



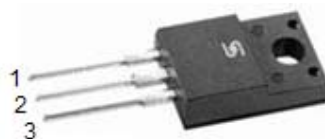
**THE DATASHEET OF  
TSF20H150C COG**



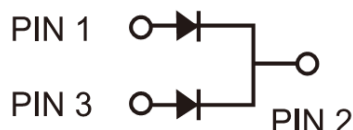
## Trench Schottky Rectifier

### 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	TSF20H 100C	TSF20H 120C	TSF20H 150C	TSF20H 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>	20				A					
	per diode		10									
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load per diode		I <sub>FSM</sub>	120				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 (Note 1)	I <sub>F</sub> = 5A	T <sub>J</sub> = 25°C	V <sub>F</sub>	0.64	-	0.68	-	0.72	-	0.77	-	V
	I <sub>F</sub> = 10A			0.74	0.81	0.78	0.87	0.81	0.90	0.83	0.93	
	I <sub>F</sub> = 5A	T <sub>J</sub> = 125°C	V <sub>F</sub>	0.55	-	0.56	-	0.58	-	0.62	-	
	I <sub>F</sub> = 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 <sub>J</sub> = 25°C	I <sub>R</sub>	-	200	-	250	-	100	-	100	μA
		T <sub>J</sub> = 125°C		1.5	10	5	15	3	15	-	15	mA
Typical thermal resistance per diode		R <sub>θJC</sub>	4.0	4.0	4.5	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
TSF20HXXXC (Note 1)	C0	G	ITO-220AB	50 / Tube

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

**EXAMPLE**

PREFERRED PART NO.	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
TSF20H120C COG	TSF20H120C	C0	G	Green compound

