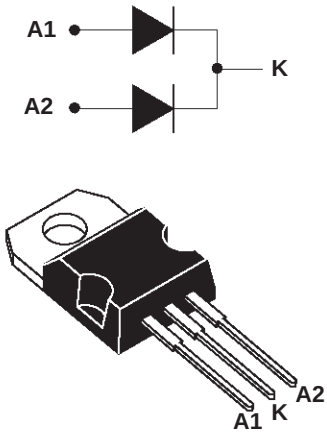
STPS2060CT

POWER SCHOTTKY RECTIFIER

MAIN PRODUCT CHARACTERISTICS

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



TO-220AB

FEATURES AND BENEFITS

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

DESCRIPTION

High voltage dual Schottky rectifier suited to Switch Mode Power Supplies and other Power Converters.

Packaged in TO-220AB, this device is intended for use in medium voltage operation, and particularly, in high frequency circuitries where low switching losses are required.

ABSOLUTE R ATINGS (limiting values)

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	Tcase = 120°C V_R = 60V δ = 0.5	Per diode Per device	10 20	A
I_{FSM}	Surge non repetitive forward current	tp = 10 ms Sinusoidal	Per diode	200	A
I_{RRM}	Repetitive peak reverse current	tp = 2 µs F = 1kHz	Per diode	1	A
I_{RSM}	Non repetitive peak reverse current	tp = 100 µs	Per diode	1	A
T_{stg}	Storage temperature range			- 65 to + 150	°C
Tj	Maximum junction temperature			150	
dV/dt	Critical rate of rise of reverse voltage			10000	V/µs

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	Junction to case	Per diode	1.6	°C/W
		Total	0.9	
$R_{th(c)}$		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 STATIC CHARACTERISTICS (per diode)

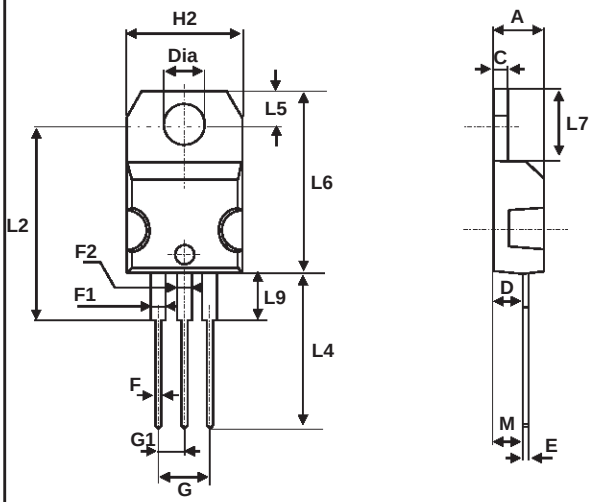
Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I_R *	Reverse leakage current	$V_R = V_{RRM}$	T_j = 25°C			70	µA
			T_j = 125°C			33	mA
V_F **	Forward voltage drop	I_F = 20 A	T_j = 125°C			0.8	V
		I_F = 10 A	T_j = 125°C		0.58	0.67	
		I_F = 20 A	T_j = 25°C			0.94	
C	Capacitance	60 V, 1MHz	Tj = 125°C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

TO-220AB



REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.40	4.60	0.173	0.181
C	1.23	1.32	0.048	0.051
D	2.40	2.72	0.094	0.107
E	0.49	0.70	0.019	0.027
F	0.61	0.88	0.024	0.034
F1	1.14	1.70	0.044	0.066
F2	1.14	1.70	0.044	0.066
G	4.95	5.15	0.194	0.202
G1	2.40	2.70	0.094	0.106
H2	10	10.40	0.393	0.409
L2	16.4 typ.		0.645 typ.	
L4	13	14	0.511	0.551
L5	2.65	2.95	0.104	0.116
L6	15.25	15.75	0.600	0.620
L7	6.20	6.60	0.244	0.259
L9	3.50	3.93	0.137	0.154
M	2.6 typ.		0.102 typ.	
Diam.	3.75	3.85	0.147	0.151