

## Trench Schottky Rectifier

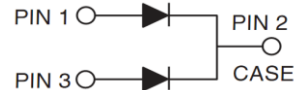
### FEATURES

- 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


**ITO-220AB**


### 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)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted)

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

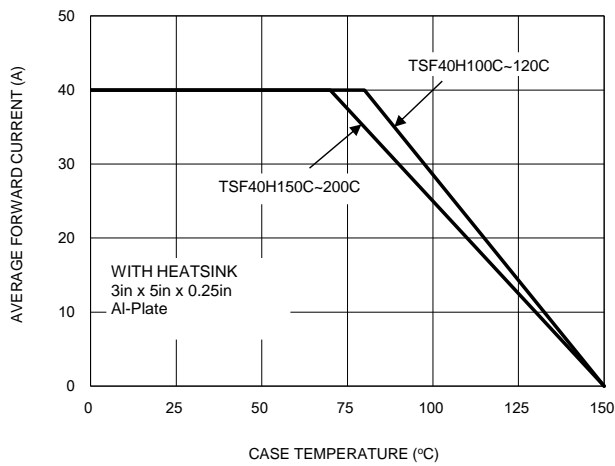


FIG. 2- TYPICAL FORWARD CHARACTERISTICS

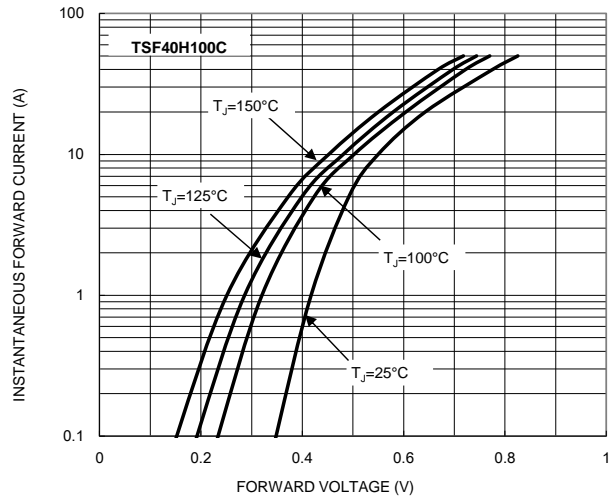


