SGS-THOMSON MICROELECTRONICS

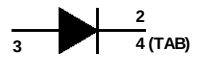
STPS5L25B(-TR)

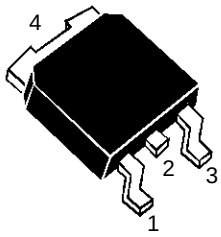
LOW DROP 3.3V POWER SCHOTTKY RECTIFIER

MAIN PRODUCT CHARACTERISTICS

PRELIMINARY DATASHEET

$I_{F(AV)}$	**5 A**
V_{RRM}	**25 V**
V_F **(max)**	**0.35 V**





DPAK
(Plastic)

FEATURES AND BENEFITS

- VERY LOW DROP FORWARD VOLTAGE FOR LESS POWER DISSIPATION AND REDUCED HEATSINK
- OPTIMIZED CONDUCTION/REVERSE LOSSES TRADE-OFF WHICH MEANS THE HIGHEST YIELD IN THE APPLICATIONS
- HIGH POWER SURFACE MOUNT MINIATURE PACKAGE
- TAPE AND REEL OPTION : -TR

DESCRIPTION

Single Schottky rectifier suited to Switched Mode Power Supplies and high frequency DC to DC converters.

Packaged in DPAK, this device is especially intended for use as a Rectifier at the secondary of 3.3V SMPS units.

ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
V_{RRM}	Repetitive Peak Reverse Voltage		25	V
$I_{F(RMS)}$	RMS Forward Current		7	A
$I_{F(AV)}$	Average Forward Current	Tc = 120°C δ = 0.5	5	A
I_{FSM}	Surge Non Repetitive Forward Current	tp = 10 ms Sinusoidal	80	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
$R_{TH\ (j-c)}$	Junction to Case Thermal Resistance	2.5	°C/W

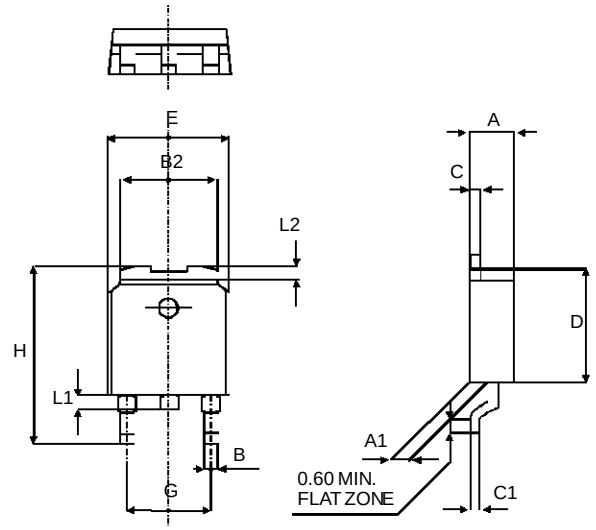
STATIC ELECTRICAL CHARACTERISTICS

Symbol	Tests Conditions	Tests Conditions		Min.	Typ.	Max.	Unit
I_R *	Reverse leakage Current	Tj = 25°C	$V_R = V_{RRM}$			350	µA
		Tj = 125°C			55	175	mA
V_F *	Forward Voltage drop	Tj = 25°C	I_F = 5 A			0.47	V
		Tj = 125°C	I_F = 5 A		0.31	0.35	
		Tj = 125°C	I_F = 10 A			0.50	

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

To evaluate the maximum conduction losses use the following equation :
$P = 0.2 \times I_{F(AV)} + 0.030\ I_F{}^2{}_{(RMS)}$
Typical junction capacitance, V_R = 15V F = 1MHz Tj = 25°C : 320pF

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
A2	0.03		0.23	0.001		0.009
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
C2	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
L2		0.80			0.031	
L4	0.60		1.00	0.023		0.039
V2	0°		8°	0°		8°

Marking : L525