STPS120L15TV

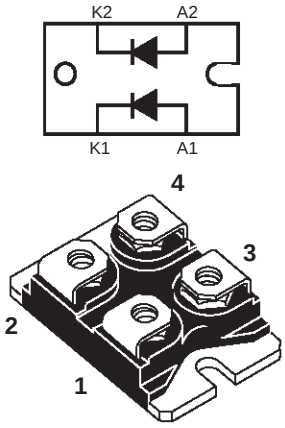
LOW DROP OR-ing POWER SCHOTTKY RECTIFIER

MAIN PRODUCT CHARACTERISTICS

$I_{F(AV)}$	2 x 60 A
V_{RRM}	15 V
V_F (max)	0.31 V

FEATURES AND BENEFITS

- VERY LOW DROP FORWARD VOLTAGE FOR LESS POWER DISSIPATION AND REDUCED HEATSINK



ISOTOPTM
(Plastic)

DESCRIPTION

Dual Schottky rectifier suited for Switched Mode Power Supplies and DC to DC power converters.

Packaged in ISOTOP™, this device is especially intended for use as an OR-ing diode in fault tolerant Power Supplies equipments.

ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
V_{RRM}	Repetitive peak reverse voltage		15	V
$I_{F(RMS)}$	RMS forward current		160	A
$I_{F(AV)}$	Average forward current	Tc = 80°C δ = 1	60	A
I_{FSM}	Surge non repetitive forward current	tp = 10 ms Sinusoidal	1200	A
I_{RRM}	Repetitive peak reverse current	tp = 2 µs F = 1kHz	2	A
T_{stg}	Storage temperature range		- 65 to + 150	°C
Tj	Maximum junction temperature		100	
dV/dt	Critical rate of rise of reverse voltage		10000	V/µs

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THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th\ (j-c)}$	Junction to case	Per diode	0.45	°C/W
		Total	0.28	
$R_{th\ (c)}$		Coupling	0.1	

STATIC ELECTRICAL CHARACTERISTICS (per diode)

Symbol	Parameter	Tests Conditions		Min.	Typ.	Max.	Unit
I_R *	Reverse leakage current	Tj = 100°C	V_R = 5V		450		mA
		Tj = 25°C	V_R = 10V			22	mA
		Tj = 100°C			0.7	2.2	A
V_F *	Forward voltage drop	Tj = 25°C	I_F = 60 A			0.43	V
		Tj = 100°C	I_F = 60 A		0.27	0.31	

Pulse test : * tp = 380 µs, δ < 2%

To evaluate the conduction losses use the following equation :
$P = 0.18 \times I_{F(AV)} + 2.2\ 10^{-3} \times I_F{}^2{}_{(RMS)}$
Typical junction capacitance, V_R = 5V F = 1MHZ Tj = 25°C : 8nF

Fig. 1: Average forward power dissipation versus average forward current (per diode).

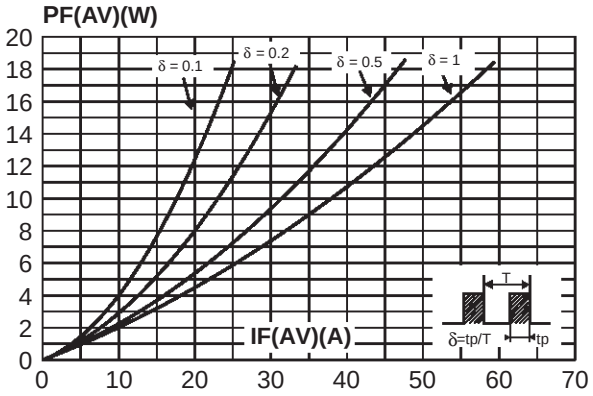


Fig. 2: Average forward current versus ambient temperature (δ =1) (per diode).

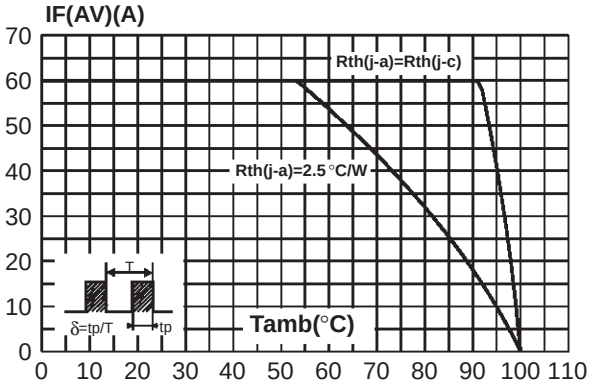


Fig. 3: Non repetitive surge peak forward current versus overload duration (maximum values per diode).

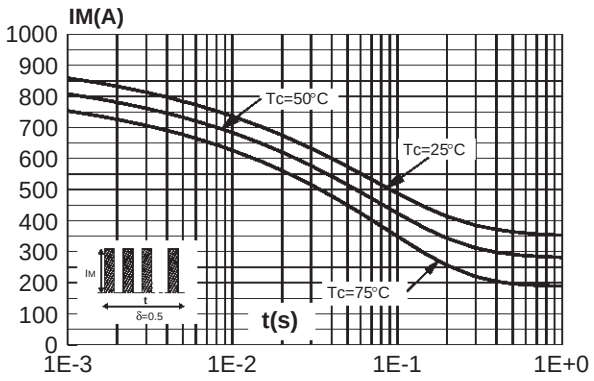


Fig. 4: Relative variation of thermal impedance junction to case versus pulse duration.

