

Trench Schottky Rectifier

FEATURES

- Patented Trench Schottky technology
- Excellent high temperature stability
- Low forward voltage
- Low power loss/ High efficiency
- High forward surge capability
- Compliant to RoHS directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition

TYPICAL APPLICATIONS

Trench Schottky barrier rectifier are designed for high frequency miniature switched mode power supplies such as adapters, lighting and on-board DC/DC converters.

MECHANICAL DATA

Case: ITO-220AB

Molding compound meets UL 94 V-0 flammability rating

Packing code with suffix "G" means green compound (halogen-free)

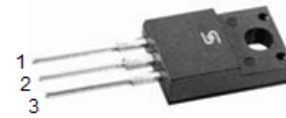
Terminal: Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 2 whisker test

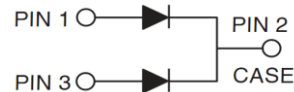
Polarity: As marked

Mounting torque: 0.56 Nm max.

Weight: 1.7 g (approximately)



ITO-220AB



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted)												
PARAMETER			SYMBOL	TSF40H 100C		TSF40H 120C		TSF40H 150C		TSF40H 200C		UNIT
Maximum repetitive peak reverse voltage			V _{RRM}	100		120		150		200		V
Maximum average forward rectified current	per device		I _{F(AV)}	40								A
	per diode			20								
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load per diode			I _{FSM}	250								A
Voltage rate of change (Rated V _R)			dV/dt	10000								V/μs
				TYP.	MAX.	TYP.	MAX.	TYP.	MAX.	TYP.	MAX.	
Instantaneous forward voltage per diode (Note1)	I _F = 10A	T _J = 25°C	V _F	0.56	-	0.60	-	0.71	-	0.75	-	V
	I _F = 20A			0.66	0.72	0.74	0.84	0.79	0.89	0.83	0.93	
	I _F = 10A	T _J = 125°C	V _F	0.48	-	0.53	-	0.59	-	0.62	-	
	I _F = 20A			0.59	0.65	0.63	0.71	0.67	0.77	0.70	0.80	
Instantaneous reverse current per diode at rated reverse voltage		T _J = 25°C	I _R	-	500	-	500	-	150	-	150	μA
		T _J = 125°C		15	45	15	45	3	15	3	15	mA
Typical thermal resistance per diode			R _{θJC}	3								°C/W
Operating junction temperature range			T _J	- 55 to +150								°C
Storage temperature range			T _{STG}	- 55 to +150								°C

Note 1: Pulse Test with Pulse Width=300μs, 1% Duty Cycle

ORDERING INFORMATION				
PART NO.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
TSF40HXXXC (Note 1)	C0	G	ITO-220AB	50 / Tube

Note 1: "XXX" defines voltage from 100V (TSF40H100C) to 200V (TSF40H200C)

EXAMPLE				
PREFERRED PART NO.	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
TSF40H120C C0G	TSF40H120C	C0	G	Green compound