FIG. 3- TYPICAL FORWARD CHARACTERISTICS

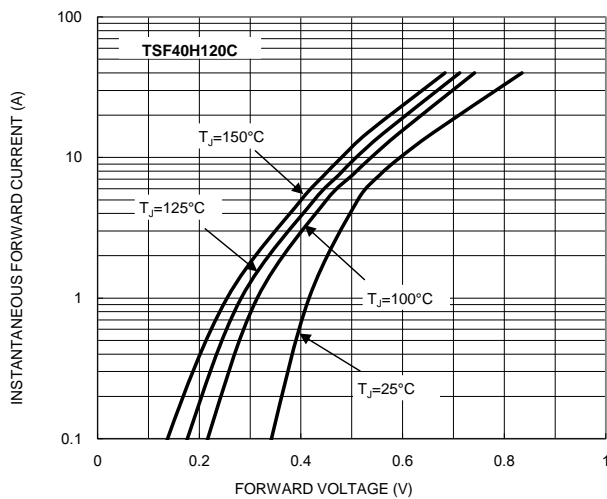


FIG. 4- TYPICAL FORWARD CHARACTERISTICS

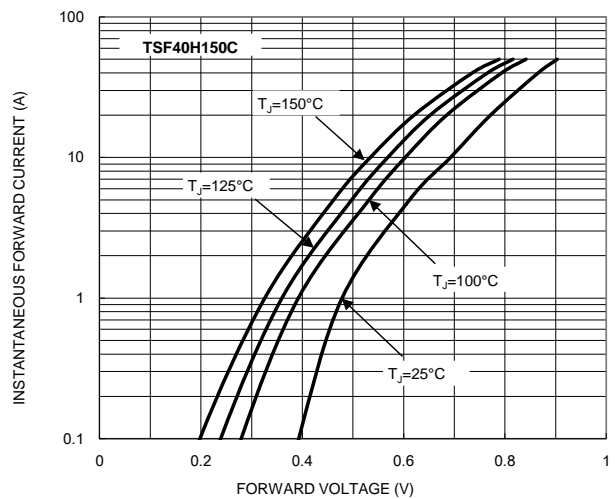


FIG. 6- TYPICAL FORWARD CHARACTERISTICS

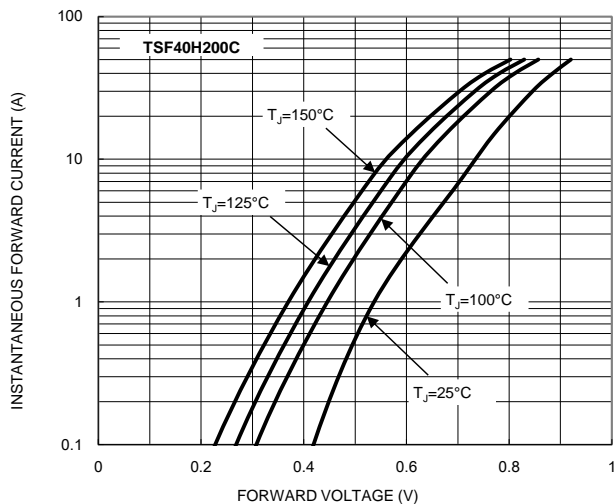


FIG. 7- TYPICAL REVERSE CHARACTERISTICS

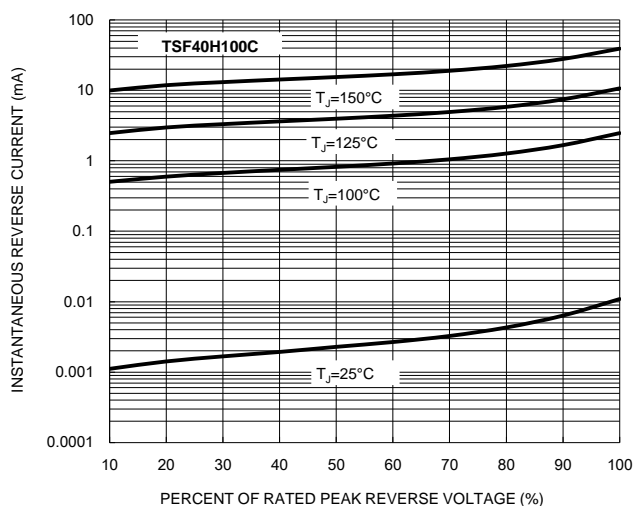


FIG. 7- TYPICAL REVERSE CHARACTERISTICS

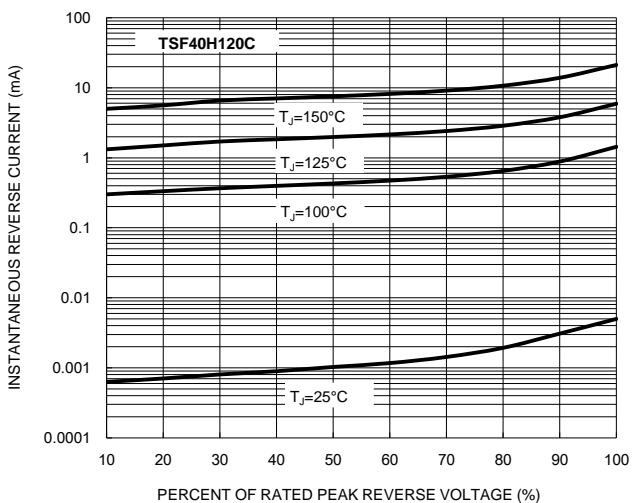