**RATINGS AND CHARACTERISTICS CURVES**

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

FIG. 1 FORWARD CURRENT DERATING CURVE

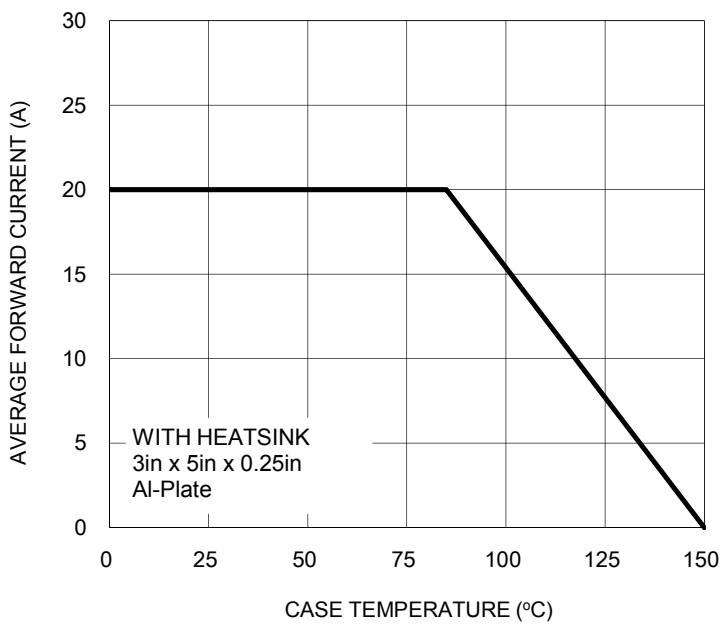


FIG. 2 TYPICAL FORWARD CHARACTERISTICS

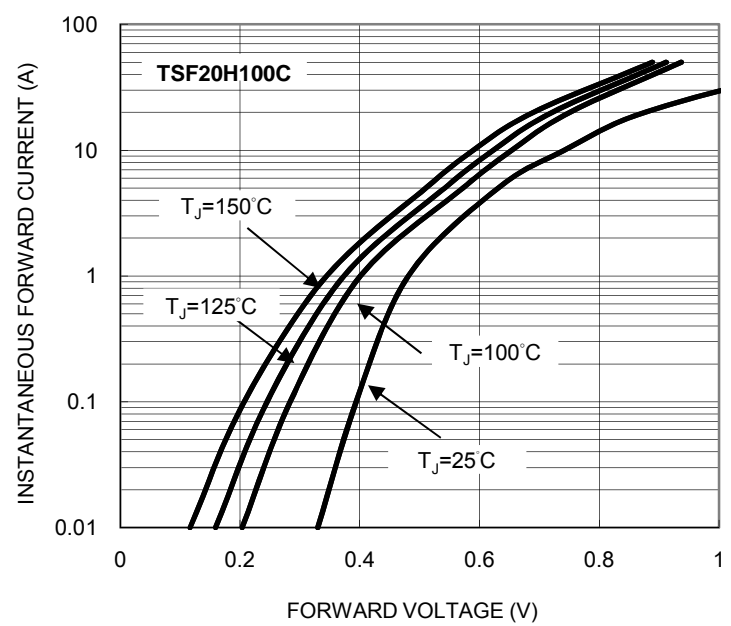


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

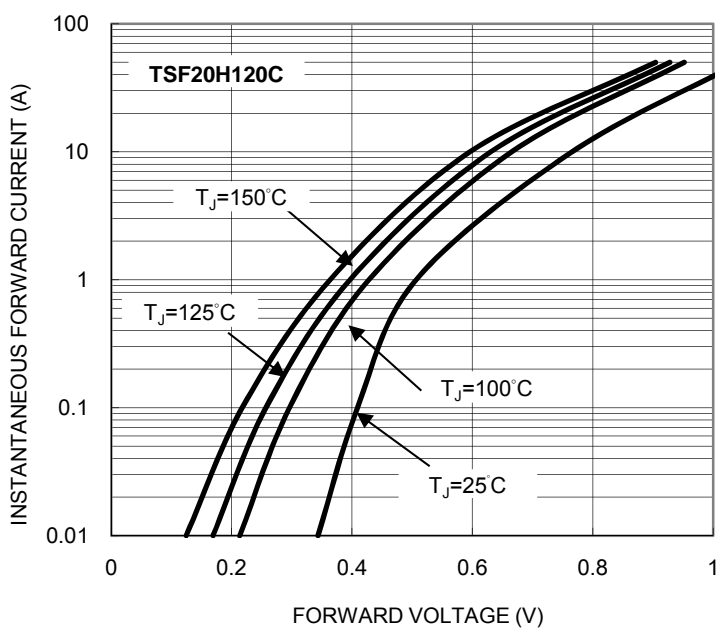