RATINGS AND CHARACTERISTICS CURVES

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

FIG. 1- FORWARD CURRENT DERATING CURVE

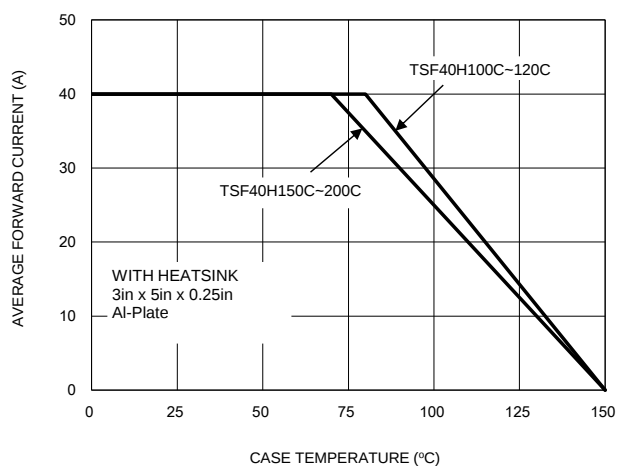


FIG. 2- TYPICAL FORWARD CHARACTERISTICS

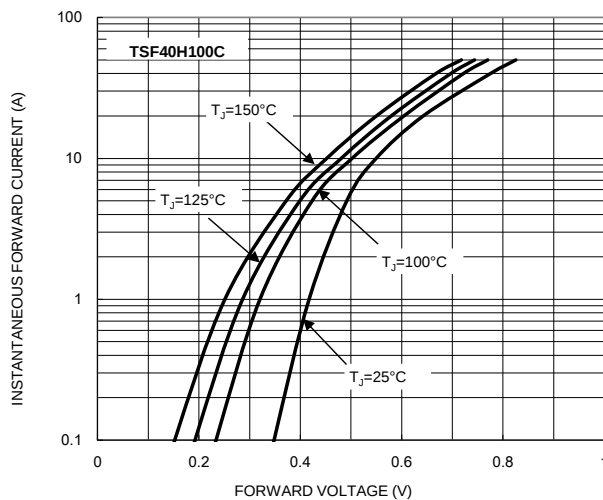


FIG. 3- TYPICAL FORWARD CHARACTERISTICS

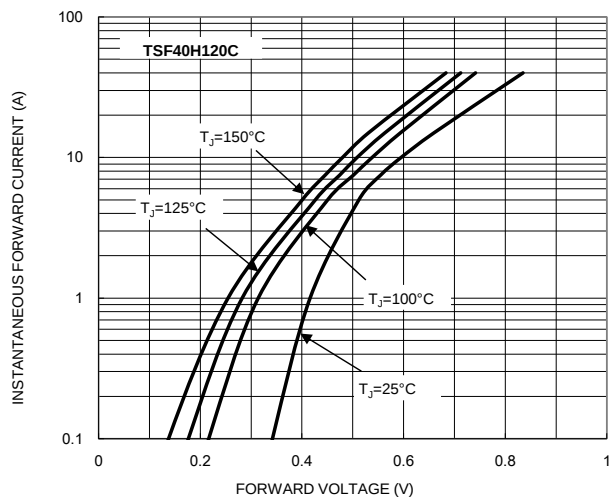


FIG. 4- TYPICAL FORWARD CHARACTERISTICS

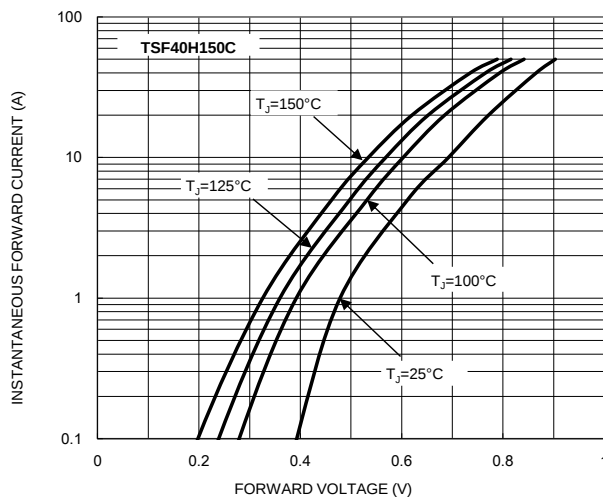


FIG. 6- TYPICAL FORWARD CHARACTERISTICS

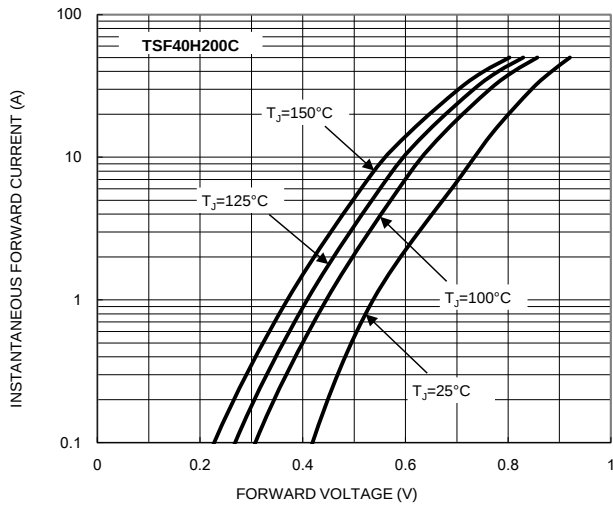


