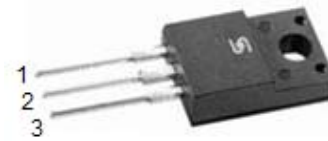


## Trench Schottky Rectifier

### FEATURES

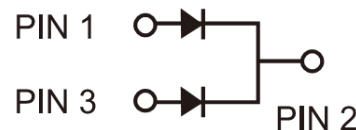
- Patented Trench Schottky technology
- Excellent high temperature stability
- Low forward voltage
- Lower power loss/ High efficiency
- High forward surge capability
- Compliant to RoHS directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition



**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	TSF30U 100C		TSF30U 120C		UNIT	
Maximum repetitive peak reverse voltage		V <sub>RRM</sub>	100		120		V	
Maximum average forward rectified current	per device	I <sub>F(AV)</sub>	30				A	
	per diode		15					
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load per diode		I <sub>FSM</sub>	160				A	
Voltage rate of change (Rated V <sub>R</sub> )		dV/dt	10000				V/μs	
Isolation voltage from terminal to heatsink t = 1 min		V <sub>AC</sub>	1500				V	
			Typ.	Max.	Typ.	Max.		
Instantaneous forward voltage per diode ( Note1 )	I <sub>F</sub> = 5A	T <sub>J</sub> = 25°C	V <sub>F</sub>	0.52	-	0.56	-	V
	I <sub>F</sub> = 7.5A			0.56	-	0.65	-	
	I <sub>F</sub> = 15A			0.66	0.74	0.78	0.88	
	I <sub>F</sub> = 5A	T <sub>J</sub> = 125°C	V <sub>F</sub>	0.44	-	0.49	-	
	I <sub>F</sub> = 7.5A			0.51	-	0.56	-	
	I <sub>F</sub> = 15A			0.60	0.67	0.65	0.75	
Instantaneous reverse current per diode at rated reverse voltage	T <sub>J</sub> = 25°C		I <sub>R</sub>	12	500	15	500	μA
	T <sub>J</sub> = 125°C			7.0	35	5	35	mA
Typical thermal resistance per diode		R <sub>θJC</sub>	2.5		3.5		°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
TSF30UXXXC (Note 1)	C0	G	ITO-220AB	50 / Tube

Note 1: "xxx" defines voltage from 100V (TSF30U100C) to 120V (TSF30U120C)

EXAMPLE				
PREFERRED PART NO.	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
TSF30U100C C0G	TSF30U100C	C0	G	Green compound

