

# 30A, 60V Trench Schottky Rectifier

#### **FEATURES**

- Patented Trench Schottky technology
- Excellent high temperature stability
- Low power loss, high efficiency
- High forward surge capability
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

#### **APPLICATIONS**

- Switching mode power supply (SMPS)
- Adapters
- Lighting application
- On-board DC/DC converter

#### **MECHANICAL DATA**

- Case: ITO-220AB
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Mounting torque: 0.56 N⋅m maximum
- Polarity: As marked
- Weight: 1.75g (approximately)

KEY PARAMETERS				
PARAMETER	VALUE	UNIT		
I <sub>F</sub>	2 x 15	Α		
$V_{RRM}$	60	V		
I <sub>FSM</sub>	230	Α		
T <sub>J MAX</sub>	150	°C		
Package	ITO-220AB			
Configuration	Dual dies			

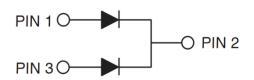








**ITO-220AB** 



ABSOLUTE MAXIMUM RATINGS (T <sub>A</sub> = 25°C unless otherwise noted)					
PARAMETER		SYMBOL	TSF30H60C	UNIT	
Marking code on the device			TSF30H60C		
Repetitive peak reverse voltage		$V_{RRM}$	60	V	
Reverse voltage, total rms value		V <sub>R(RMS)</sub>	42	V	
Forward current	per device		30	А	
	per diode	I <sub>F</sub>	15	А	
Surge peak forward current single half sine- wave superimposed on rated load per diode	t = 8.3ms		230	А	
	t = 1.0ms	I <sub>FSM</sub>	620	А	
Junction temperature	•	TJ	-55 to +150	°C	
Storage temperature		T <sub>STG</sub>	-55 to +150	°C	

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THERMAL PERFORMANCE				
PARAMETER	SYMBOL	TYP	UNIT	
Junction-to-lead thermal resistance per diode	R <sub>OJL</sub>	3.4	°C/W	
Junction-to-ambient thermal resistance per diode	R <sub>OJA</sub>	14.8	°C/W	
Junction-to-case thermal resistance per diode	R <sub>eJC</sub>	3.0	°C/W	

Thermal Performance Note: Mounted on Heat sink with 2" x 3" x 0.25" Al-Plate.

ELECTRICAL SPECIFICATIONS (T <sub>A</sub> = 25°C unless otherwise noted)					
PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode <sup>(1)</sup>	I <sub>F</sub> = 7.5A, T <sub>J</sub> = 25°C	V <sub>F</sub>	0.47	-	V
	I <sub>F</sub> = 15A, T <sub>J</sub> = 25°C		0.55	0.70	V
	I <sub>F</sub> = 7.5A, T <sub>J</sub> = 125°C		0.38	-	V
	I <sub>F</sub> = 15A, T <sub>J</sub> = 125°C		0.50	0.67	V
Reverse current @ rated V <sub>R</sub> per diode <sup>(2)</sup>	T <sub>J</sub> = 25°C		-	50	μA
	T <sub>J</sub> = 125°C	l <sub>R</sub>	-	45	mA
Junction capacitance per diode	1MHz, V <sub>R</sub> = 4.0V	CJ	1117	-	pF

## Notes:

- 1. Pulse test with PW = 0.3ms
- 2. Pulse test with PW = 30ms

ORDERING INFORMATION				
ORDERING CODE	PACKAGE	PACKING		
TSF30H60C	ITO-220AB	50 / Tube		



## **CHARACTERISTICS CURVES**

 $(T_A = 25^{\circ}C \text{ unless otherwise noted})$ 

**Fig.1 Forward Current Derating Curve** 

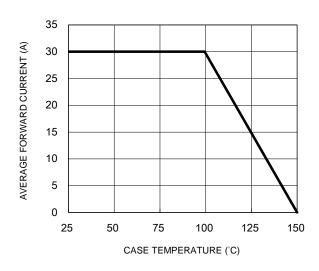


Fig.3 Typical Reverse Characteristics

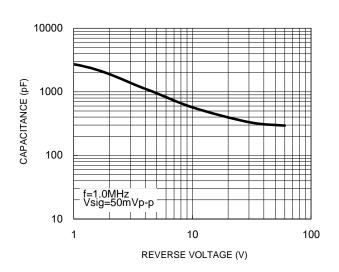
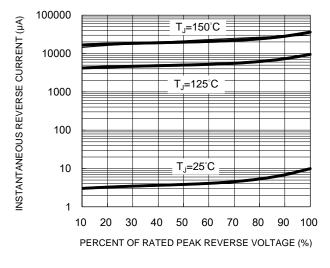


Fig.2 Typical Junction Capacitance

**Fig.4 Typical Forward Characteristics** 



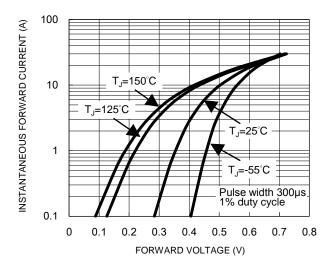
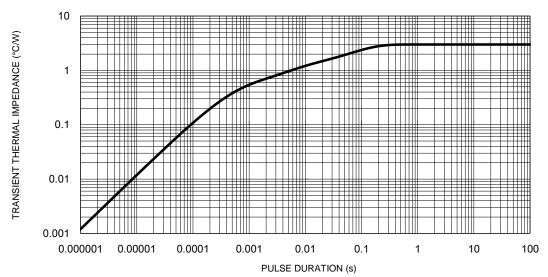


Fig.5 Typical Transient Thermal Impedance

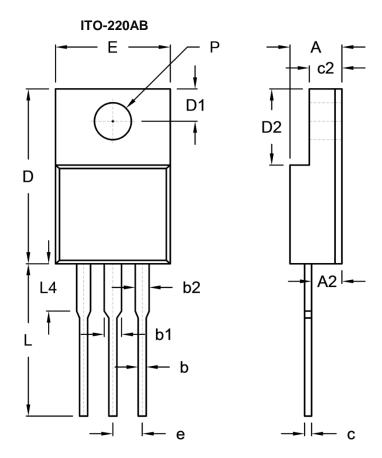


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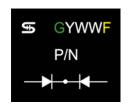


# **PACKAGE OUTLINE DIMENSIONS**



DIM.	Unit	(mm)	Unit (inch)	
DIIVI.	Min.	Max.	Min.	Max.
Α	4.30	4.70	0.169	0.185
A2	2.30	2.96	0.091	0.117
b	0.50	0.90	0.020	0.035
b1	-	1.80	-	0.071
b2	0.95	1.45	0.037	0.057
С	0.46	0.76	0.018	0.030
c2	2.50	3.16	0.098	0.124
D	14.80	15.50	0.583	0.610
D1	2.40	3.20	0.094	0.126
D2	6.30	6.90	0.248	0.272
E	9.60	10.30	0.378	0.406
е	2.41	2.67	0.095	0.105
L	12.60	13.80	0.496	0.543
L4	-	4.10	-	0.161
Р	3.00	3.40	0.118	0.134

## **MARKING DIAGRAM**



P/N = Marking Code

G = Green Compound

YWW = Date Code F = Factory Code



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