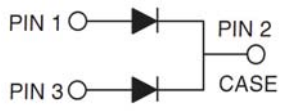
10A, 100V - 200V Trench Schottky Rectifier

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

TO-263AB (D^2PAK)



TYPICAL APPLICATIONS

Trench Schottky barrier rectifier is designed for high frequency switched mode power supplies such as adapters, lighting, and DC/DC converters.

MECHANICAL DATA

Case: TO-263AB (D^2PAK)
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
Weight: 1.6 g (approximately)

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

PARAMETER			SYMBOL	TSD10H 100CW		TSD10H 120CW		TSD10H 150CW		TSD10H 200CW		UNIT
Maximum repetitive peak reverse voltage			V_{RRM}	100		120		150		200		V
Maximum average forward rectified current	per device		$I_{F(AV)}$	10								A
	per diode			5								
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	0.70	0.69	0.79	0.78	0.88	0.81	0.91	V
	I_F = 5A	T_J = 125°C		0.55	0.63	0.58	0.66	0.64	0.72	0.67	0.75	
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
TSD10HXXXCW (Note 1)	C0	G	D^2PAK	50 / Tube

Note 1: "XXX" defines voltage from 100V (TSD10H100CW) to 200V (TSD10H200CW)

EXAMPLE				
PREFERRED PART NO.	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
TSD10H150CW C0G	TSD10H150CW	C0	G	Green compound

