SGS-THOMSON MICROELECTRONICS

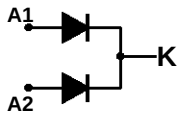
STPS2060CT

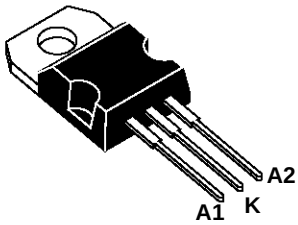
HIGH VOLTAGE POWER SCHOTTKY RECTIFIER

MAIN PRODUCT CHARACTERISTICS

PRELIMINARY DATASHEET

$I_{F(AV)}$	**2 x 10A**
V_{RRM}	**60V**
V_F (typ)	**0.58V**





TO220AB

(Plastic)

FEATURES AND BENEFITS

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

DESCRIPTION

High voltage dual Schottky rectifier suited for switchmode power supplies and other power converters.
Packaged in TO220AB, this device is intended for use in medium voltage operation, and particularly, in high frequency circuitries where low switching losses and low noise are required.

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter			Value	Unit
V_{RRM}	Repetitive peak reverse voltage			60	V
$I_{F(RMS)}$	RMS forward current		Per diode	30	A
$I_{F(AV)}$	Average forward current	Tc=110°C V_R = 60V δ = 0.5	Per diode Per device	10 20	A A
I_{FSM}	Surge non repetitive forward current	tp=10ms sinusoidal	Per diode	200	A
I_{RRM}	Repetitive peak reverse current	tp=2µs F=1KHz	Per diode	1	A
I_{RSM}	Non repetitive peak reverse current	tp=100µs	Per diode	1	A
Tstg	Storage temperature range			- 65 to + 150	°C
Tj	Max. Junction temperature			150	°C
dV/dt	Critical rate of rise of reverse voltage			1000	V/µs

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
Rth (j-c)	Junction to case	Per diode	1.6	°C/W
		Total	0.9	
Rth (c)	Coupling		0.15	°C/W

When the diodes 1 and 2 are used simultaneously :
Tj-Tc(diode 1)=P(diode1) x Rth(j-c)(Per diode) + P(diode 2) x Rth(c)

ELECTRICAL CHARACTERISTICS (Per diode)

STATIC CHARACTERISTICS

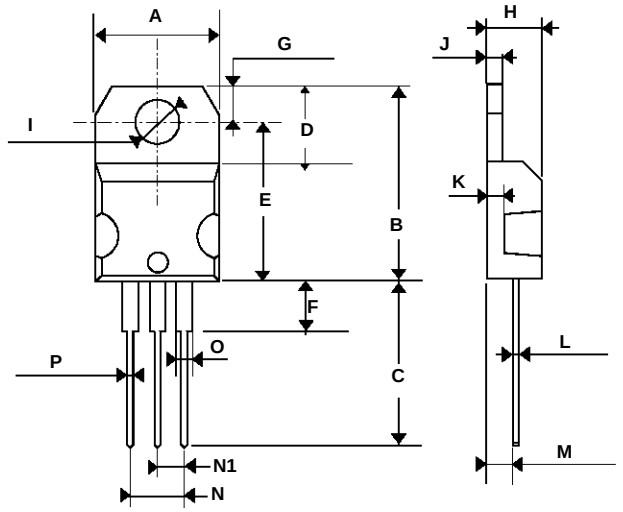
Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I_R *	Reverse leakage current	$V_R = V_{RRM}$	T_j = 25°C			70	µA
			T_j = 125°C			33	mA
V_F **	Forward voltage drop	I_F = 20 A	T_j = 125°C			0.8	V
		I_F = 10 A	T_j = 125°C		0.58	0.67	
		I_F = 20 A	T_j = 25°C			0.94	
C	Capacitance	60 V, 1MHz	Tj = 125°C		150		pF

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

To evaluate the conduction losses use the following equation :
$P = 0.54 \times I_{F(AV)} + 0.013 \times I_F{}^2{}_{(RMS)}$

PACKAGE MECHANICAL DATA (millimeters)

TO220AB Plastic



REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	9.66	10.66	0.380	0.419
B	15.2	15.9	0.598	0.626
C	13	14	0.511	0.551
D	6.2	6.6	0.244	0.260
E	16.4 typ.		0.645 typ.	
F	3.5	4.2	0.137	0.165
G	2.65	2.95	0.104	0.116
H	4.4	4.6	0.173	0.181
I	3.75	3.85	0.147	0.151
J	1.23	1.32	0.048	0.051
K	1.27 typ.		0.050 typ.	
L	0.49	0.70	0.019	0.027
M	2.4	2.72	0.094	0.107
N	4.95	5.15	0.194	0.203
N1	2.40	2.70	0.094	0.106
O	1.14	1.70	0.044	0.067
P	0.61	0.88	0.024	0.034

Cooling method : by conduction (methode C)
Marking : Type number
Weigth : 2 g
Recommended torque value : 0.8m.N
Maximum torque value : 1m.N