SGS-THOMSON
MICROELECTRONICS

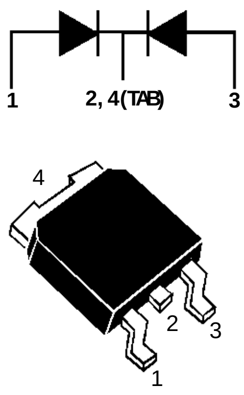
STPS640CB(-TR)

POWER SCHOTTKY RECTIFIER

MAIN PRODUCT CHARACTERISTICS

PRELIMINARY DATASHEET

$I_{F(AV)}$	**2x3 A**
V_{RRM}	**40 V**
V_F (max)	**0.57 V**



DPAK
(Plastic)

FEATURES AND BENEFITS

- NEGLIGIBLE SWITCHING LOSSES
- LOW FORWARD DROP VOLTAGE
- LOW CAPACITANCE
- HIGH REVERSE AVALANCHE SURGE CAPABILITY
- TAPE AND REEL OPTION : -TR

DESCRIPTION

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

Packaged in DPAK, this device is intended for use in medium voltage operation, and particulary, in high frequency circuitries where low switching losses are required.

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter		Value	Unit
V_{RRM}	Repetitive Peak Reverse Voltage		40	V
$I_{F(RMS)}$	RMS Forward Current		6	A
$I_{F(AV)}$	Average Forward Current	Tcase = 120°C $\delta = 0.5$	3	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		150	°C
dV/dt	Critical Rate of Rise of Reverse Voltage		1000	V/µs

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{TH\ (j-c)}$	Junction to Case Thermal Resistance	Per diode	5.5	°C/W
		Total	3	

STATIC ELECTRICAL CHARACTERISTICS

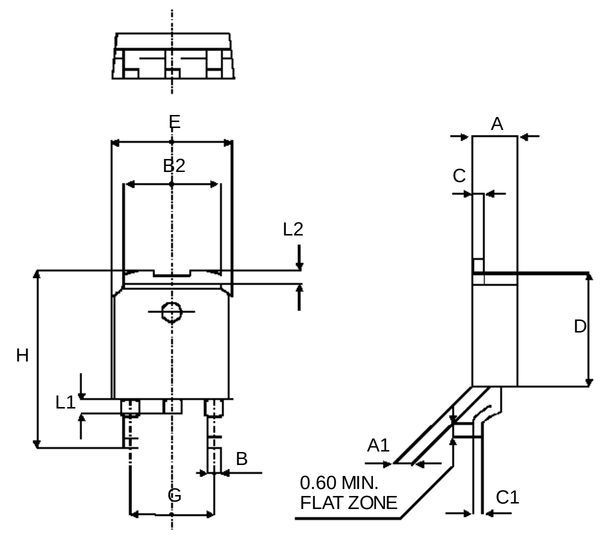
Symbol	Tests Conditions	Tests Conditions		Min.	Typ.	Max.	Unit
I_R *	Reverse leakage Current	Tj = 25°C	V_R = 40 V			100	µA
		Tj = 125°C			2	10	mA
V_F **	Forward Voltage drop	Tj = 25°C	I_F = 6 A			0.84	V
		Tj = 125°C	I_F = 3 A		0.5	0.57	

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

To evaluate the maximum conduction losses use the following equation :
$P = 0.42 \times I_{F(AV)} + 0.050\ I_F{}^2{}_{(RMS)}$
Typical junction capacitance, $V_R = 0$ V F = 1MHz Tj = 25°C C = 130pF

PACKAGE MECHANICAL DATA

DPAK



REF.	DIMENSIONS					
	Millimeters			Inches		
	Min.	Typ.	Max	Min.	Typ.	Max.
A	2.20		2.40	0.086		0.094
A1	0.90		1.10	0.035		0.043
B	0.64		0.90	0.025		0.035
B2	5.20		5.40	0.204		0.212
C	0.45		0.60	0.017		0.023
C1	0.48		0.60	0.018		0.023
D	6.00		6.20	0.236		0.244
E	6.40		6.60	0.251		0.259
G	4.40		4.60	0.173		0.181
H	9.35		10.10	0.368		0.397
L1	0.60		1.00	0.023		0.039
L2		0.80			0.031	

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