FIG. 4 TYPICAL FORWARD CHARACTERISTICS

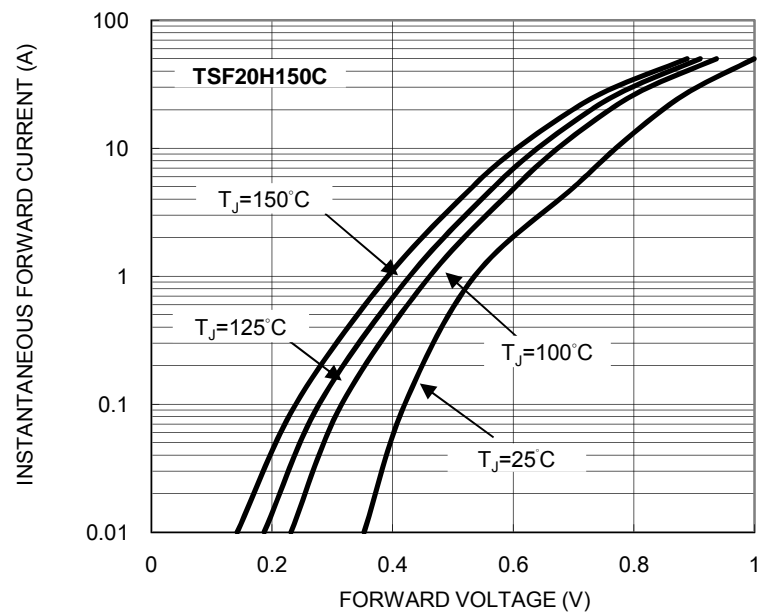


FIG. 5 TYPICAL FORWARD CHARACTERISTICS

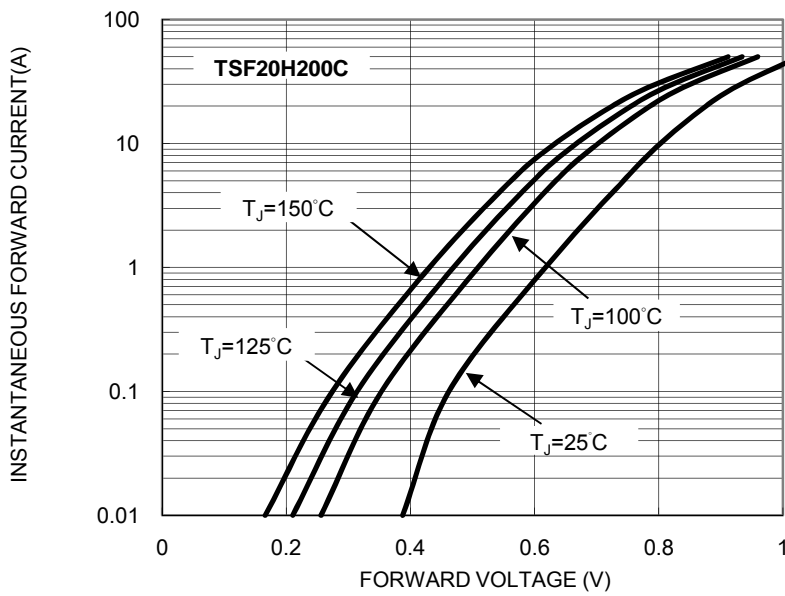


FIG. 6 TYPICAL REVERSE CHARACTERISTICS

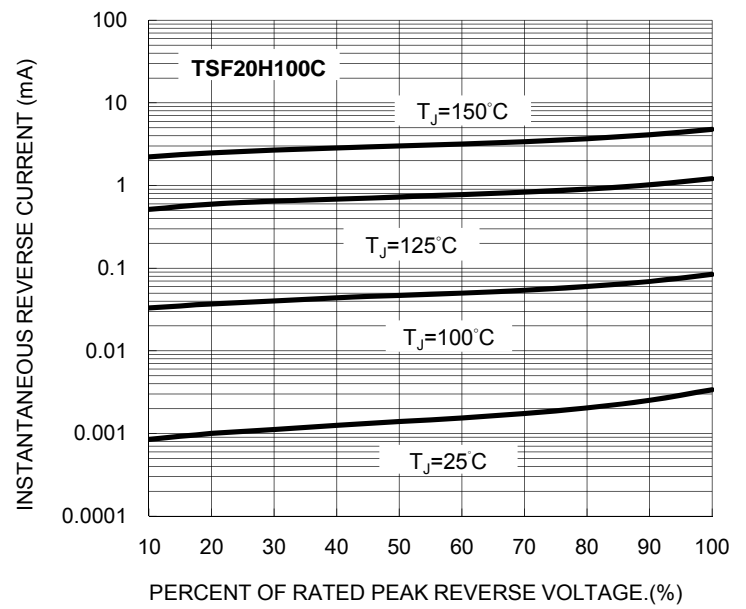


FIG. 7 TYPICAL REVERSE CHARACTERISTICS

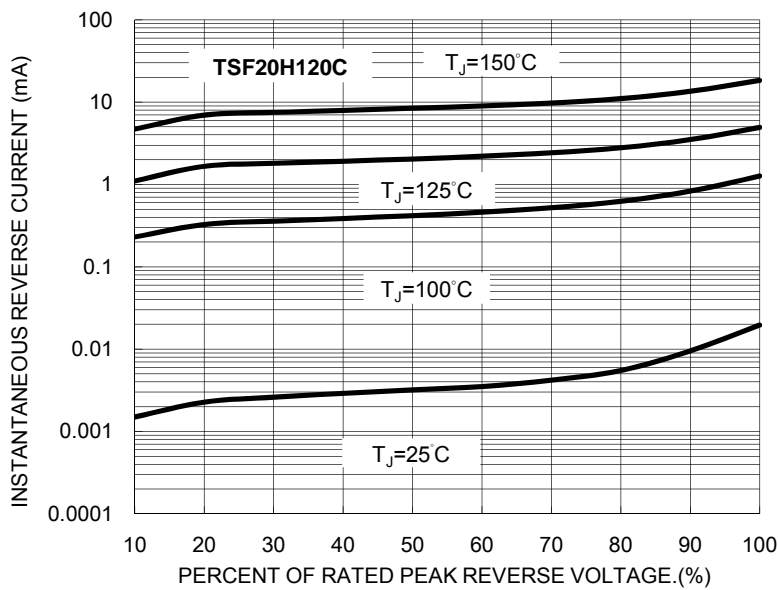


FIG. 8 TYPICAL REVERSE CHARACTERISTICS

