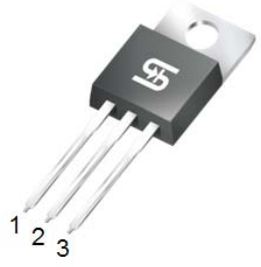
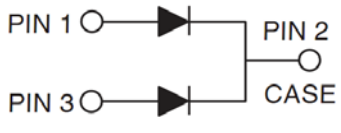
Trench Schottky Rectifier

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



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: 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 2 whisker test

Polarity: As marked

Mounting torque: 0.56 Nm max.

Weight: 1.88 g (approximately)

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

PARAMETER			SYMBOL	TST20L 100CW		TST20L 120CW		TST20L 150CW		TST20L 200CW		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, 8.3ms single half sine-wave superimposed on rated load per diode			I_{FSM}	100								A
Voltage rate of change (Rated V_R)			dV/dt	10000								V/μs
				TYP.	MAX.	TYP.	MAX.	TYP.	MAX.	TYP.	MAX.	
Instantaneous forward voltage per diode (Note1)	I_F = 5A	T_J = 25°C	V_F	0.62	-	0.69	-	0.78	-	0.81	-	V
	I_F = 10A			-	0.84	-	0.93	-	0.96	-	0.99	
	I_F = 5A	T_J = 125°C		0.55	-	0.58	-	0.64	-	0.67	-	
	I_F = 10A			0.65	0.74	0.69	0.78	0.72	0.81	0.75	0.84	
Instantaneous reverse current per diode at rated reverse voltage		T_J = 25°C	I_R	-	100	-	100	-	100	-	100	μA
		T_J = 125°C		-	15	-	15	1.5	10	1.5	10	mA
Typical thermal resistance per diode			$R_{\theta JC}$	3.2								°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	PACKING CODE SUFFIX	PACKAGE	PACKING
TST20LXXXCW (Note 1)	C0	G	TO-220AB	50 / Tube

Note 1: "XXX" defines voltage from 100V (TST20L100CW) to 200V (TST20L200CW)

EXAMPLE				
PREFERRED PART NO.	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
TST20L150CW C0G	TST20L150CW	C0	G	Green compound

