

STPS10L60CF/CFP

POWER SCHOTTKY RECTIFIER

MAIN PRODUCT CHARACTERISTICS

I _{F(AV)}	2 x 5 A
V _{RRM}	60 V
Tj (max)	150 °C
V _F (max)	0.52 V

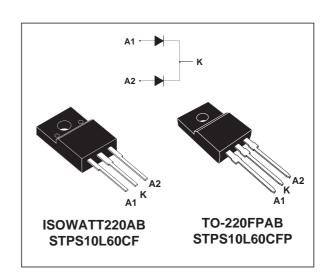
FEATURES AND BENEFITS

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



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 _{RRM}	Repetitive peak reverse voltage				60	V
I _{F(RMS)}	RMS forward current				30	А
I _{F(AV)}	Average forward current	5 10	А			
I _{FSM}	Surge non repetitive forward current tp = 10 ms Sinusoidal				180	А
I _{RRM}	Repetitive peak rev	1	Α			
T _{stg}	Storage temperatur	- 65 to + 175	°C			
Tj	Maximum operating junction temperature *				150	°C
dV/dt	Critical rate of rise reverse voltage				10000	V/μs

^{* :} $\frac{dPtot}{dTj} < \frac{1}{Rth(j-a)}$ thermal runaway condition for a diode on its own heatsink

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THERMAL RESISTANCE

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

When the diodes 1 and 2 are used simultaneously:

 Δ Tj(diode 1) = P(diode1) x R_{th(j-c)}(Per diode) + P(diode 2) x R_{th(c)}

STATIC ELECTRICAL CHARACTERISTICS (per diode)

Symbol	Parameter	Tests conditions		Min.	Тур.	Max.	Unit
I _R *	Reverse leakage current	Tj = 25°C	$V_R = V_{RRM}$			220	μΑ
ı		Tj = 125°C			45	60	mA
V _F *	Forward voltage drop	Tj = 25°C	I _F = 5 A			0.55	V
		Tj = 125°C	I _F = 5 A		0.43	0.52	
		Tj = 25°C	I _F = 10 A			0.67	
ı		Tj = 125°C	I _F = 10 A		0.55	0.64	

Pulse test : * tp = 380 μ s, δ < 2%

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

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

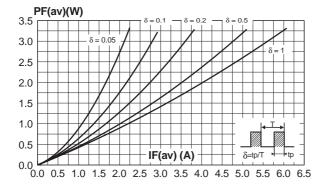


Fig. 2: Average current versus ambient temperature (δ =0.5) (per diode).

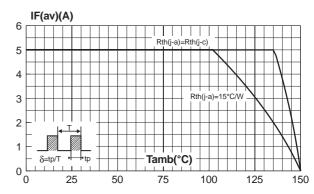


Fig. 3: Non repetitive surge peak forward current versus overload duration (maximum values, per diode). ISOWATT220AB, TO-220FPAB

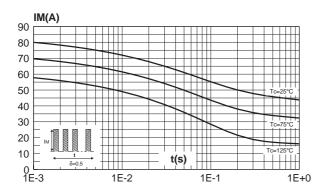


Fig. 4: Relative variation of thermal transient impedance junction to case versus pulse duration. ISOWATT220AB, TO-220FPAB

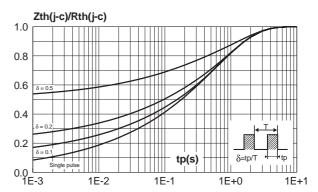


Fig. 5: Reverse leakage current versus reverse voltage applied (typical values, per diode).

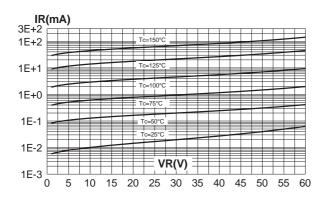


Fig. 6: Junction capacitance versus reverse voltage applied (typical values,per diode).

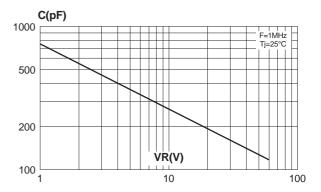
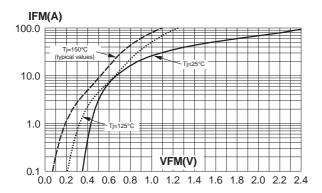
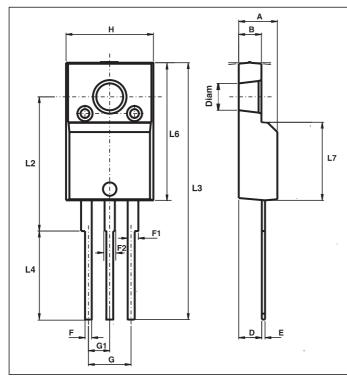


Fig. 7: Forward voltage drop versus forward current (maximum values, per diode).



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PACKAGE MECHANICAL DATA ISOWATT220AB



	DIMENSIONS				
REF.	Millimeters		Inches		
	Min.	Min. Max.		Max.	
Α	4.40	4.60	0.173	0.181	
В	2.50	2.70	0.098	0.106	
D	2.50	2.75	0.098	0.108	
Е	0.40	0.70	0.016	0.028	
F	0.75	0.75 1.00		0.039	
F1	1.15	1.15 1.70		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 0.10		
Н	10.00	10.40	0.394 0.409		
L2	16.00	Тур.	0.630	Тур.	
L3	28.60	30.60	1.125	1.205	
L4	9.80	10.60	0.386 0.41		
L6	15.90	16.40	0.626 0.646		
L7	9.00	9.30	0.354 0.366		
Diam	3.00	.00 3.20 0.118 0.126			

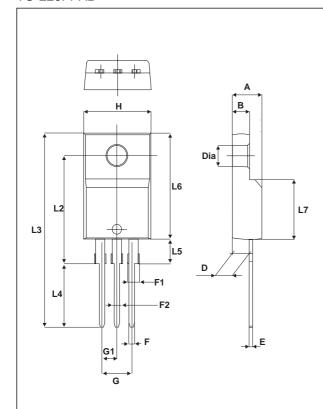
■ Cooling method: C

Recommended torque value: 0.55 m.N

■ Maximum torque value: 0.70 m.N

PACKAGE MECHANICAL DATA

TO-220FPAB



REF.	DIMENSIONS					
	Millimeters		Inc	hes		
	Min.	Max.	Min.	Max.		
Α	4.4	4.6	0.173	0.181		
В	2.5	2.7	0.098	0.106		
D	2.5	2.75	0.098	0.108		
Е	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 0.10			
Н	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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