

## Trench Schottky Rectifier

### FEATURES

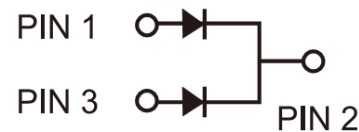
- Patented Trench Schottky technology
- Excellent high temperature stability
- Low forward voltage
- Low power loss/ High efficiency
- High forward surge capability
- Compliant to RoHS directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition



**TO-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:** TO-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 1A whisker test

**Polarity:** As marked

**Mounting torque:** 0.56 Nm max.

**Weight:** 1.88 g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25°C unless otherwise noted)												
PARAMETER		SYMBOL	TST20H 100CW		TST20H 120CW		TST20H 150CW		TST20H 200CW		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>	150									A
Voltage rate of change (Rated V <sub>R</sub> )		dV/dt	10000									V/μs
Instantaneous forward voltage per diode (Note1)	I <sub>F</sub> = 5A	T <sub>J</sub> = 25°C	TYP	MAX	TYP	MAX	TYP	MAX	TYP	MAX	V	
			0.57	-	0.62	-	0.72	-	0.77	-		
	I <sub>F</sub> = 10A	T <sub>J</sub> = 25°C	0.67	0.79	0.78	0.89	0.81	0.90	0.83	0.93		
	I <sub>F</sub> = 5A	T <sub>J</sub> = 125°C	0.50	-	0.53	-	0.58	-	0.62	-		
Instantaneous reverse current per diode at rated reverse voltage	T <sub>J</sub> = 25°C	I <sub>R</sub>	-	200	-	200	-	100	-	100	μA	
			T <sub>J</sub> = 125°C	8	25	10	30	3	15	3	15	mA
Typical thermal resistance per diode		R <sub>θJC</sub>	2.8									°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
TST20HXXXCW (Note 1)	C0	G	TO-220AB	50 / Tube

Note 1: "XXX" defines voltage from 100V (TST20H100CW) to 200V (TST20H200CW)

**EXAMPLE**

PREFERRED PART NO.	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
TST20H120CW C0G	TST20H120CW	C0	G	Green compound