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

FIG. 1 FORWARD CURRENT DERATING CURVE

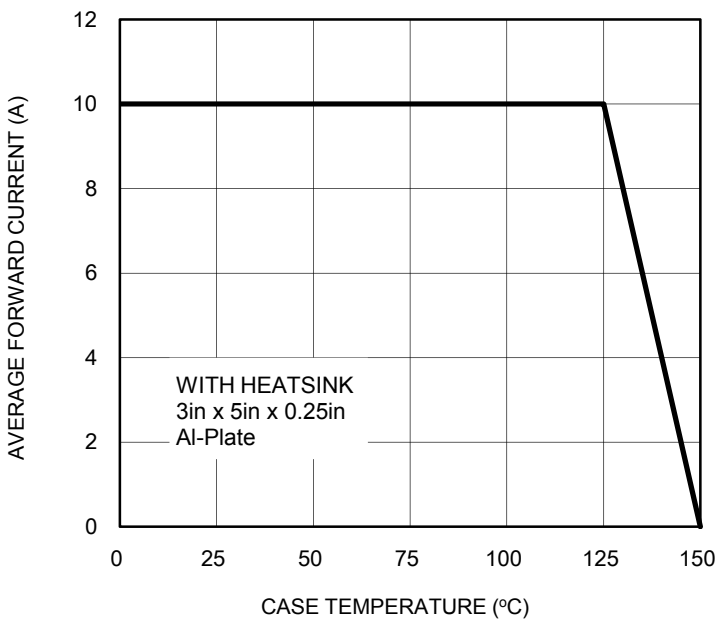


FIG. 2 TYPICAL FORWARD CHARACTERISTICS

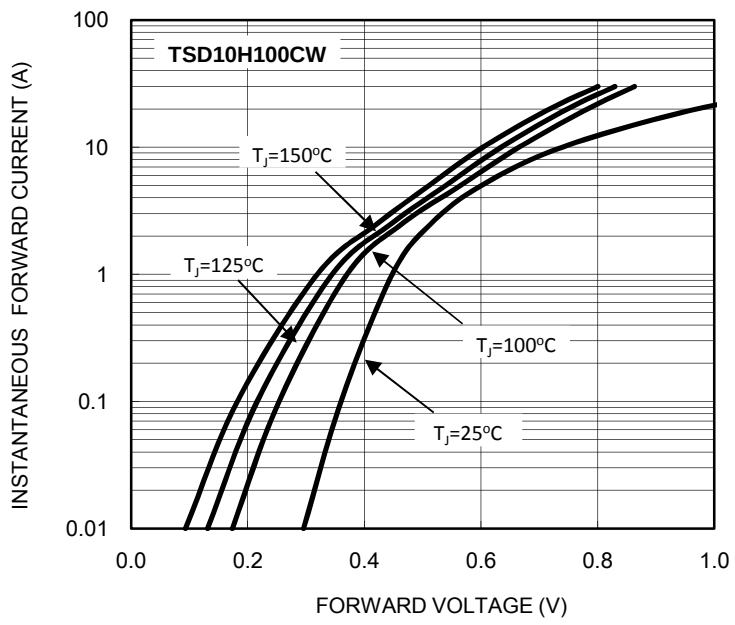


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

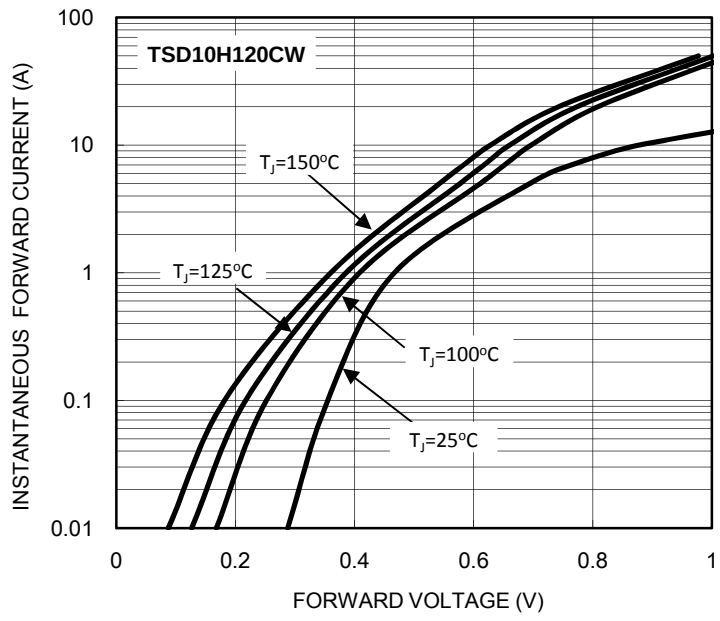


FIG. 4 TYPICAL FORWARD CHARACTERISTICS

