SGS-THOMSON MICROELECTRONICS

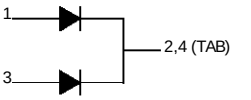
STPS20L25CG

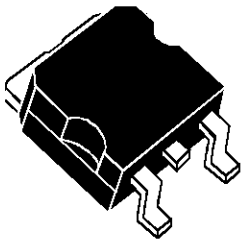
LOW DROP 3.3V POWER SCHOTTKY RECTIFIERS

MAIN PRODUCT CHARACTERISTICS

PRELIMINARY DATASHEET

$I_{F(AV)}$	2*10 A
V_{RRM}	25 V
V_F (max)	0.35 V





D^2PAK
(Plastic)

FEATURES AND BENEFITS

- VERY LOW FORWARD VOLTAGE DROP FOR LESS POWER DISSIPATION AND REDUCED HEATSINK
- OPTIMIZED CONDUCTION/REVERSE LOSSES TRADE-OFF WHICH PROVIDES THE HIGHEST YIELD IN THE APPLICATIONS

DESCRIPTION

Dual center tap Schottky rectifier suited to Switched Mode Power Supplies and high frequency DC to DC converters.

Packaged in D^2PAK, this device is especially intended for use as a Rectifier at the secondary of 3.3V SMPS or DC/DC units.

ABSOLUTE RATINGS (limiting values) PER DIODE

Symbol	Parameter		Value	Unit
V_{RRM}	Repetitive Peak Reverse Voltage		25	V
$I_{F(RMS)}$	RMS Forward Current		30	A
$I_{F(AV)}$	Average Forward Current	Tc = 115°C δ = 0.5	10	A
I_{FSM}	Surge Non Repetitive Forward Current	tp = 10 ms Sinusoidal	200	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	Per diode	1.5	°C/W
		Total	0.8	
$R_{th\ (c)}$	Coupling Thermal Resistance		0.1	

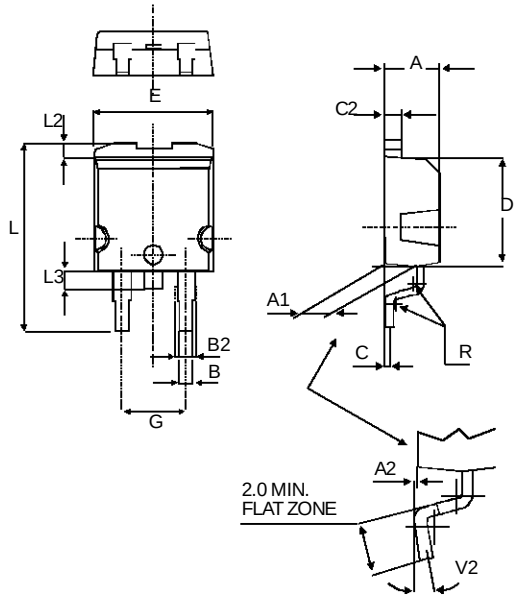
STATIC ELECTRICAL CHARACTERISTICS (per diode)

Symbol	Tests Conditions	Tests Conditions		Min.	Typ.	Max.	Unit
I_R *	Reverse leakage Current	Tj = 25°C	$V_R = V_{RRM}$			800	µA
		Tj = 125°C			125	400	mA
V_F *	Forward Voltage drop	Tj = 25°C	I_F = 10 A			0.46	V
		Tj = 125°C	I_F = 10 A		0.30	0.35	
		Tj = 125°C	I_F = 20 A			0.48	

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

To evaluate the maximum conduction losses use the following equation :
$P = 0.22 \times I_{F(AV)} + 0.013\ I_F{}^2{}_{(RMS)}$
Typical junction capacitance, V_R = 15V F = 1MHZ Tj = 25°C : 700pF

PACKAGE MECHANICAL DATA
D^2PAK Plastic



REF.	DIMENSIONS					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.30		4.60	0.169		0.181
A1	2.49		2.69	0.098		0.106
A2	0.03		0.23	0.001		0.009
B	0.70		0.93	0.027		0.037
B2	1.25		1.40	0.049		0.055
C	0.45		0.60	0.017		0.024
C2	1.21		1.36	0.047		0.054
D	9.00		9.35	0.354		0.368
E	10.00		10.28	0.393		0.405
G	4.88		5.28	0.192		0.208
L	15.00		15.85	0.590		0.624
L2	1.27		1.37	0.050		0.054
L3	1.40		1.75	0.055		0.069
R		0.40			0.016	
V2	0°		8°	0°		8°

Marking : STPS20L25CG