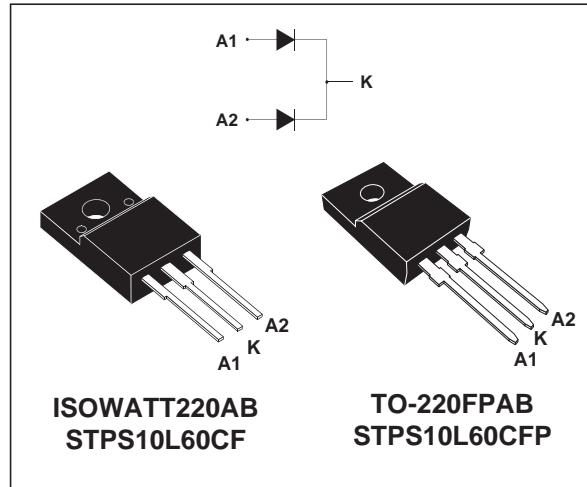


**POWER SCHOTTKY RECTIFIER**
**MAIN PRODUCT CHARACTERISTICS**

<b>I<sub>F(AV)</sub></b>	<b>2 x 5 A</b>
<b>V<sub>RRM</sub></b>	<b>60 V</b>
<b>T<sub>j</sub> (max)</b>	<b>150 °C</b>
<b>V<sub>F</sub> (max)</b>	<b>0.52 V</b>

**FEATURES AND BENEFITS**

- LOW FORWARD VOLTAGE DROP
- NEGLIGIBLE SWITCHING LOSSES
- INSULATED PACKAGE:  
Insulating voltage = 2000V DC  
Capacitance = 12pF
- AVALANCHE CAPABILITY SPECIFIED


**DESCRIPTION**

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

Packaged in ISOWATT220AB, TO-220FPAB this device is intended for use in high frequency inverters.

**ABSOLUTE RATINGS** (limiting values, per diode)

Symbol	Parameter				Value	Unit
V <sub>RRM</sub>	Repetitive peak reverse voltage				60	V
I <sub>F(RMS)</sub>	RMS forward current				30	A
I <sub>F(AV)</sub>	Average forward current	ISOWATT220AB TO220FPAB	T <sub>c</sub> = 130°C δ = 0.5	Per diode Per device	5 10	A
I <sub>FSM</sub>	Surge non repetitive forward current		tp = 10 ms Sinusoidal		180	A
I <sub>RRM</sub>	Repetitive peak reverse current		tp = 2 μs square F = 1kHz		1	A
P <sub>ARM</sub>	Repetitive peak avalanche power		tp = 1μs T <sub>j</sub> = 25°C		4000	W
T <sub>stg</sub>	Storage temperature range				- 65 to + 175	°C
T <sub>j</sub>	Maximum operating junction temperature *				150	°C
dV/dt	Critical rate of rise reverse voltage				10000	V/μs

\* :  $\frac{dP_{tot}}{dT_j} < \frac{1}{R_{th}(j - a)}$  thermal runaway condition for a diode on its own heatsink

## STPS10L60CF/CFP

### THERMAL RESISTANCE

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	Junction to case ISOWATT220AB TO-220FPAB	4.5 3.5	°C/W
$R_{th(c)}$	Per Diode Total	2.5	°C/W

When the diodes 1 and 2 are used simultaneously :  
 $\Delta T_j(\text{diode } 1) = P(\text{diode } 1) \times R_{th(j-c)}(\text{Per diode}) + P(\text{diode } 2) \times R_{th(c)}$

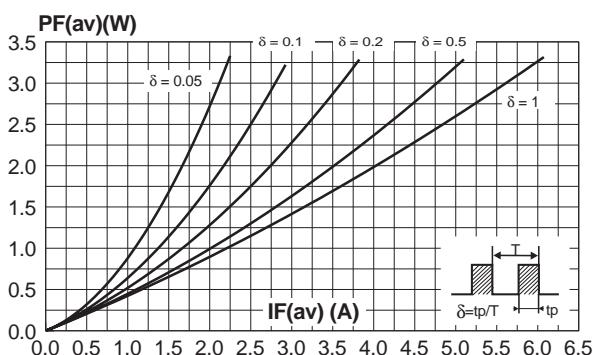
### STATIC ELECTRICAL CHARACTERISTICS (per diode)

Symbol	Parameter	Tests conditions		Min.	Typ.	Max.	Unit
$I_R^*$	Reverse leakage current	$T_j = 25^\circ\text{C}$	$V_R = V_{RRM}$			220	µA
		$T_j = 125^\circ\text{C}$			45	60	mA
$V_F^*$	Forward voltage drop	$T_j = 25^\circ\text{C}$	$I_F = 5 \text{ A}$			0.55	V
		$T_j = 125^\circ\text{C}$	$I_F = 5 \text{ A}$		0.43	0.52	
		$T_j = 25^\circ\text{C}$	$I_F = 10 \text{ A}$			0.67	
		$T_j = 125^\circ\text{C}$	$I_F = 10 \text{ A}$		0.55	0.64	