**RATINGS AND CHARACTERISTICS CURVES**

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

FIG. 1 FORWARD CURRENT DERATING CURVE

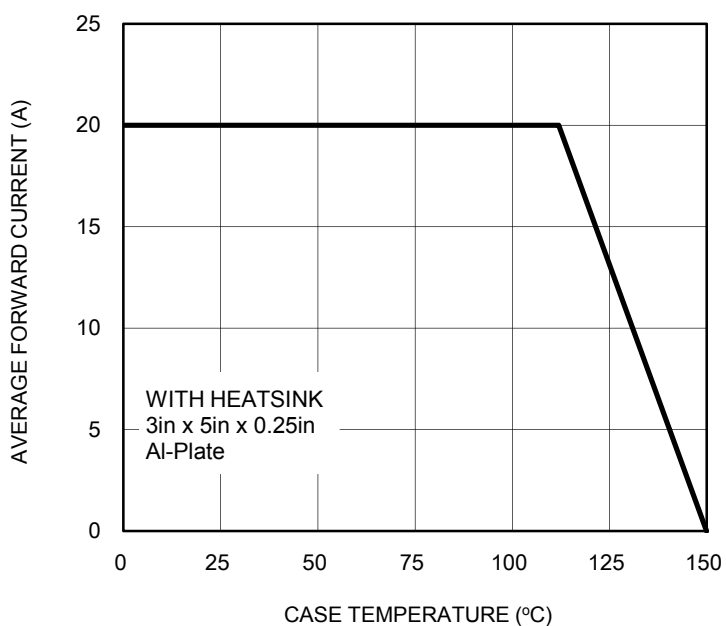


FIG. 2 TYPICAL FORWARD CHARACTERISTICS

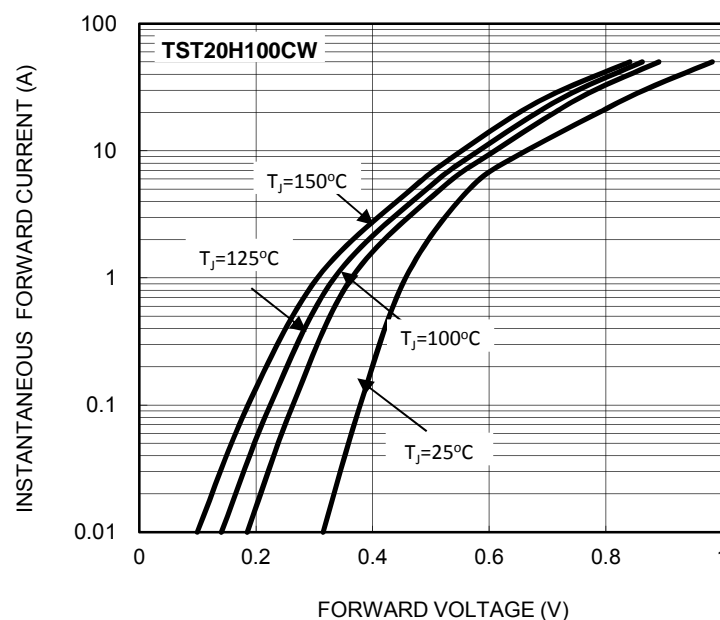


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

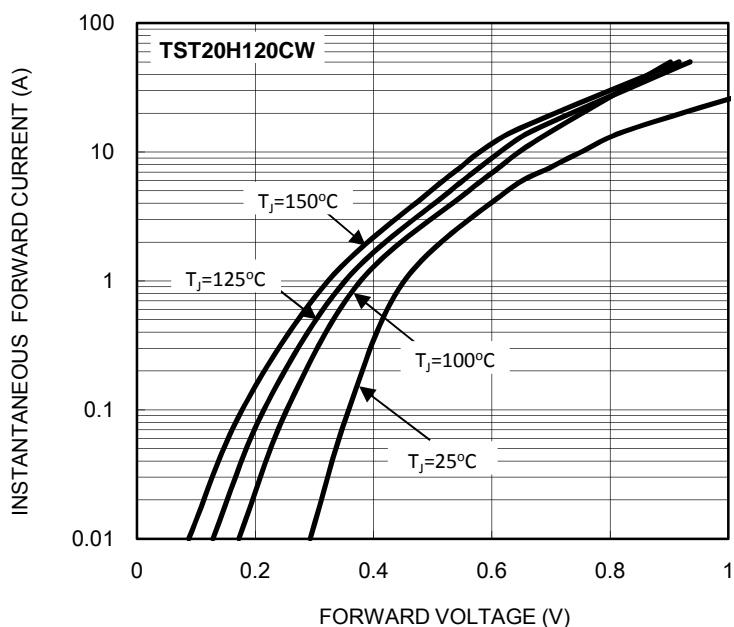


FIG. 4 TYPICAL FORWARD CHARACTERISTICS