FIG. 1 FORWARD CURRENT DERATING CURVE

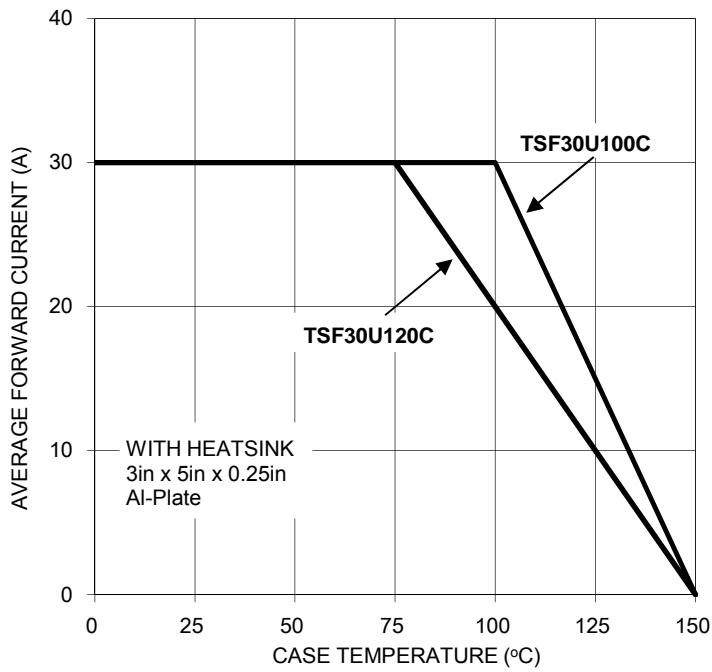


FIG. 2 TYPICAL FORWARD CHARACTERISTICS PER LEG

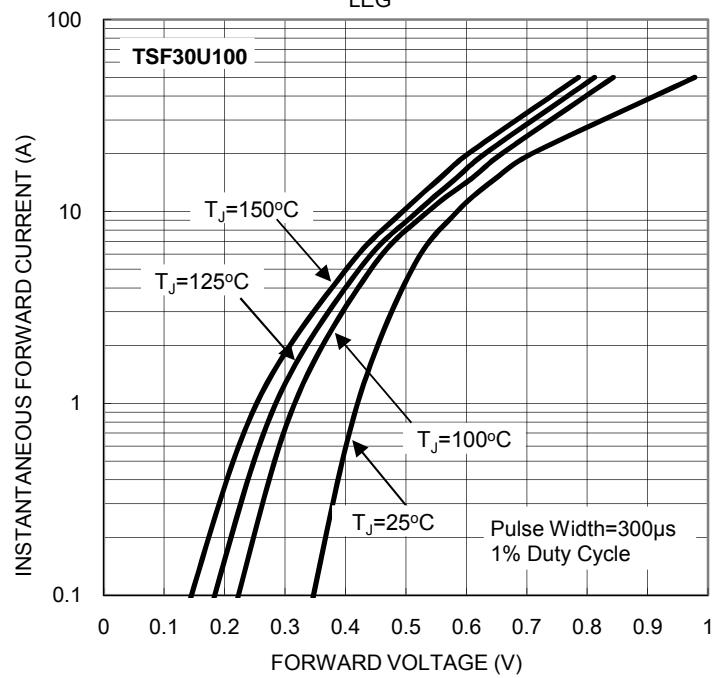


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

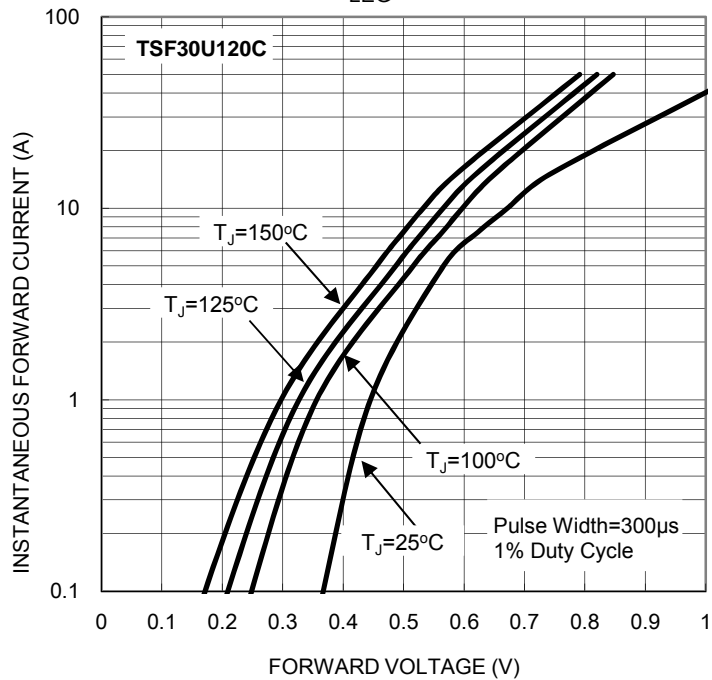


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

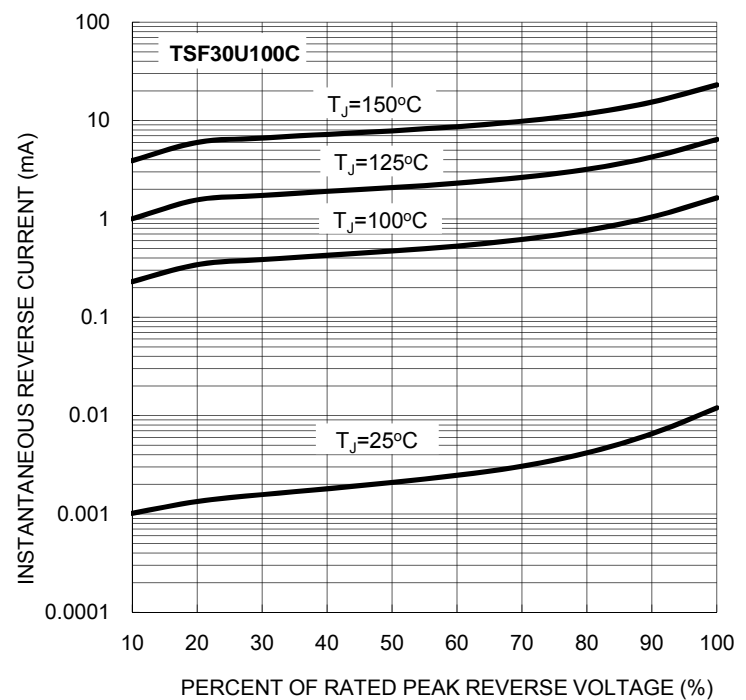