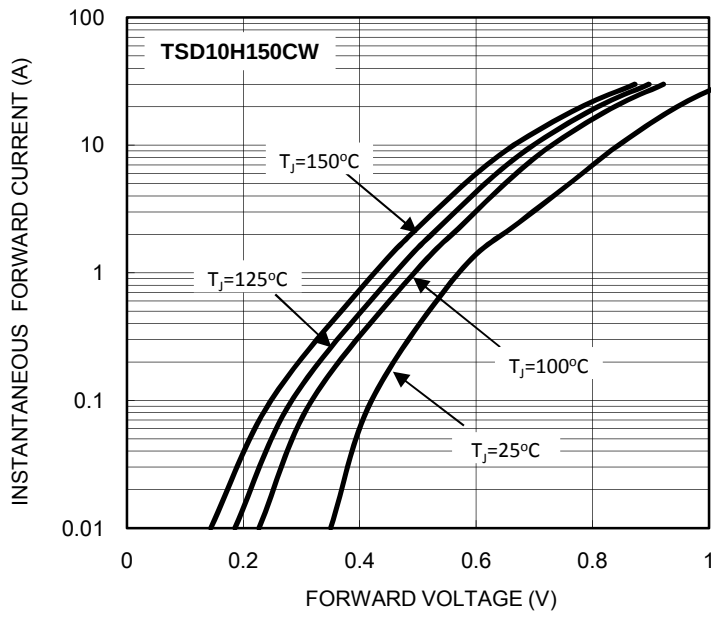


FIG. 5 TYPICAL FORWARD CHARACTERISTICS

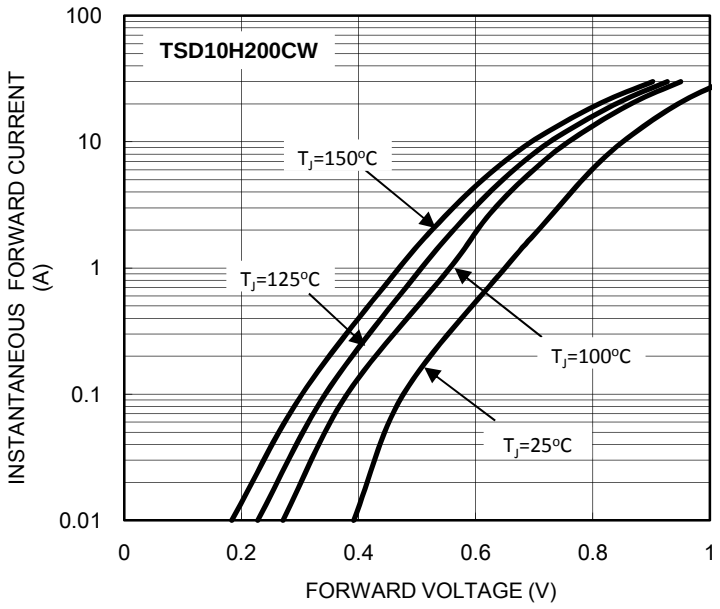


FIG. 6 TYPICAL REVERSE CHARACTERISTICS

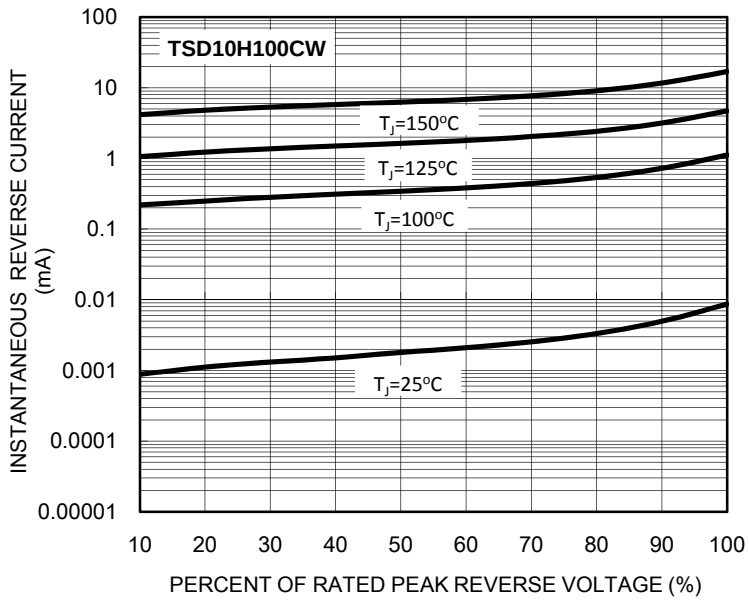


FIG. 7 TYPICAL REVERSE CHARACTERISTICS

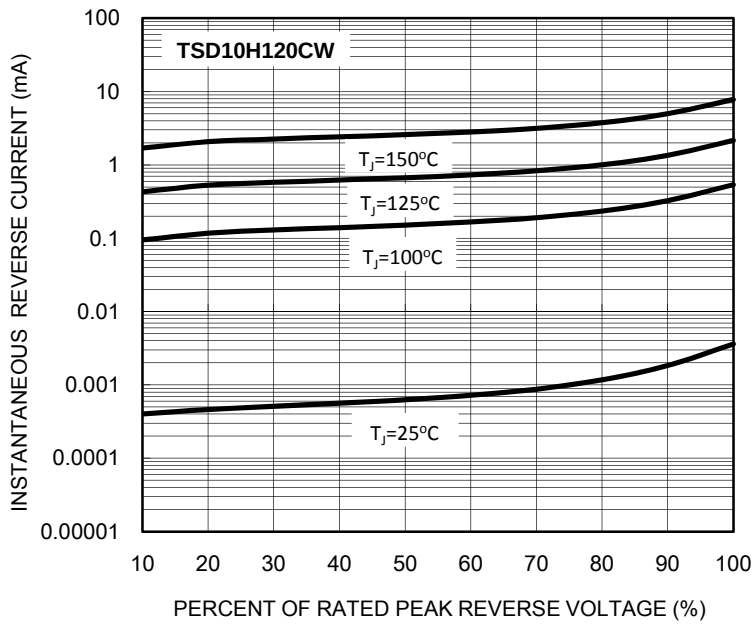


FIG. 8 TYPICAL REVERSE CHARACTERISTICS

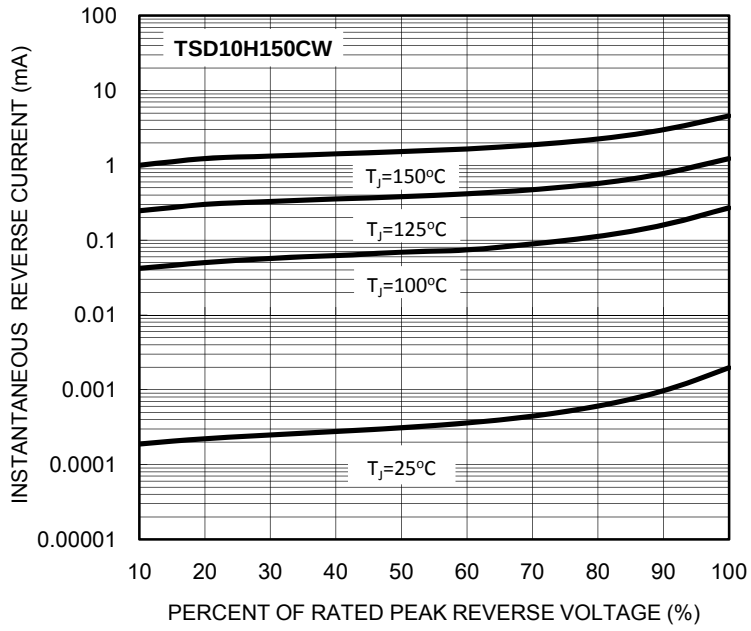


