

## Trench Schottky Rectifier

### FEATURES

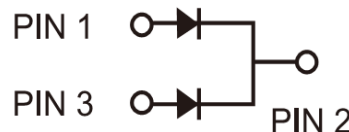
- Patented Trench Schottky technology
- Excellent high temperature stability
- Low forward voltage
- Low power loss/ High efficiency
- High forward surge capability
- Compliant to RoHS directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition



**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	TSF30H 100C	TSF30H 120C	TSF30H 150C	TSF30H 200C					UNIT	
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>	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>	150								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	Typ	Max	Typ	Max		
Instantaneous forward voltage per diode ( Note1 )	I <sub>F</sub> = 15A	T <sub>J</sub> = 25°C	V <sub>F</sub>	0.76	0.82	0.80	0.88	0.81	0.90	0.84	0.92	V
		T <sub>J</sub> = 125°C		0.64	0.69	0.65	0.73	0.68	0.77	0.70	0.79	
	I <sub>F</sub> = 30A	T <sub>J</sub> = 25°C		0.86	0.92	0.90	0.96	0.89	0.98	0.91	1.00	
		T <sub>J</sub> = 125°C		0.75	0.80	0.78	0.86	0.77	0.86	0.80	0.89	
Instantaneous reverse current per diode at rated reverse voltage		T <sub>J</sub> = 25°C	150								μA	
		T <sub>J</sub> = 125°C	20								mA	
Typical thermal resistance		R <sub>θJC</sub>	4.5								°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
TSF30HXXXC (Note 1)	C0	G	ITO-220AB	50 / Tube

Note 1: "xxx" defines voltage from 100V (TSF30H100C) to 200V (TSF30H200C)

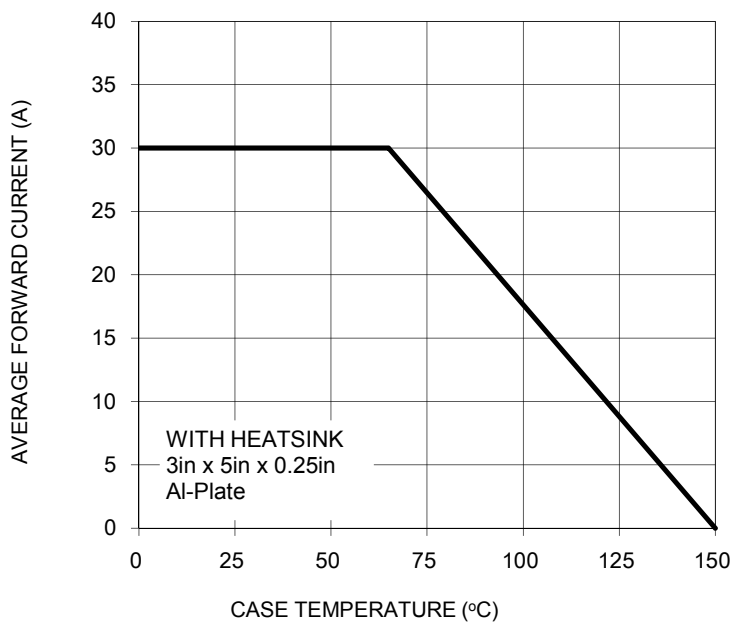
**EXAMPLE**

PREFERRED PART NO.	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
TSF30H120C C0G	TSF30H120C	C0	G	Green compound