FIG. 5 TYPICAL REVERSE CHARACTERISTICS PER LEG

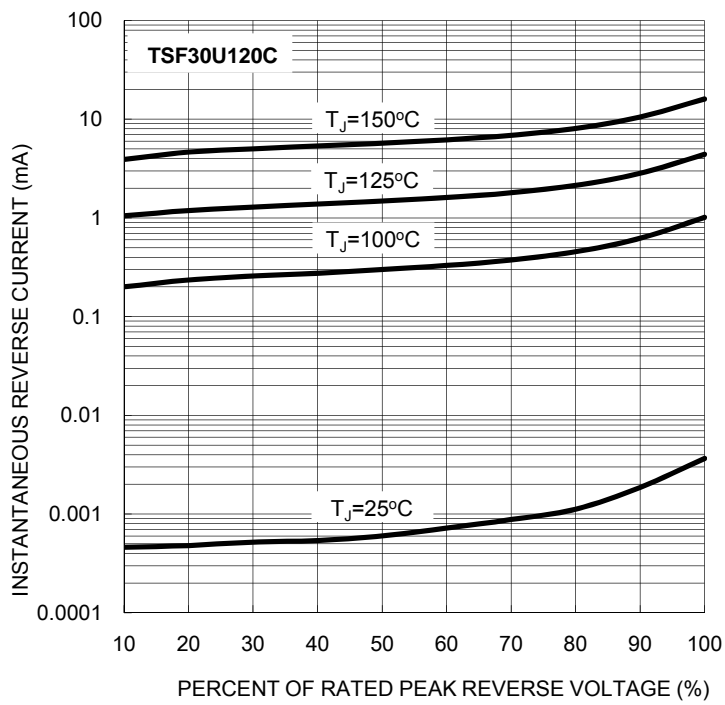
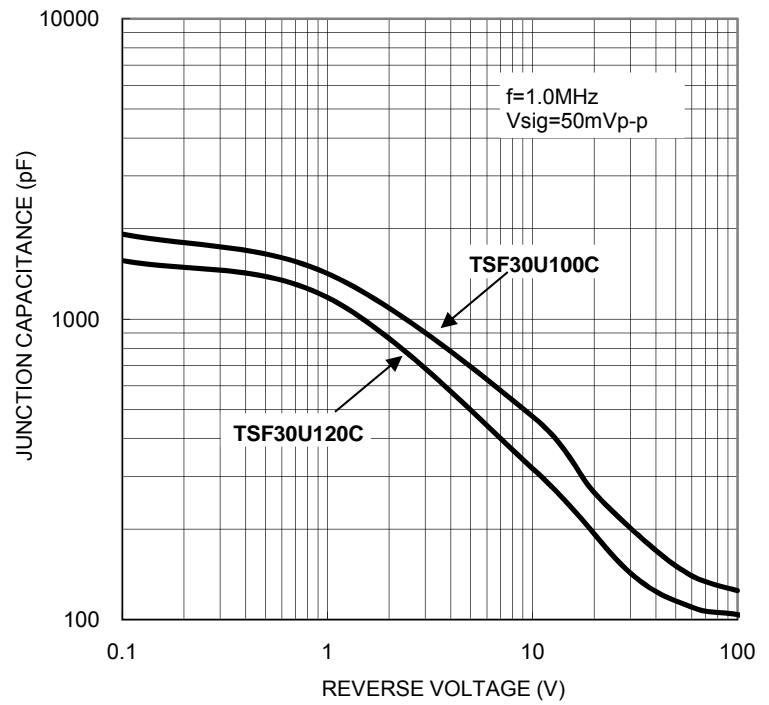
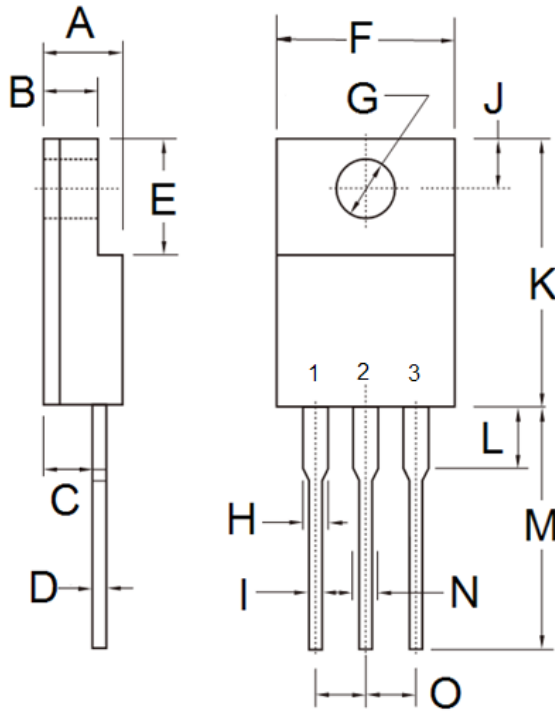


FIG. 6 TYPICAL JUNCTION CAPACITANCE PER LEG

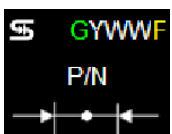


PACKAGE OUTLINE DIMENSIONS  
**ITO-220AB**



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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