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

FIG. 1 FORWARD CURRENT DERATING CURVE

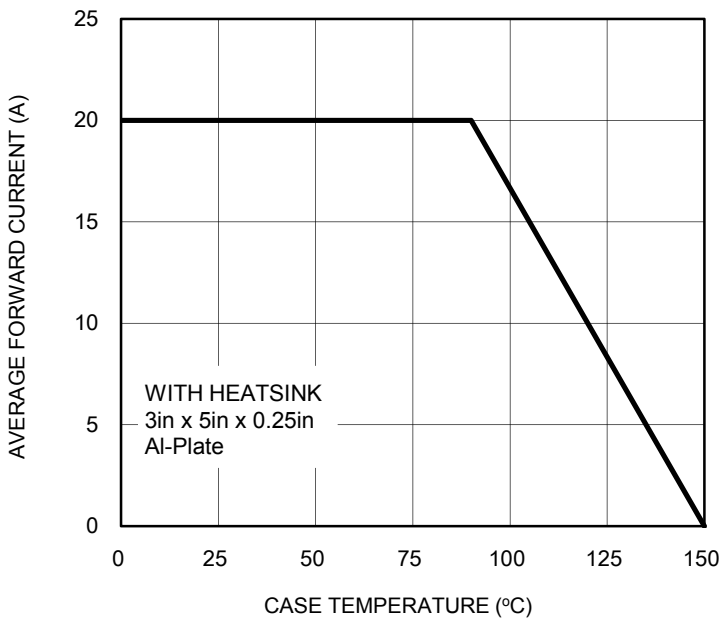


FIG. 2 TYPICAL FORWARD CHARACTERISTICS

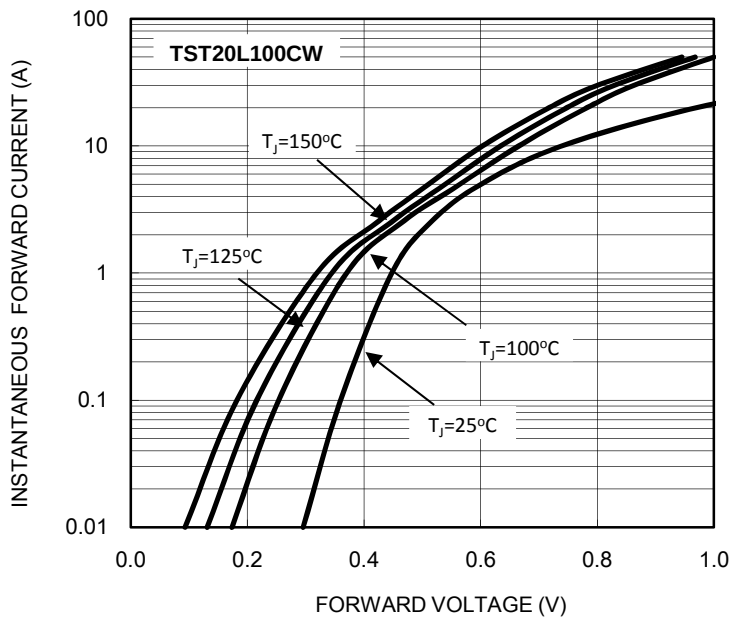


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

