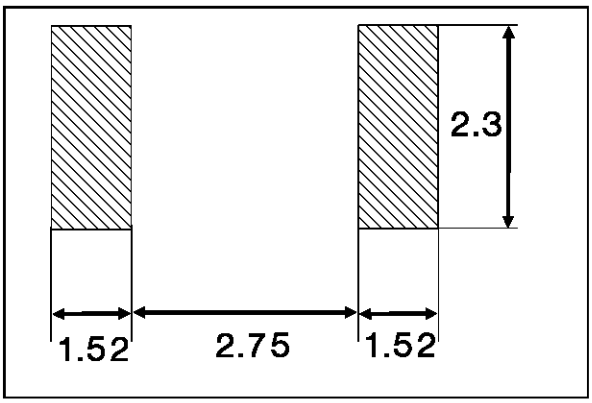
PACKAGE MECHANICAL DATA

SOD6 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

FOOT PRINT (in millimeters)



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