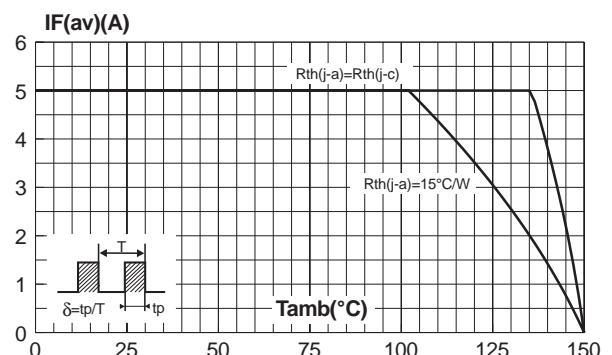
Pulse test : \*  $t_p = 380 \mu\text{s}$ ,  $\delta < 2\%$

To evaluate the conduction losses use the following equation :  
 $P = 0.4x I_{F(AV)} + 0.024 I_{F}^2(\text{RMS})$

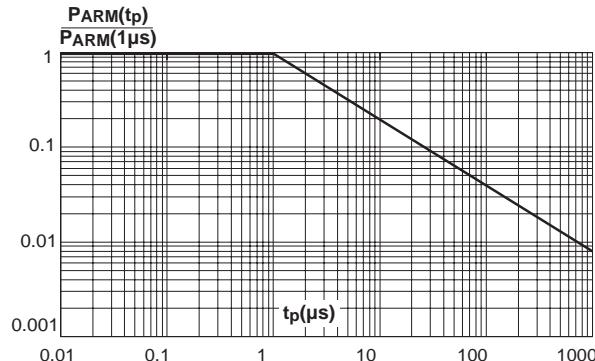
**Fig. 1:** Average forward power dissipation versus average forward current (per diode).



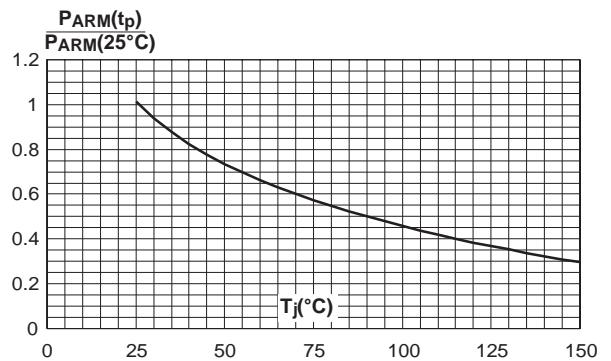
**Fig. 2:** Average current versus ambient temperature ( $\delta=0.5$ ) (per diode).



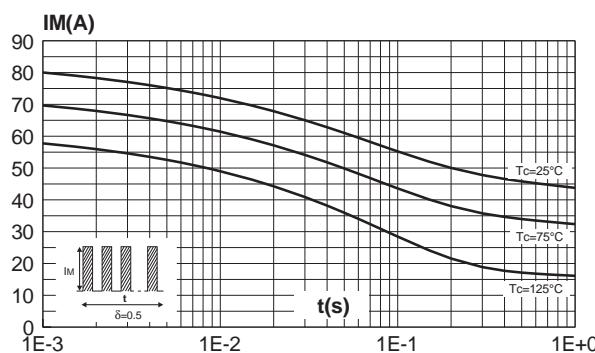
**Fig. 3:** Normalized avalanche power derating versus pulse duration.



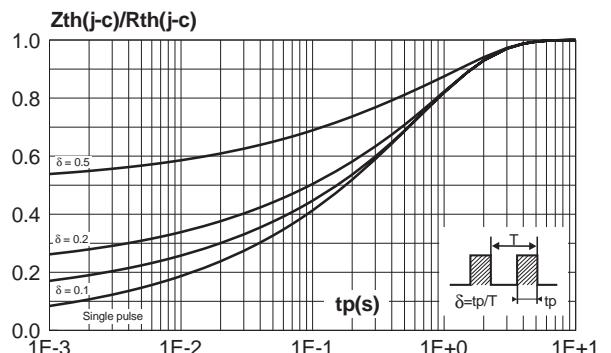
**Fig. 4:** Normalized avalanche power derating versus junction temperature.