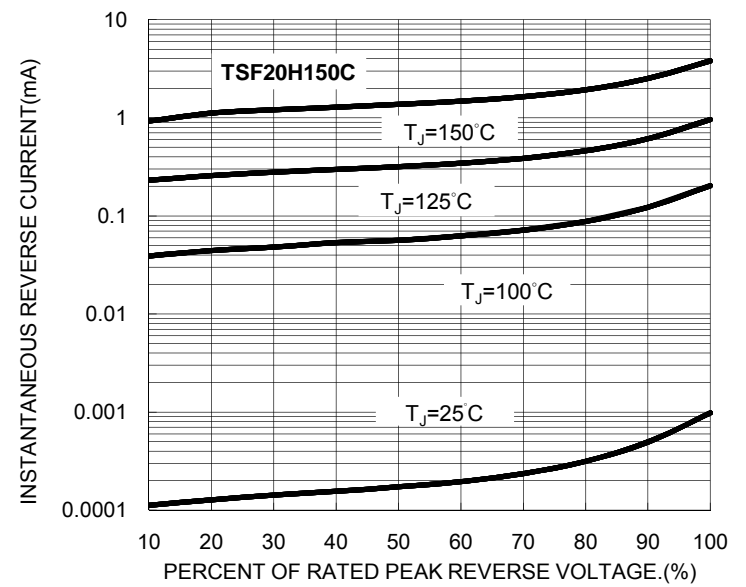


FIG. 9 TYPICAL REVERSE CHARACTERISTICS

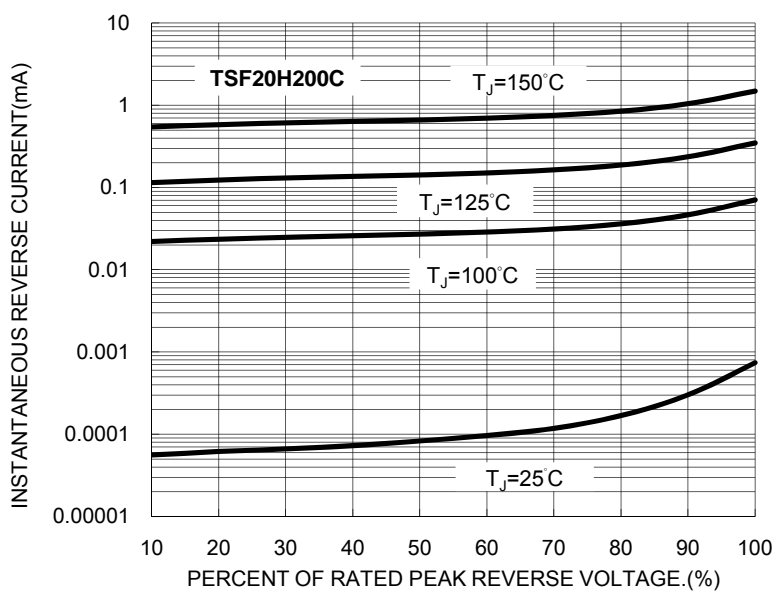
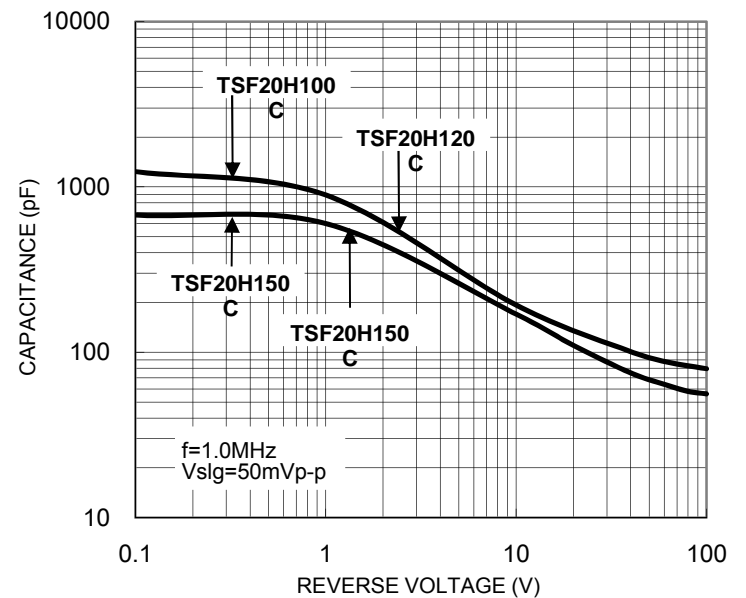
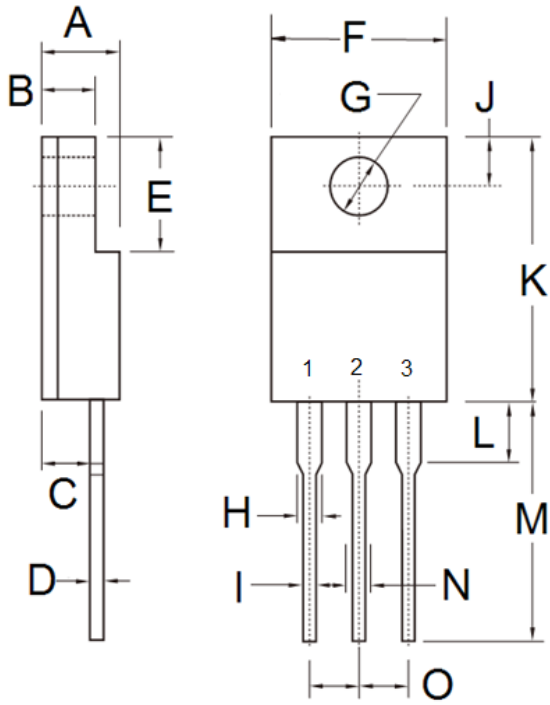


FIG. 10 TYPICAL JUNCTION CAPACITANCE



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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