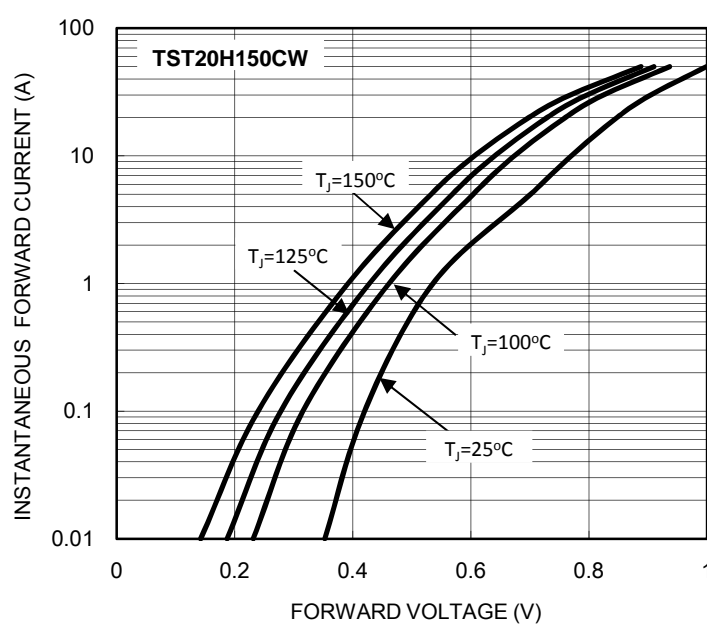


FIG. 5 TYPICAL FORWARD CHARACTERISTICS

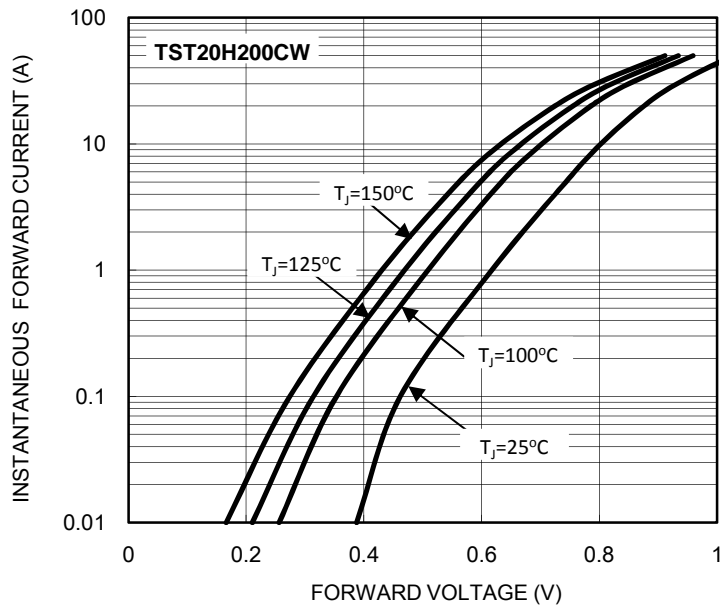


FIG. 6 TYPICAL REVERSE CHARACTERISTICS

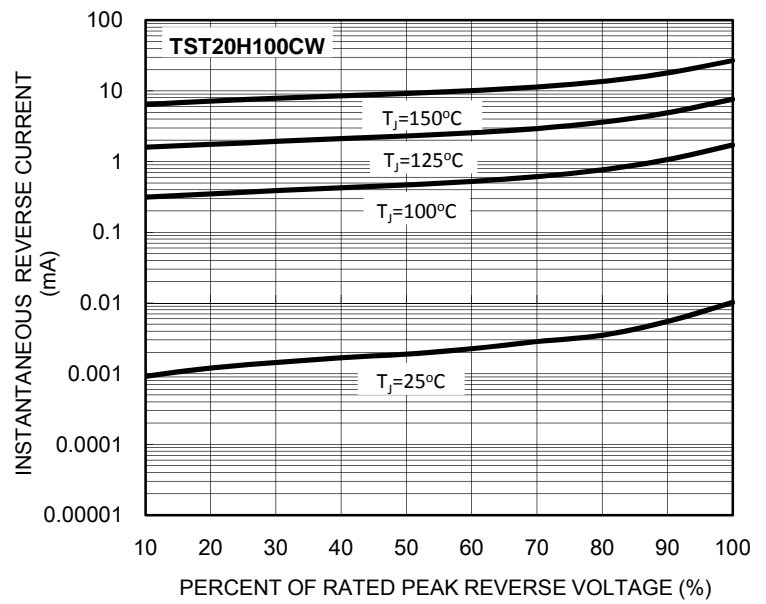


FIG. 7 TYPICAL REVERSE CHARACTERISTICS

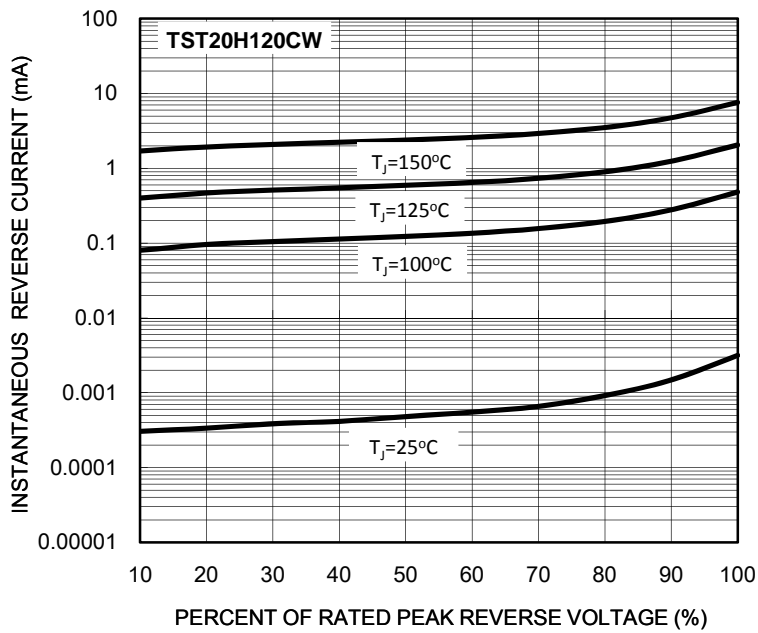


FIG. 8 TYPICAL REVERSE CHARACTERISTICS

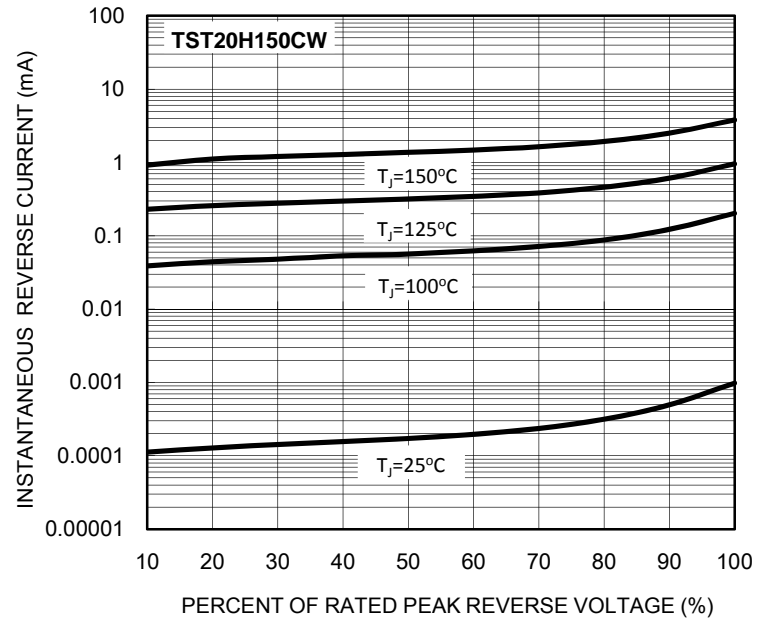