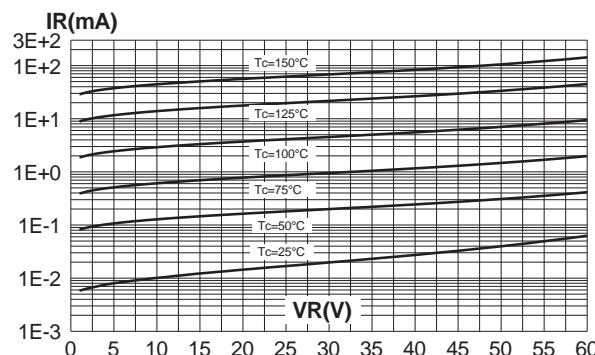
**Fig. 5:** Non repetitive surge peak forward current versus overload duration (maximum values, per diode) (ISOWATT220AB, TO-220FPAB).



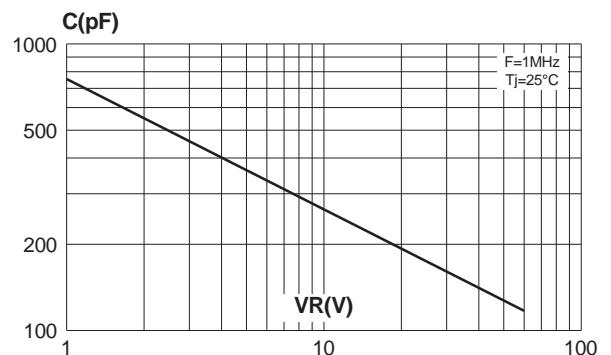
**Fig. 6:** Relative variation of thermal transient impedance junction to case versus pulse duration. (ISOWATT220AB, TO-220FPAB).



**Fig. 7:** Reverse leakage current versus reverse voltage applied (typical values, per diode).

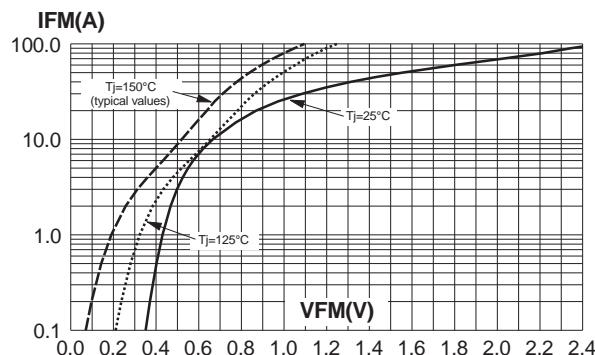


**Fig. 8:** Junction capacitance versus reverse voltage applied (typical values, per diode).



## STPS10L60CF/CFP

**Fig. 9:** Forward voltage drop versus forward current (maximum values, per diode).



### PACKAGE MECHANICAL DATA ISOWATT220AB

REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.40	4.60	0.173	0.181
B	2.50	2.70	0.098	0.106
D	2.50	2.75	0.098	0.108
E	0.40	0.70	0.016	0.028
F	0.75	1.00	0.030	0.039
F1	1.15	1.70	0.045	0.067
F2	1.15	1.70	0.045	0.067
G	4.95	5.20	0.195	0.205
G1	2.40	2.70	0.094	0.106
H	10.00	10.40	0.394	0.409
L2	16.00	Typ.	0.630	Typ.
L3	28.60	30.60	1.125	1.205
L4	9.80	10.60	0.386	0.417
L6	15.90	16.40	0.626	0.646
L7	9.00	9.30	0.354	0.366
Diam	3.00	3.20	0.118	0.126

- Cooling method: C
- Recommended torque value: 0.55 m.N
- Maximum torque value: 0.70 m.N

## PACKAGE MECHANICAL DATA

TO-220FPAB

REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.4	4.6	0.173	0.181
B	2.5	2.7	0.098	0.106
D	2.5	2.75	0.098	0.108
E	0.45	0.70	0.018	0.027
F	0.75	1	0.030	0.039
F1	1.15	1.70	0.045	0.067
F2	1.15	1.70	0.045	0.067
G	4.95	5.20	0.195	0.205
G1	2.4	2.7	0.094	0.106
H	10	10.4	0.393	0.409
L2	16 Typ.		0.63 Typ.	
L3	28.6	30.6	1.126	1.205
L4	9.8	10.6	0.386	0.417
L5	2.9	3.6	0.114	0.142
L6	15.9	16.4	0.626	0.646
L7	9.00	9.30	0.354	0.366
Dia.	3.00	3.20	0.118	0.126

Ordering type	Marking	Package	Weight	Base qty	Delivery mode
STPS10L60CF	STPS10L60CF	ISOWATT220AB	2.08g	50	Tube
STPS10L60CF	STPS10L60CF	ISOWATT220AB	2.08g	1000	Bulk
STPS10L60CFP	STPS10L60CFP	TO-220FPAB	2 g	50	Tube

- Epoxy meets UL94,V0

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