FIG. 7- TYPICAL REVERSE CHARACTERISTICS

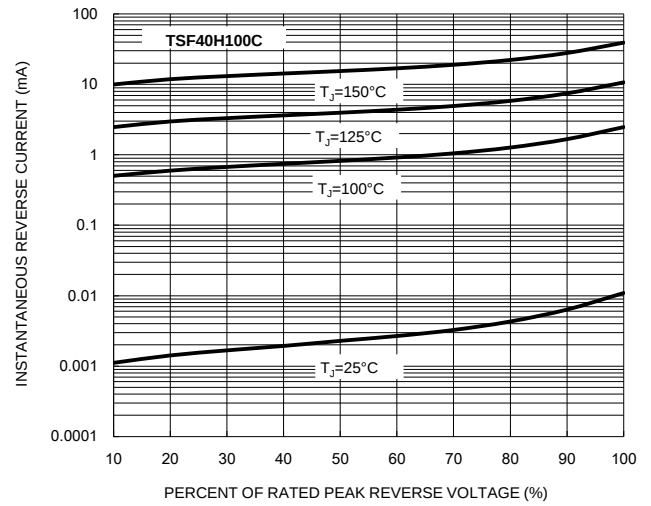


FIG. 7- TYPICAL REVERSE CHARACTERISTICS

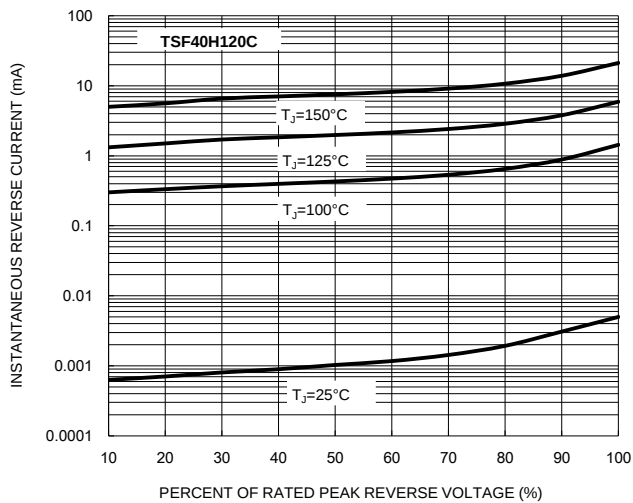


FIG. 8- TYPICAL REVERSE CHARACTERISTICS

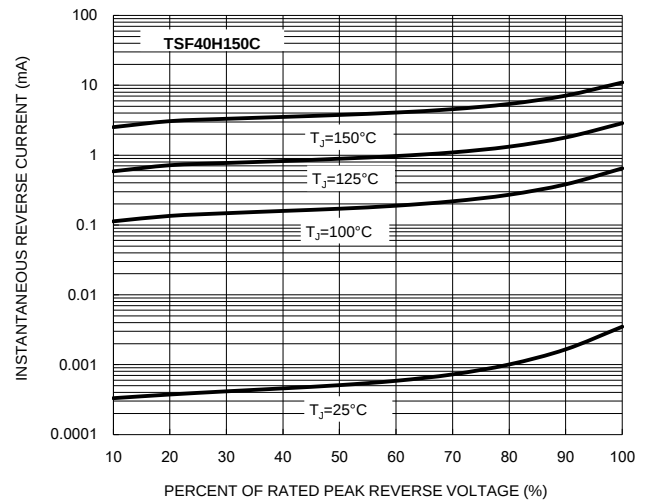


FIG. 9- TYPICAL REVERSE CHARACTERISTICS

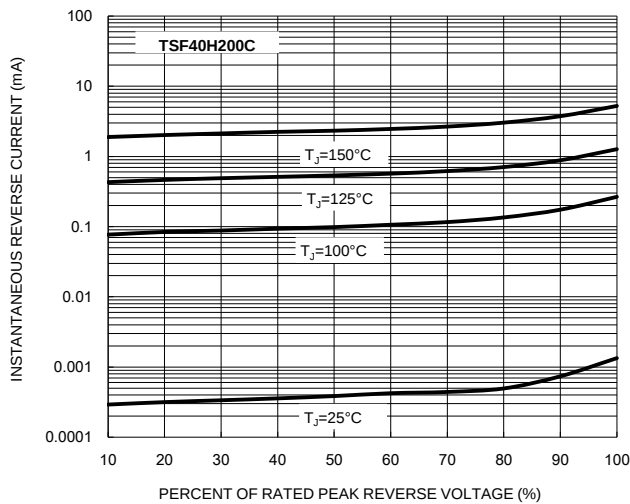
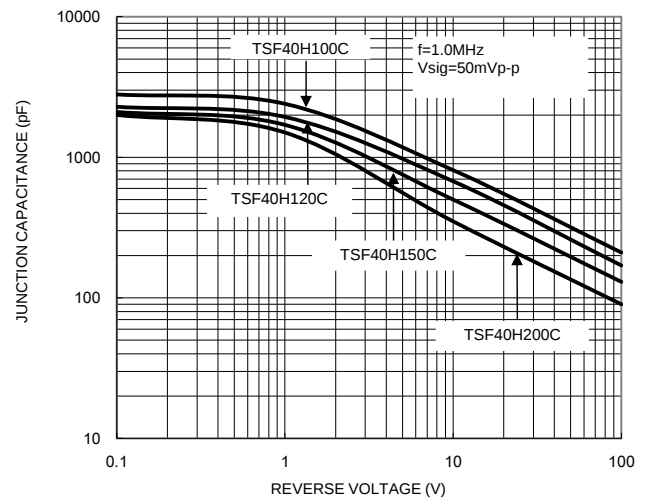
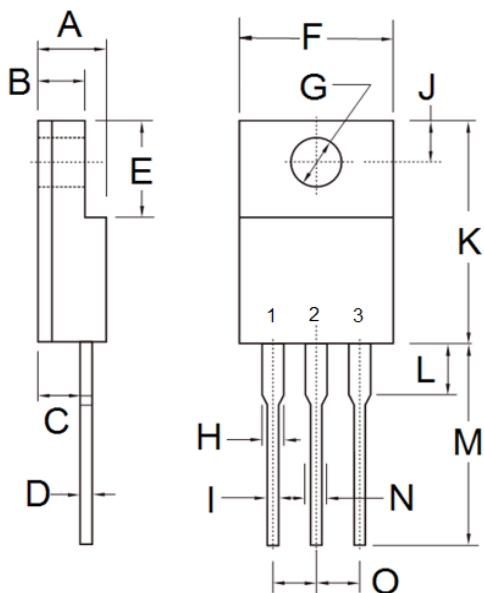


FIG. 10- TYPICAL JUNCTION CAPACITANCE



PACKAGE OUTLINE DIMENSIONS

ITO-220AB



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	4.30	4.70	0.17	0.19
B	2.50	3.16	0.10	0.12
C	2.30	2.96	0.09	0.12
D	0.46	0.76	0.02	0.03
E	6.30	6.90	0.25	0.27
F	9.60	10.30	0.38	0.41
G	3.00	3.40	0.12	0.13
H	0.95	1.45	0.04	0.06
I	0.50	0.90	0.02	0.04
J	2.40	3.20	0.09	0.13
K	14.80	15.50	0.58	0.61
L	-	4.10	-	0.16
M	12.60	13.80	0.50	0.54
N	-	1.80	-	0.07
O	2.41	2.67	0.09	0.11

MARKING DIAGRAM



P/N = Specific Device Code
 G = Green Compound
 YYWW = Date Code
 F = Factory Code

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