FIG. 9 TYPICAL REVERSE CHARACTERISTICS

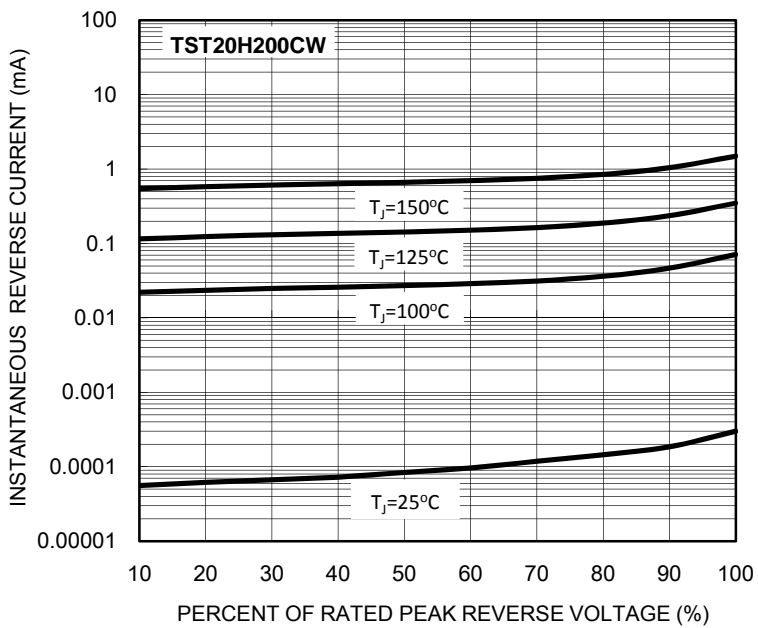
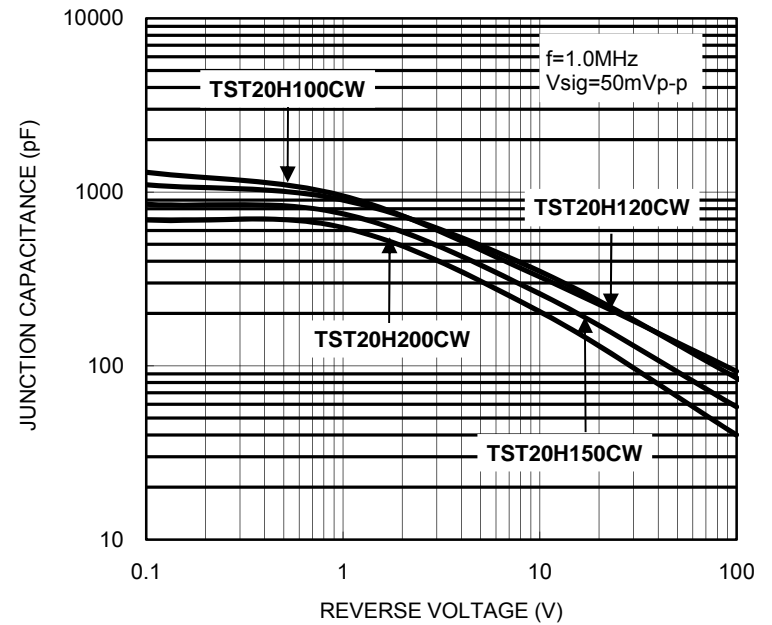
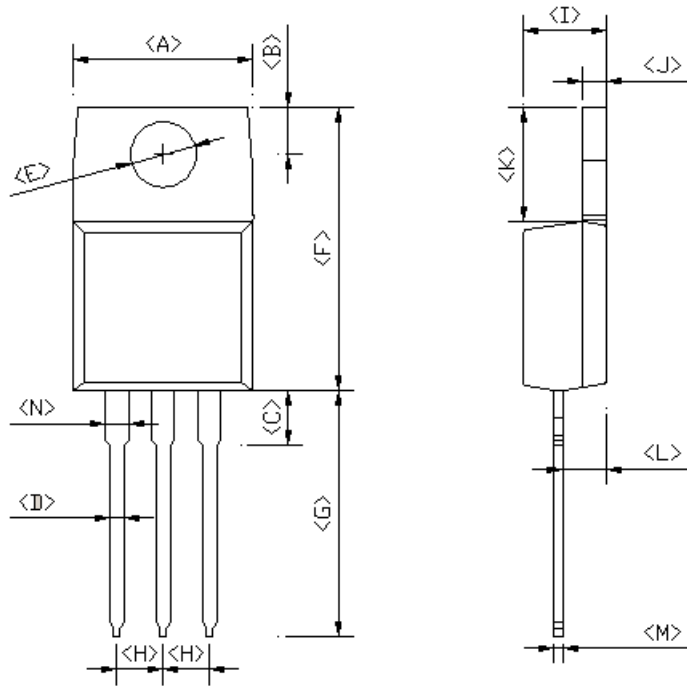


FIG. 10 TYPICAL JUNCTION CAPACTIANCE



PACKAGE OUTLINE DIMENSIONS  
**TO-220AB**



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	-	10.50	-	0.413
B	2.54	3.44	0.100	0.135
C	2.80	4.20	0.110	0.165
D	0.68	0.94	0.027	0.037
E	3.54	4.00	0.139	0.157
F	14.60	16.00	0.575	0.630
G	13.19	14.79	0.519	0.582
H	2.41	2.67	0.095	0.105
I	4.42	4.76	0.174	0.187
J	1.14	1.40	0.045	0.055
K	5.84	6.86	0.230	0.270
L	2.20	2.80	0.087	0.110
M	0.35	0.64	0.014	0.025
N	0.95	1.45	0.037	0.057

MARKING DIAGRAM



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

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