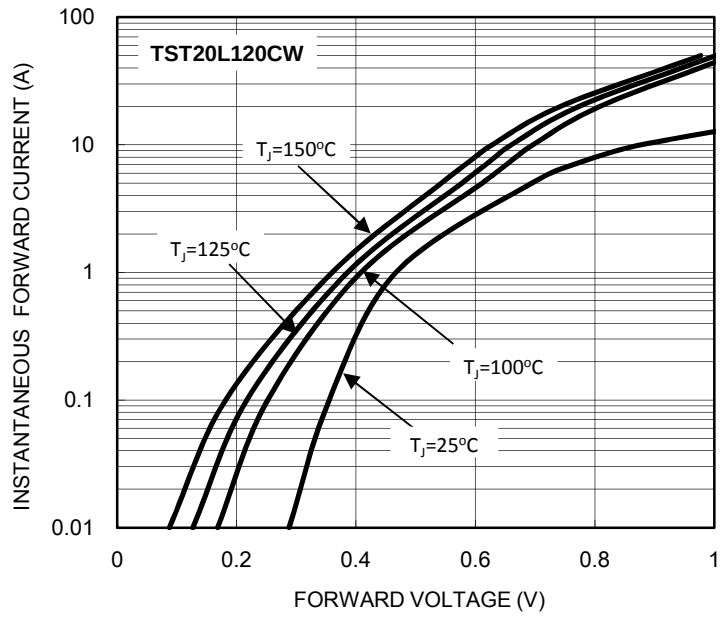


FIG. 4 TYPICAL FORWARD CHARACTERISTICS

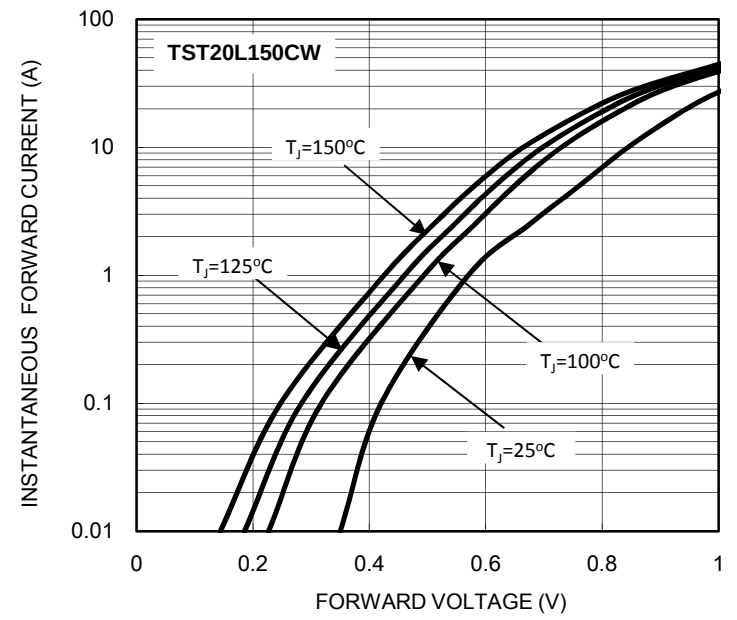


FIG. 6 TYPICAL FORWARD CHARACTERISTICS

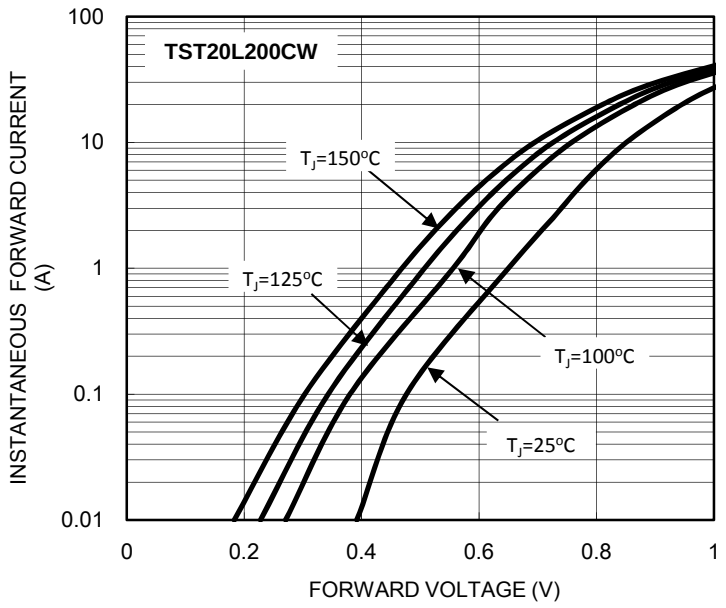
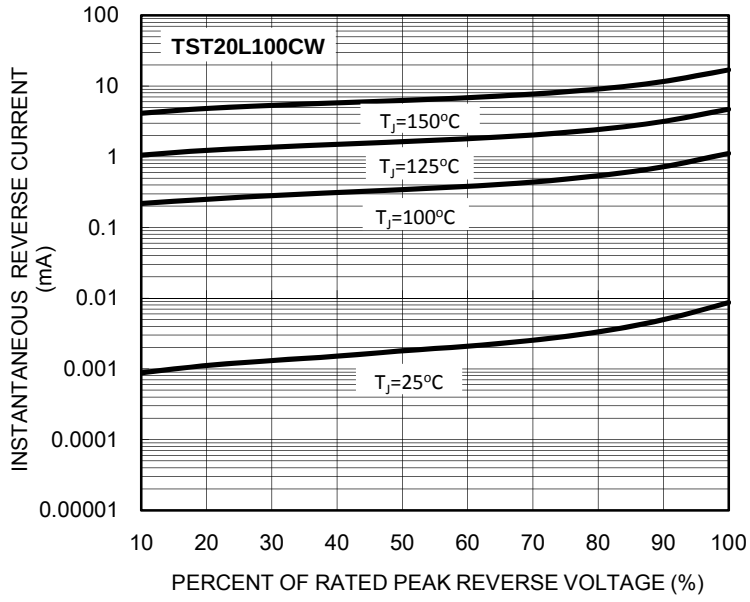