FIG. 9 TYPICAL REVERSE CHARACTERISTICS

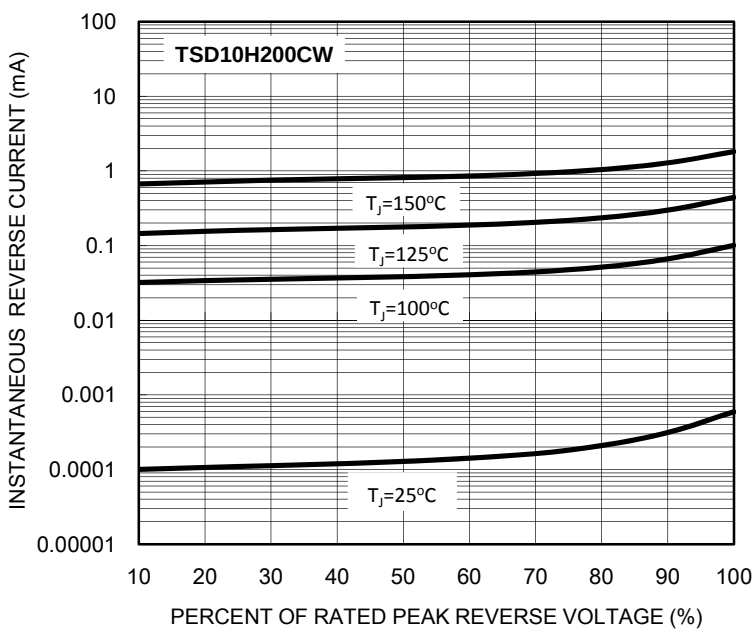
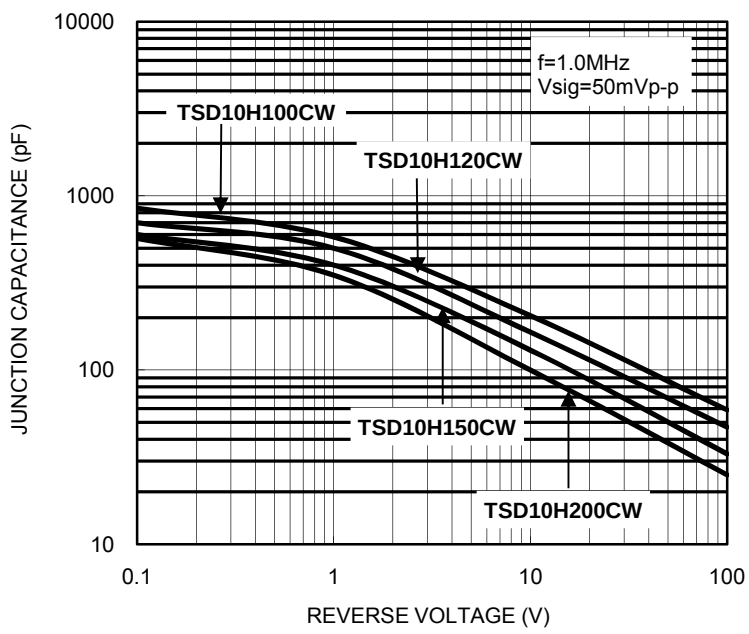
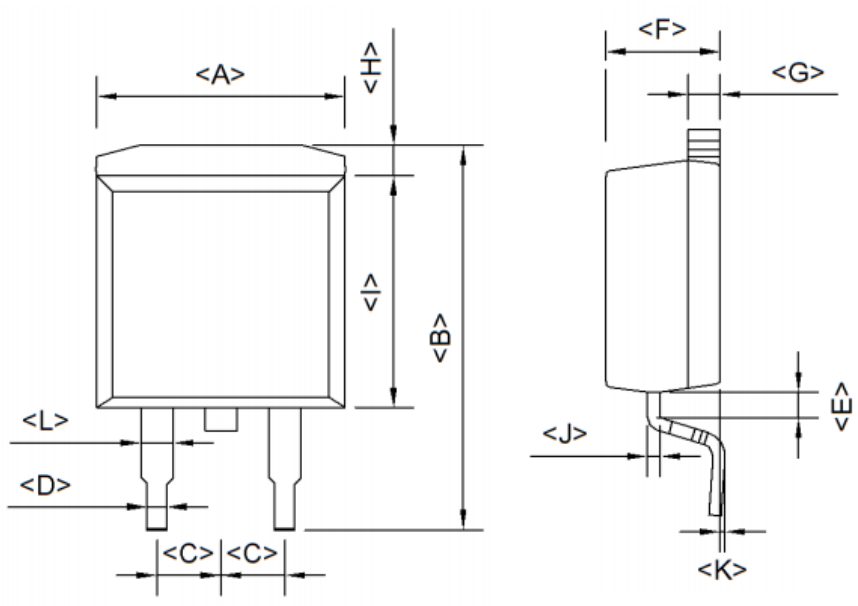


FIG. 10 TYPICAL JUNCTION CAPACITANCE



PACKAGE OUTLINE DIMENSIONS

TO-263AB (D^2PAK)



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	9.600	10.050	0.378	0.396
B	14.920	15.520	0.587	0.611
C	2.540 (TYP)		0.100 (TYP)	
D	0.675	0.975	0.027	0.038
E	1.778 (TYP)		0.070 (TYP)	
F	4.390	4.790	0.173	0.189
G	1.150	1.450	0.045	0.057
H	1.600 (TYP)		0.063 (TYP)	
I	9.170	9.370	0.361	0.369
J	0.400	0.600	0.016	0.024
K	0.254 (TYP)		0.010 (TYP)	
L	1.150	1.550	0.045	0.061

MARKING DIAGRAM

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

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