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

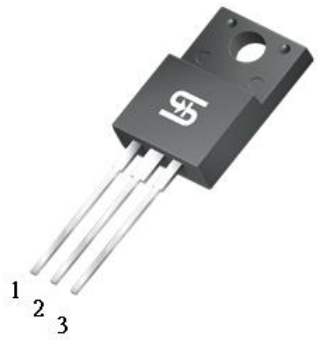
- Switching mode power supply (SMPS)
- Adapters
- Lighting application
- On-board DC/DC converter

MECHANICAL DATA

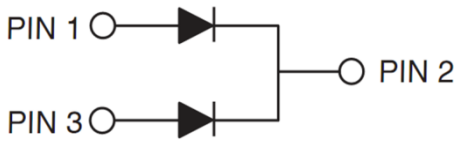
- Case: ITO-220AB
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Mounting torque: 0.56 N·m maximum
- Polarity: As marked
- Weight: 1.75g (approximately)

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	2 x 15	A
V_{RRM}	60	V
I_{FSM}	230	A
$T_{J\ MAX}$	150	°C
Package	ITO-220AB	
Configuration	Dual dies	

Pb-Free RoHS COMPLIANT HALOGEN FREE



ITO-220AB



ABSOLUTE MAXIMUM RATINGS (T_A = 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		$V_{R(RMS)}$	42	V
Forward current	per device	I_F	30	A
	per diode		15	A
Surge peak forward current single half sine-wave superimposed on rated load per diode	t = 8.3ms	I_{FSM}	230	A
	t = 1.0ms		620	A
Junction temperature		T_J	-55 to +150	°C
Storage temperature		T_{STG}	-55 to +150	°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-lead thermal resistance per diode	$R_{\Theta JL}$	3.4	°C/W
Junction-to-ambient thermal resistance per diode	$R_{\Theta JA}$	14.8	°C/W
Junction-to-case thermal resistance per diode	$R_{\Theta JC}$	3.0	°C/W

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

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode (1)	I_F = 7.5A, T_J = 25°C	V_F	0.47	-	V
	I_F = 15A, T_J = 25°C		0.55	0.70	V
	I_F = 7.5A, T_J = 125°C		0.38	-	V
	I_F = 15A, T_J = 125°C		0.50	0.67	V
Reverse current @ rated V_R per diode (2)	T_J = 25°C	I_R	-	50	μA
	T_J = 125°C		-	45	mA
Junction capacitance per diode	1MHz, V_R = 4.0V	C_J	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°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