FIG. 7 TYPICAL REVERSE CHARACTERISTICS



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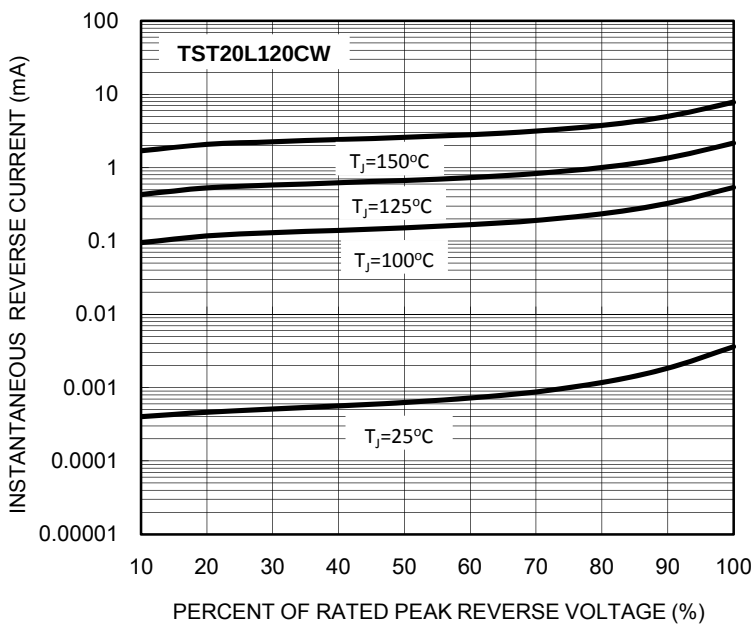


