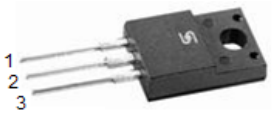
Trench Schottky Rectifier

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



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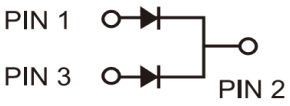


Pb-Free

RoHS COMPLIANT

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

Base P/N with suffix "G" on packing code - green compound (halogen-free)

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

Meet JESD 201 class 1A whisker test

Polarity: As marked

Mounting torque: 5 Nm max.

Weight: 1.7 g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

PARAMETER			SYMBOL	TSF20H 100C		TSF20H 120C		TSF20H 150C		TSF20H 200C		UNIT
Maximum repetitive peak reverse voltage			V_{RRM}	100		120		150		200		V
Maximum average forward rectified current	per device		$I_{F(AV)}$	20								A
	per diode			10								
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load per diode			I_{FSM}	120								A
Voltage rate of change (Rated V_R)			dV/dt	10000								V/μs
Isolation voltage from terminal to heatsink t = 1 min			V_{AC}	1500								V
				Typ.	Max.	Typ.	Max	Typ.	Max.	Typ.	Max.	
Instantaneous forward voltage per diode (Note1)	I_F = 5A	T_J = 25°C	V_F	0.64	-	0.68	-	0.72	-	0.77	-	V
	I_F = 10A			0.74	0.81	0.78	0.87	0.81	0.90	0.83	0.93	
	I_F = 5A	T_J = 125°C	V_F	0.55	-	0.56	-	0.58	-	0.62	-	
	I_F = 10A			0.63	0.70	0.63	0.69	0.66	0.75	0.68	0.78	
Instantaneous reverse current per diode at rated reverse voltage		T_J = 25°C	I_R	-	200	-	250	-	100	-	100	μA
		T_J = 125°C		1.5	10	5	15	3	15	-	15	mA
Typical thermal resistance per diode			$R_{\theta jC}$	2.5		4.9		4.5		4.5		°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**	**GREEN COMPOUND CODE**	**PACKAGE**	**PACKING**
TSF20HXXXC (Note 1)	C0	Suffix "G"	ITO-220AB	50 / Tube

Note 1: "xxx" defines voltage from 100V (TSF20H100C) to 200V (TSF20H200C)

EXAMPLE				
PREFERRED P/N	**PART NO.**	**PACKING CODE**	**GREEN COMPOUND CODE**	**DESCRIPTION**
TSF20H120C C0	TSF20H120C	C0		
TSF20H120C C0G	TSF20H120C	C0	G	Green compound

RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

FIG. 1 FORWARD CURRENT DERATING CURVE

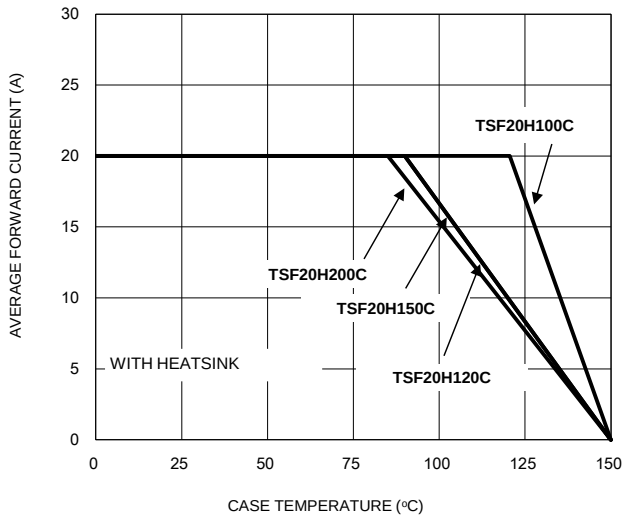


FIG. 2 TYPICAL FORWARD CHARACTERISTICS

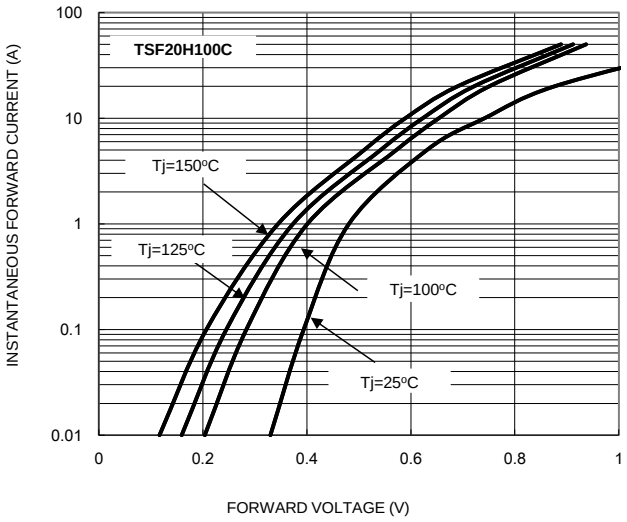


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

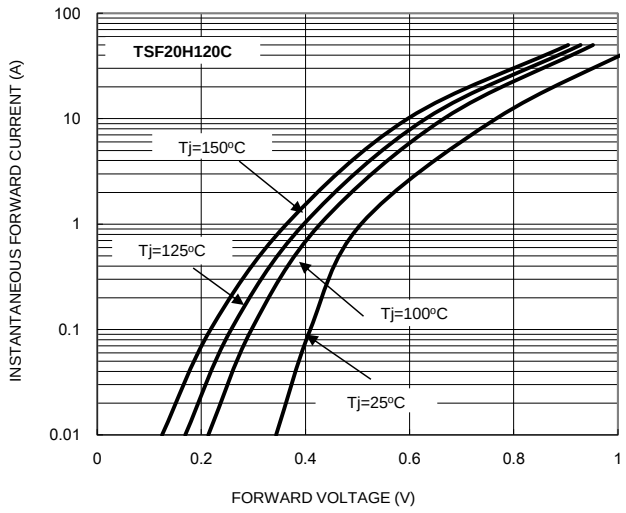


FIG. 4 TYPICAL FORWARD CHARACTERISTICS

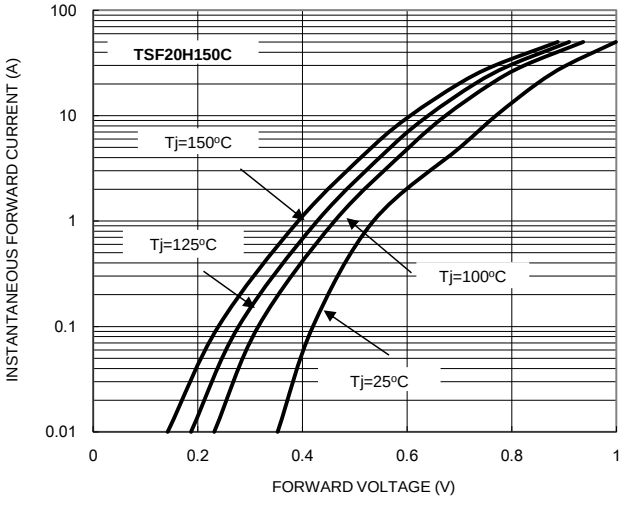


FIG. 5 TYPICAL FORWARD CHARACTERISTICS

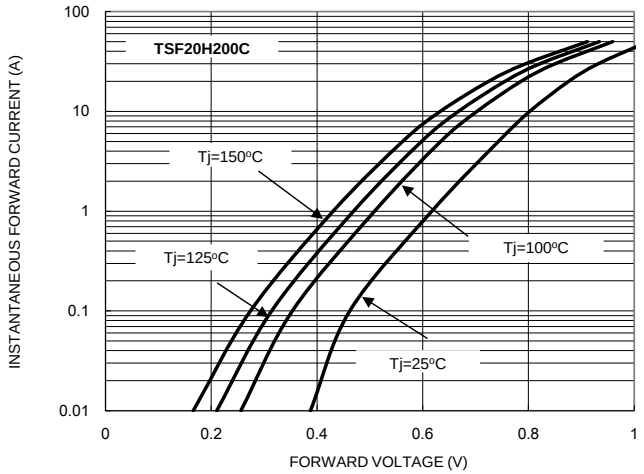


FIG. 6 TYPICAL REVERSE CHARACTERISTICS

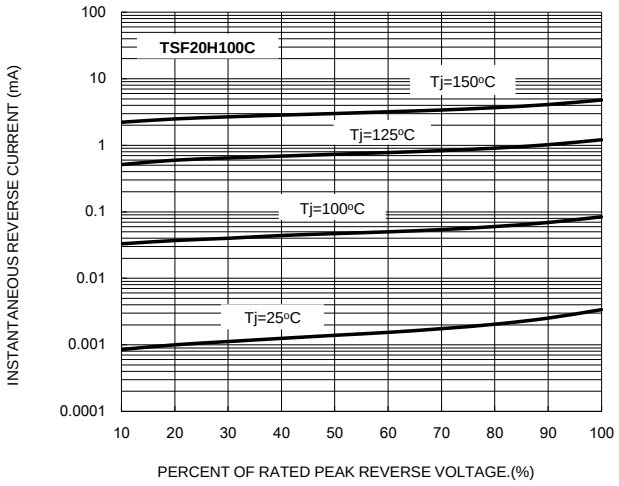


FIG. 7 TYPICAL REVERSE CHARACTERISTICS

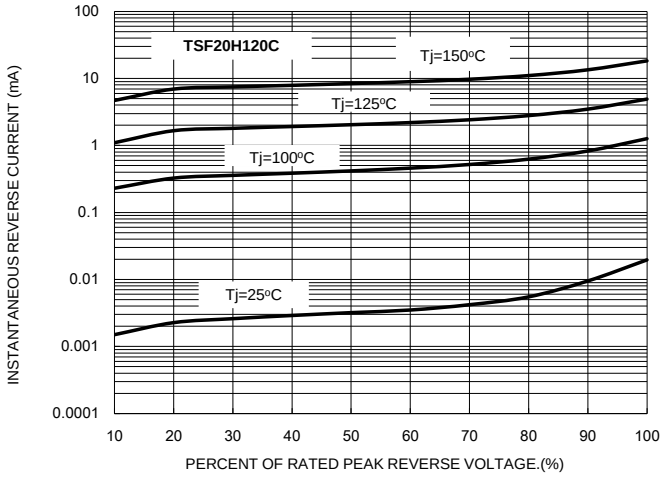


FIG. 8 TYPICAL REVERSE CHARACTERISTICS

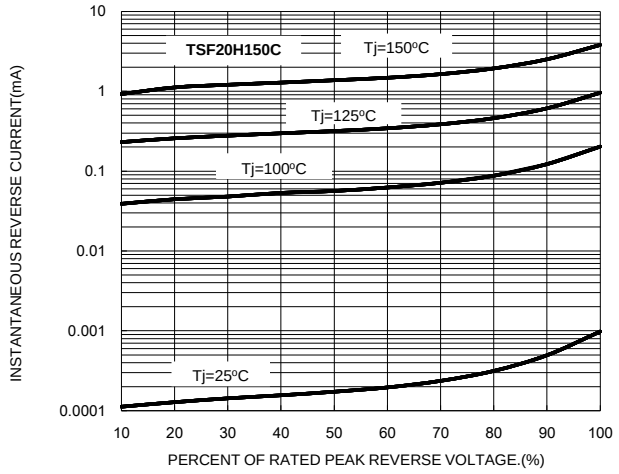