FIG. 8- TYPICAL REVERSE CHARACTERISTICS

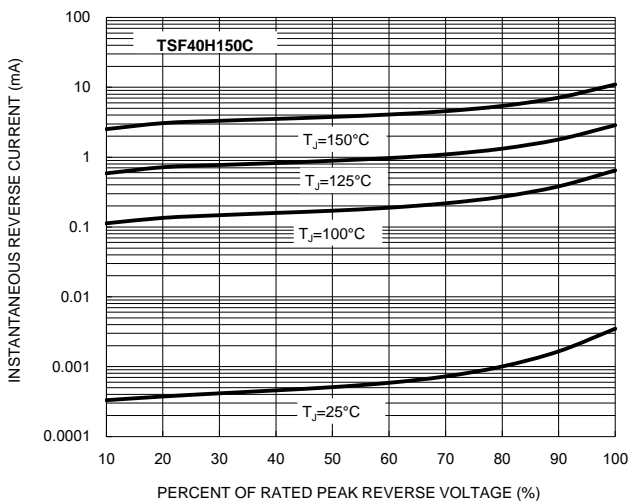


FIG. 9- TYPICAL REVERSE CHARACTERISTICS

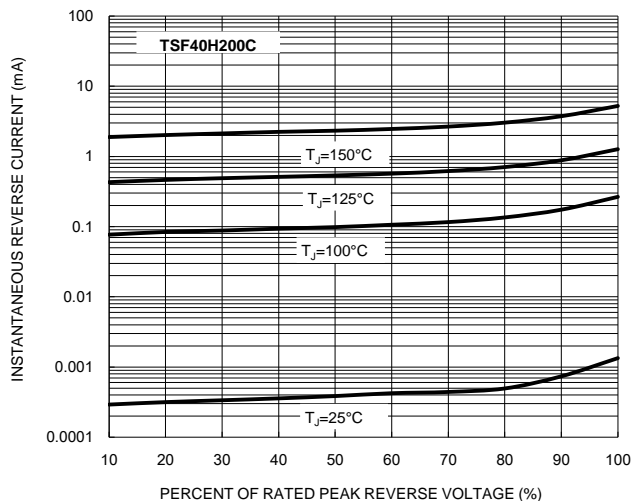
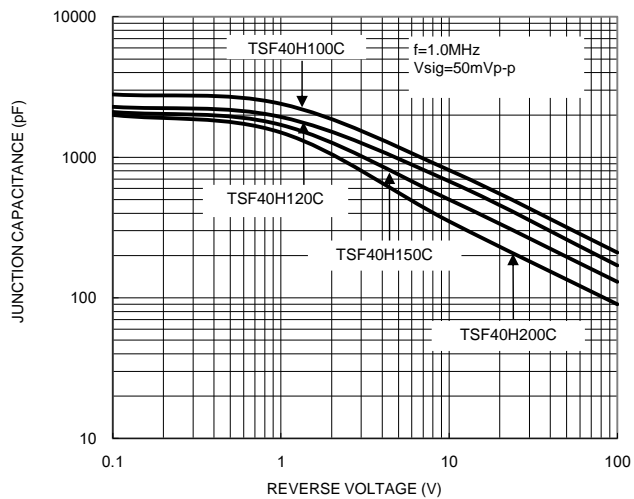
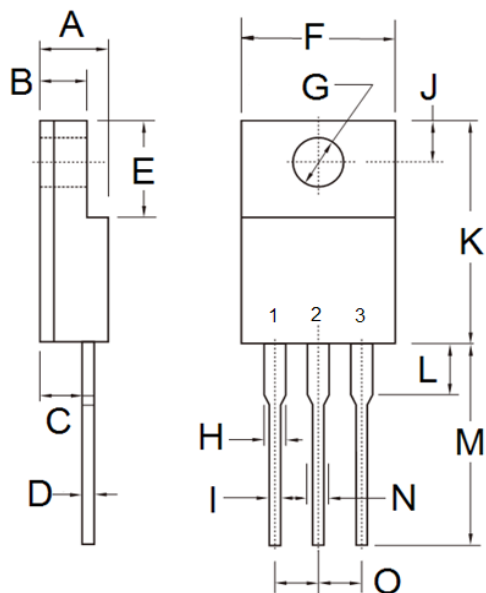


FIG. 10- TYPICAL JUNCTION CAPACITANCE



**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
- YWW = Date Code
- F = Factory Code

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