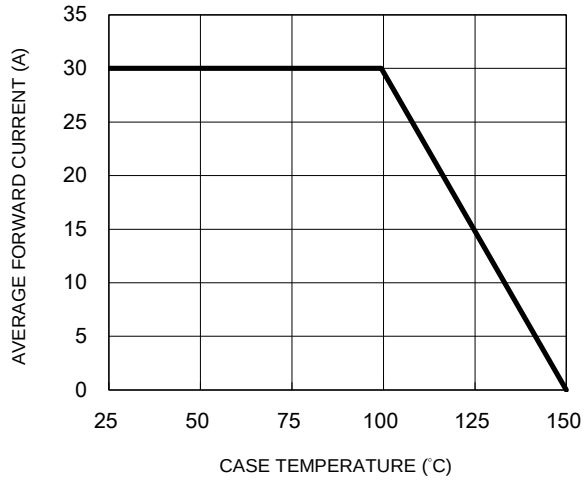


Fig.2 Typical Junction Capacitance

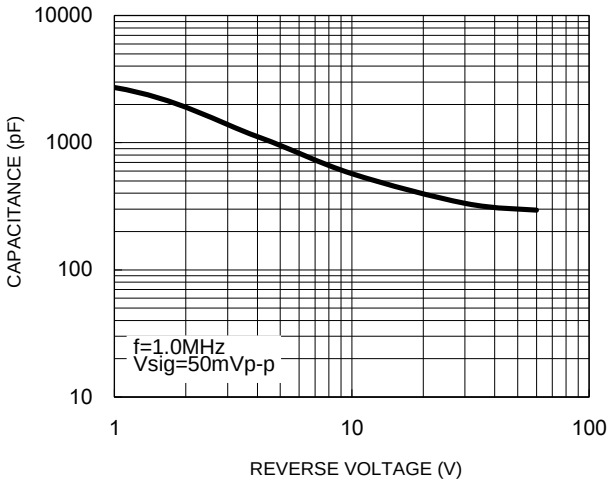


Fig.3 Typical Reverse Characteristics

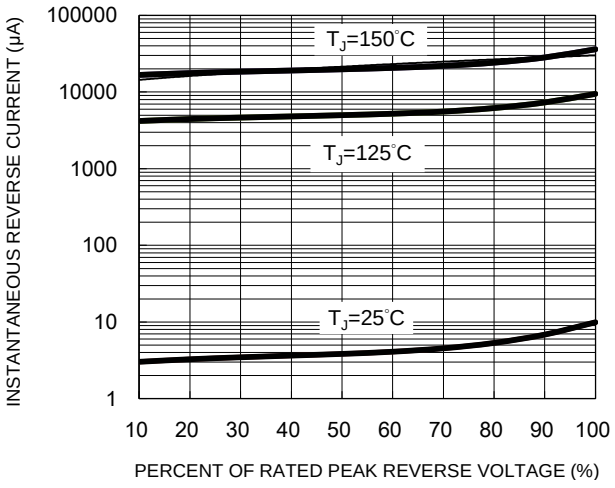


Fig.4 Typical Forward Characteristics

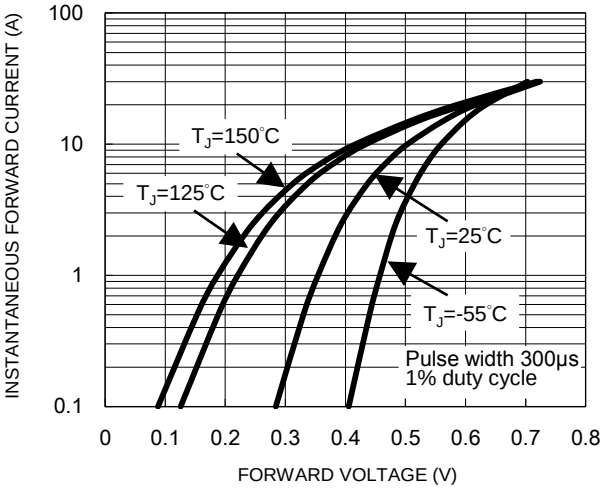
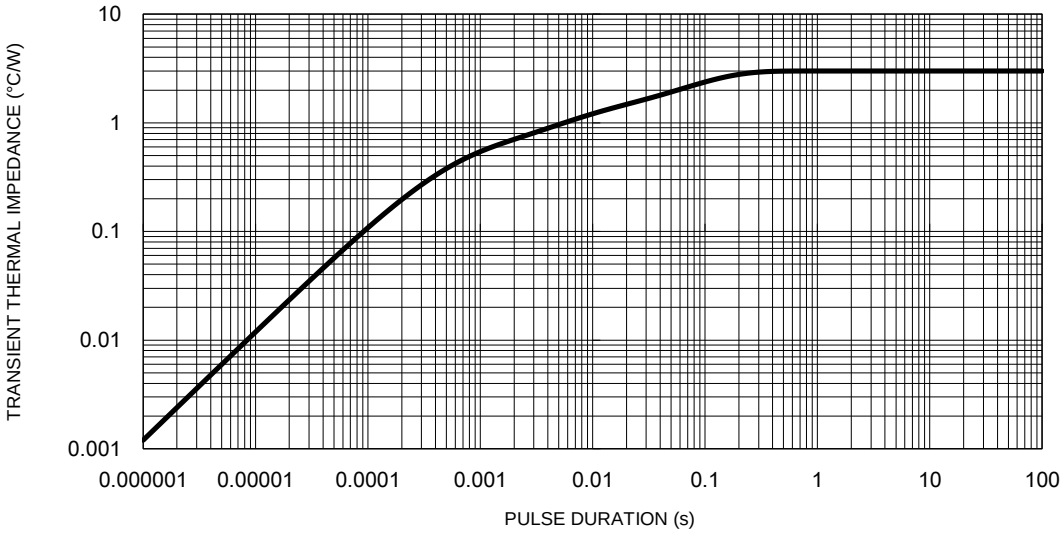
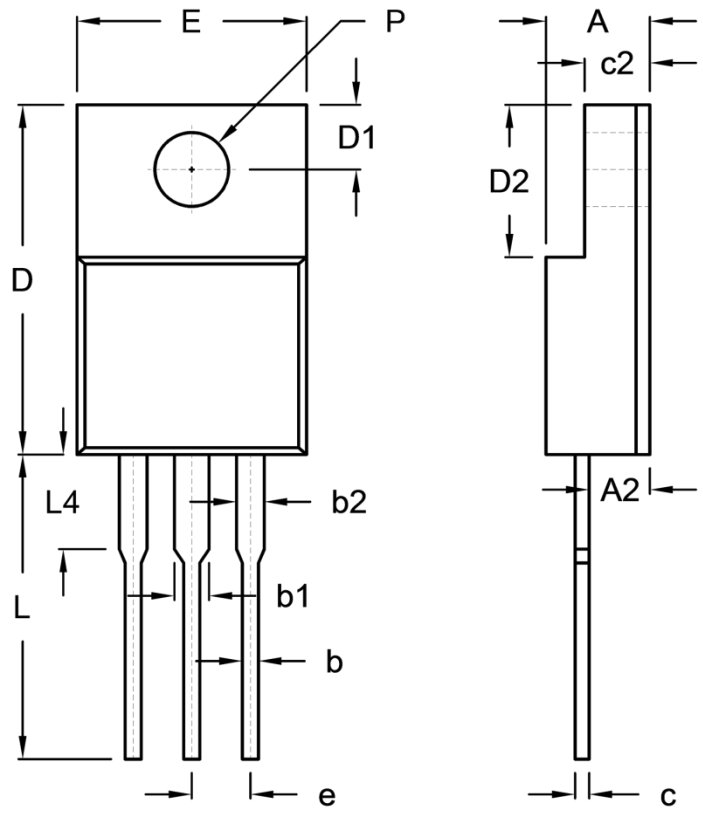


Fig.5 Typical Transient Thermal Impedance



PACKAGE OUTLINE DIMENSIONS

ITO-220AB



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	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
c	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
e	2.41	2.67	0.095	0.105
L	12.60	13.80	0.496	0.543
L4	-	4.10	-	0.161
P	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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