FIG. 8 TYPICAL REVERSE CHARACTERISTICS

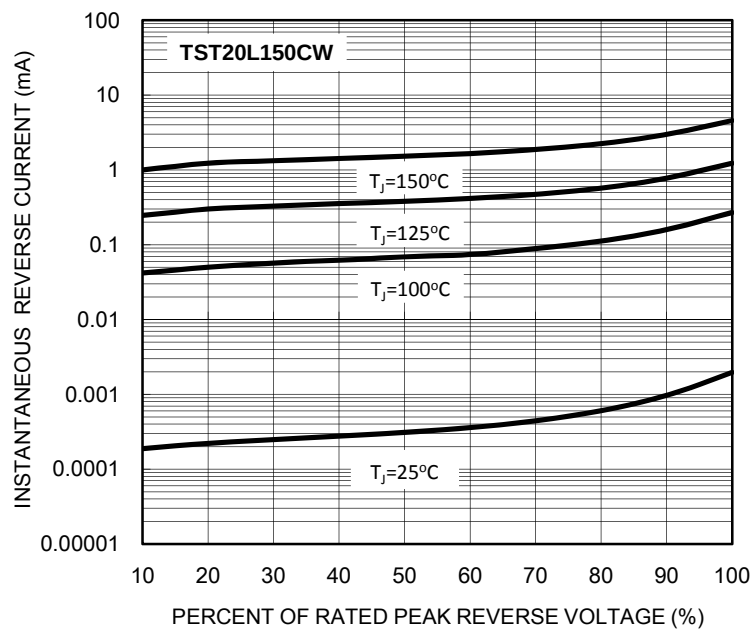


FIG. 9 TYPICAL REVERSE CHARACTERISTICS

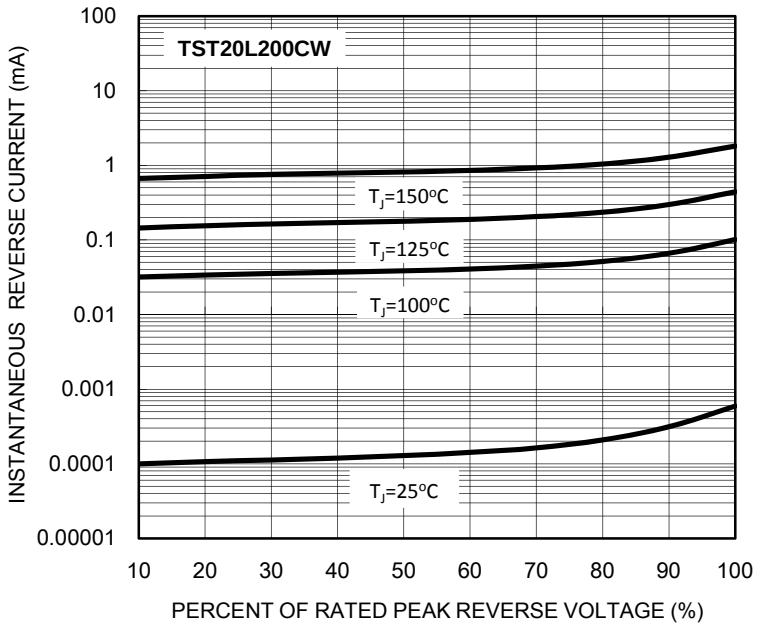
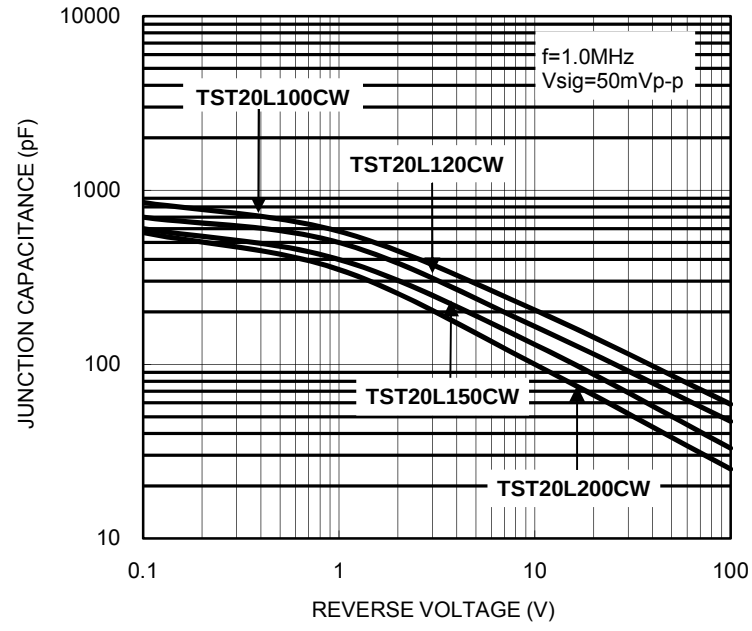
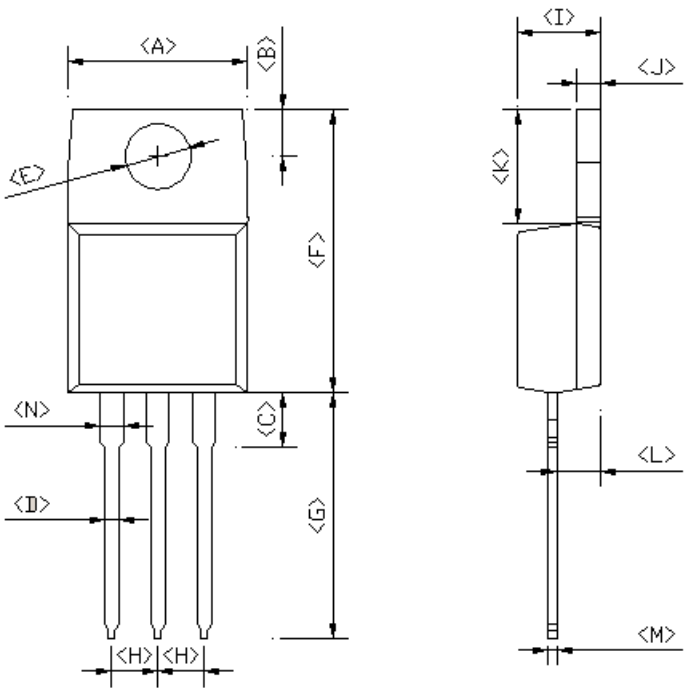


FIG. 10 TYPICAL JUNCTION CAPACITANCE



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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