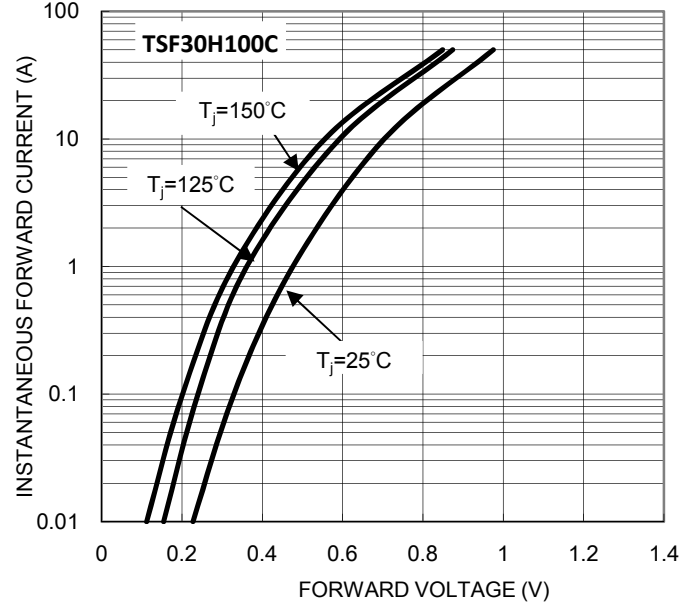
**RATINGS AND CHARACTERISTICS CURVES**

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

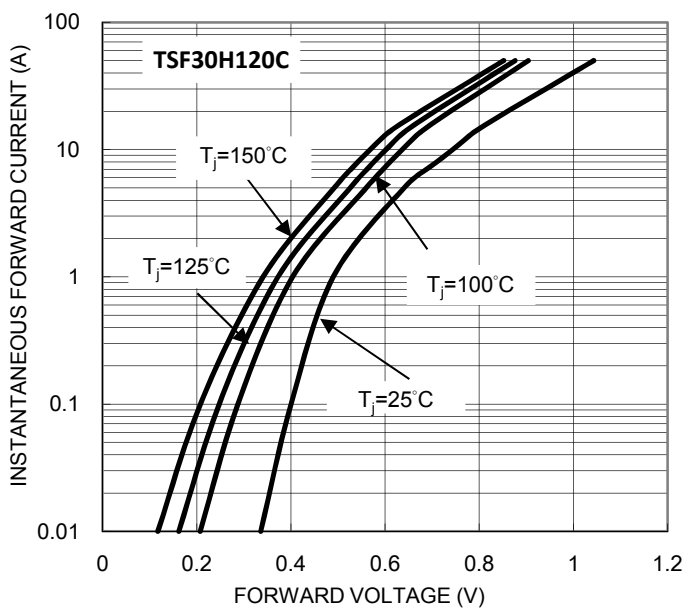
**FIG.1 FORWARD CURRENT DERATING CURVE**



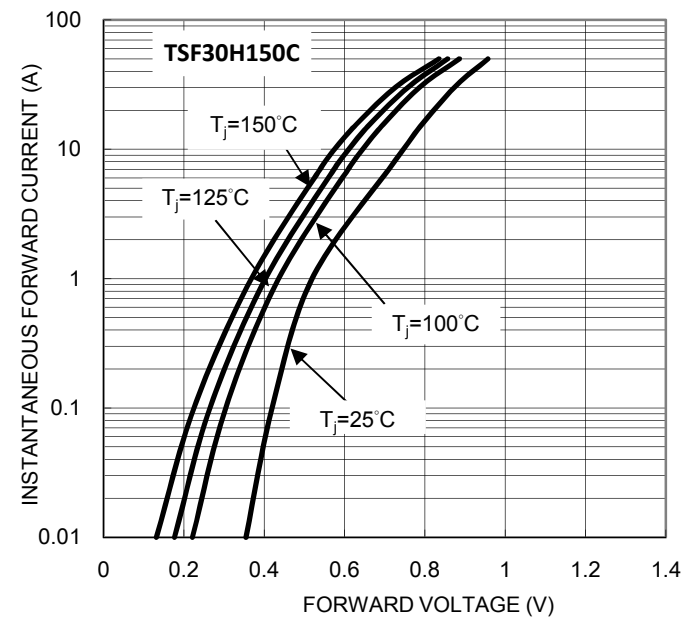
**FIG. 2 TYPICAL FORWARD CHARACTERISTICS**



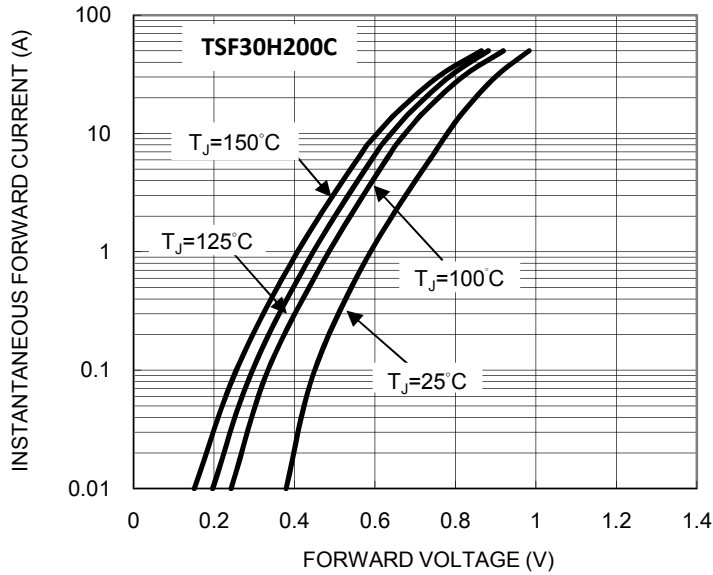
**FIG. 3 TYPICAL REVERSE CHARACTERISTICS**



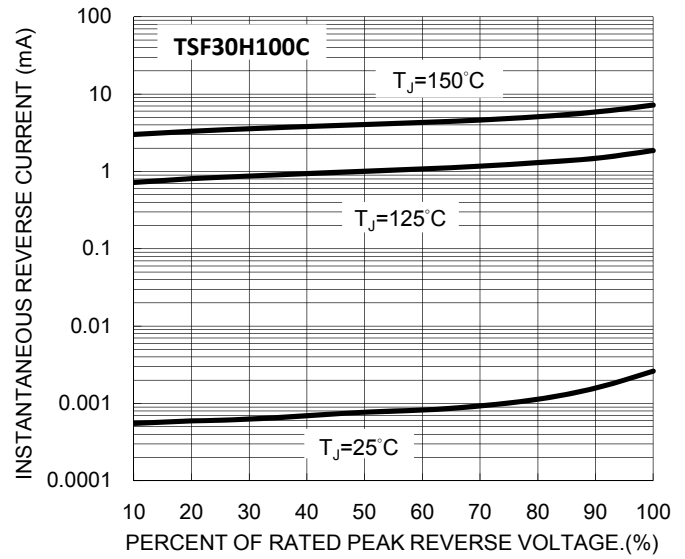
**FIG. 4 TYPICAL FORWARD CHARACTERISTICS**



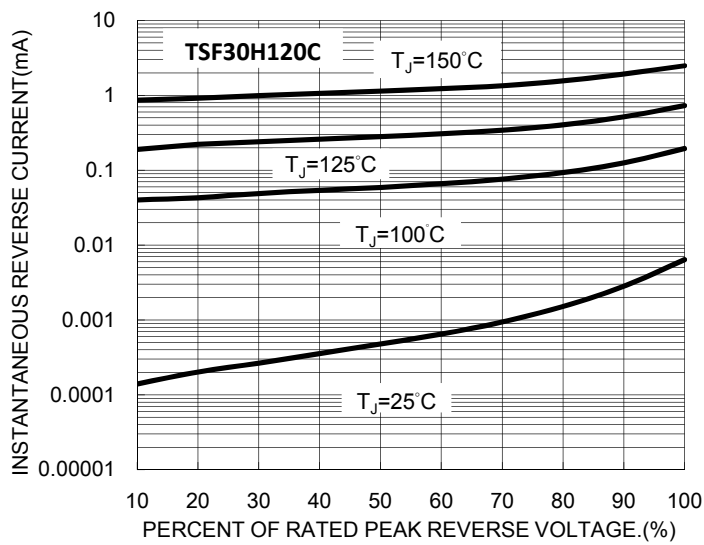