FIG. 9 TYPICAL REVERSE CHARACTERISTICS

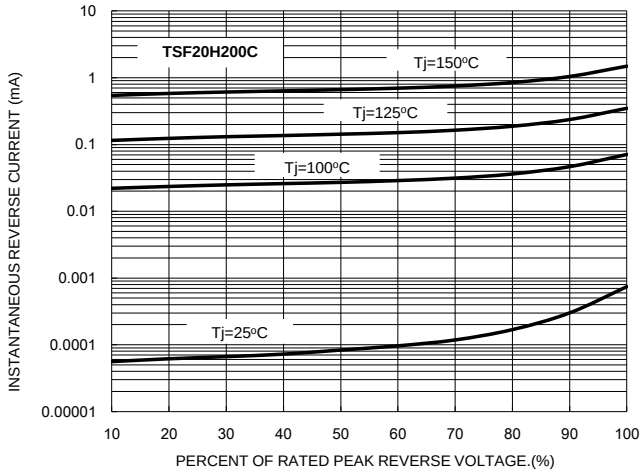
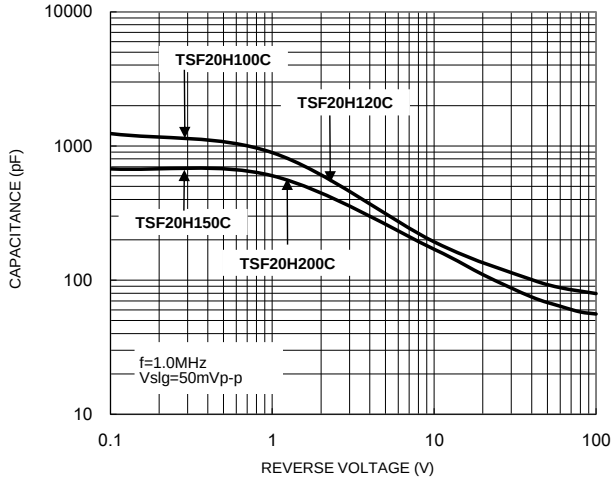


FIG. 10 TYPICAL JUNCTION CAPACITANCE



PACKAGE OUTLINE DIMENSIONS

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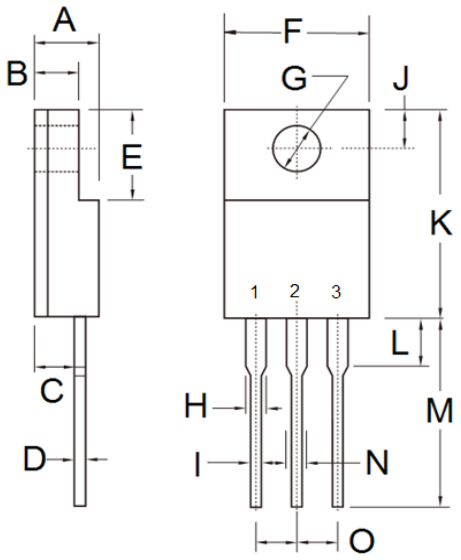

DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	4.30	4.70	0.169	0.185
B	2.50	3.16	0.098	0.124
C	2.30	2.96	0.091	0.117
D	0.46	0.76	0.018	0.030
E	6.30	6.90	0.248	0.272
F	9.60	10.30	0.378	0.406
G	3.00	3.40	0.118	0.134
H	0.95	1.45	0.037	0.057
I	0.50	0.90	0.020	0.035
J	2.40	3.20	0.094	0.126
K	14.80	15.50	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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