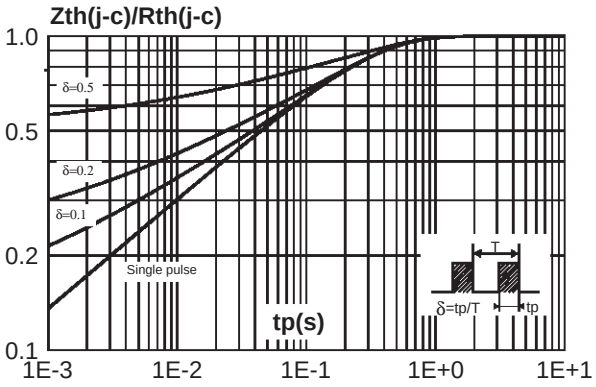


Fig. 5: Reverse leakage current versus reverse voltage applied (typical values per diode).

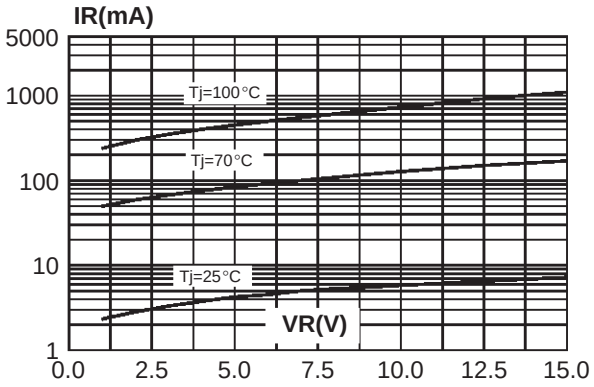


Fig. 6: Junction capacitance versus reverse voltage applied (typical values per diode).

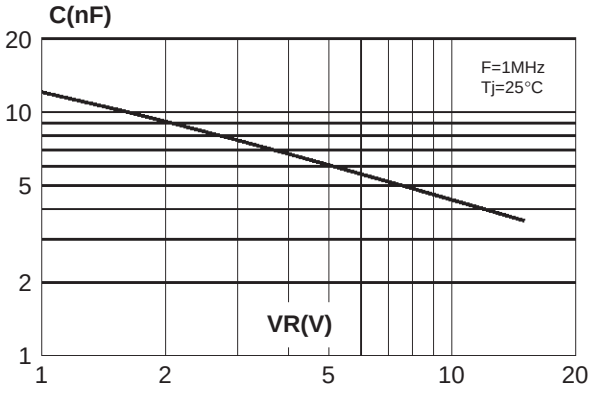
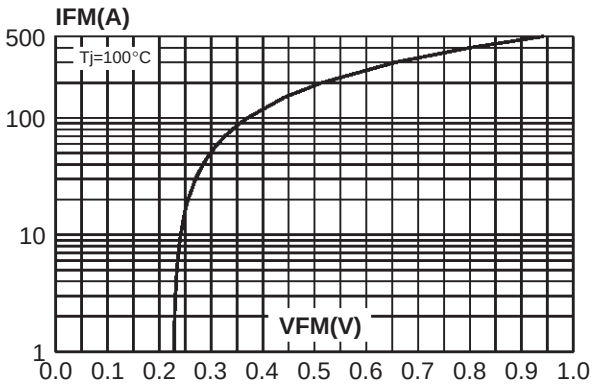
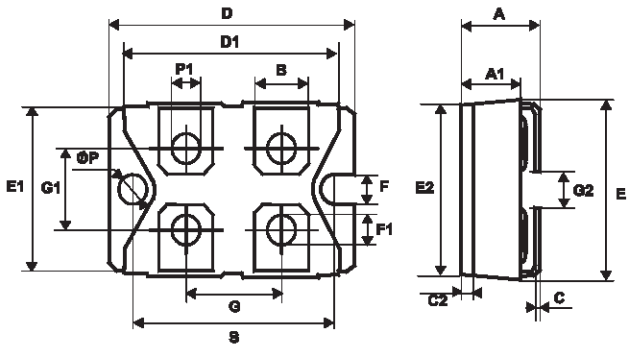


Fig. 7: Forward voltage drop versus forward current (maximum values per diode).



PACKAGE MECHANICAL DATA

ISOTOP



REF.	DIMENSIONS					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	11.80		12.20	0.465		0.480
A1	8.90		9.10	0.350		0.358
B	7.8		8.20	0.307		0.323
C	0.75		0.85	0.030		0.033
C2	1.95		2.05	0.077		0.081
D	37.80		38.20	1.488		1.504
D1	31.50		31.70	1.240		1.248
E	25.15		25.50	0.990		1.004
E1	23.85		24.15	0.939		0.951
E2		24.80			0.976	
G	14.90		15.10	0.587		0.594
G1	12.60		12.80	0.496		0.504
G2	3.50		4.30	0.138		0.169
F	4.10		4.30	0.161		0.169
F1	4.60		5.00	0.181		0.197
P	4.00		4.30	0.157		0.69
P1	4.00		4.40	0.157		0.173
S	30.10		30.30	1.185		1.193

- **Marking**:
- Weight = 28g (without screws)