**FIG. 5 TYPICAL FORWARD CHARACTERISTICS**



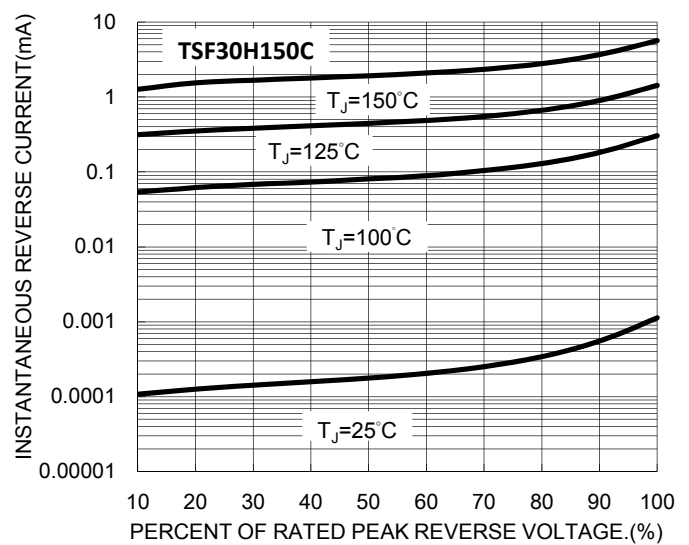
**FIG. 6 TYPICAL REVERSE CHARACTERISTICS**



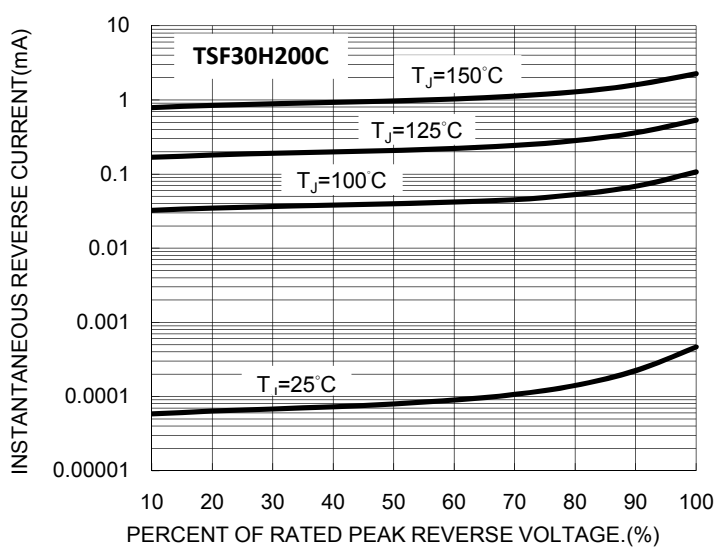
**FIG. 7 TYPICAL REVERSE CHARACTERISTICS**



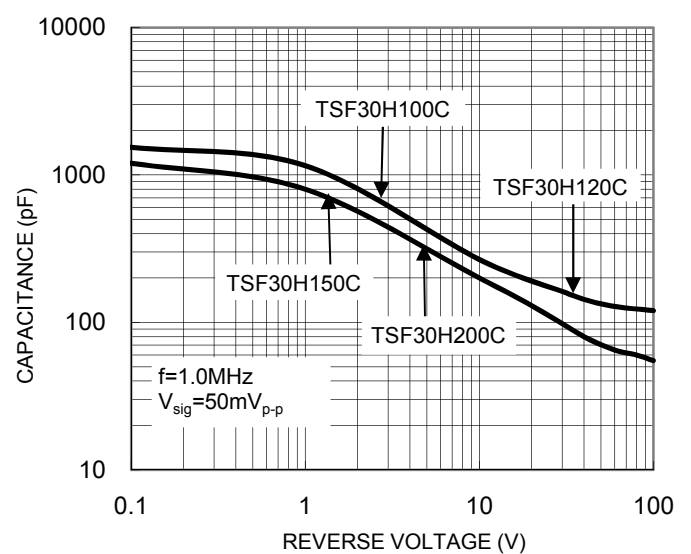
**FIG. 8 TYPICAL REVERSE CHARACTERISTICS**



**FIG. 9 TYPICAL REVERSE CHARACTERISTICS**

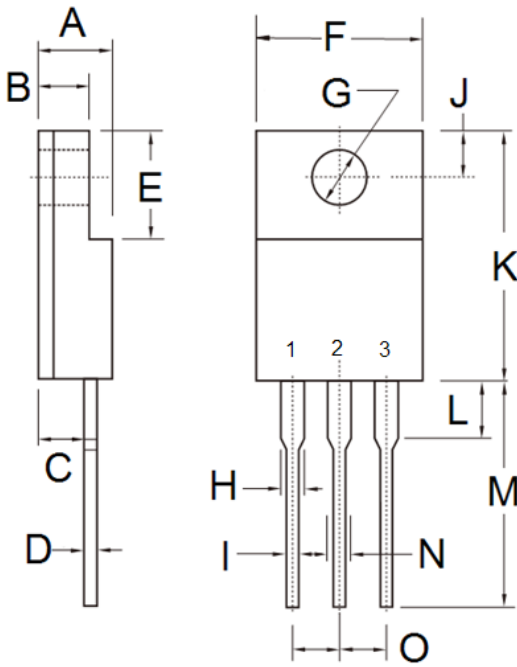


**FIG. 10 TYPICAL JUNCTION CAPACITANCE**



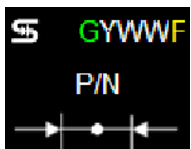
PACKAGE OUTLINE DIMENSIONS

**ITO-220AB**



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	4.30	4.70	0.169	0.185
B	2.50	3.16	0.098	0.124
C	2.30	2.96	0.091	0.117
D	0.46	0.76	0.018	0.030
E	6.30	6.90	0.248	0.272
F	9.60	10.30	0.378	0.406
G	3.00	3.40	0.118	0.134
H	0.95	1.45	0.037	0.057
I	0.50	0.90	0.020	0.035
J	2.40	3.20	0.094	0.126
K	14.80	15.50	0.583	0.610
L	-	4.10	-	0.161
M	12.60	13.80	0.496	0.543
N	-	1.80	-	0.071
O	2.41	2.67	0.095	0.105

MARKING DIAGRAM



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

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