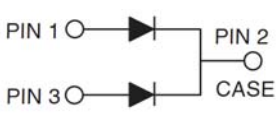
Trench Schottky Rectifier

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

ITO-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: 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 1A whisker test

Polarity: As marked

Mounting torque: 0.56 Nm max.

Weight: 1.7 g (approximately)

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

PARAMETER			SYMBOL	TSF40L 100C		TSF40L 120C		TSF40L 150C		TSF40L 200C		UNIT
Maximum repetitive peak reverse voltage			V_{RRM}	100		120		150		200		V
Maximum average forward rectified current	per device		$I_{F(AV)}$	40								A
	per diode			20								
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load per diode			I_{FSM}	200								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 = 10A	T_J = 25°C	V_F	0.60	-	0.67	-	0.77	-	0.80	-	V
	I_F = 20A			0.72	0.80	0.79	0.85	0.86	0.96	0.88	0.98	
	I_F = 10A	T_J = 125°C		0.54	-	0.58	-	0.64	-	0.67		
	I_F = 20A			0.65	0.73	0.69	0.77	0.74	0.82	0.76	0.84	
Instantaneous reverse current per diode at rated reverse voltage		T_J = 25°C	I_R		250	-	250	-	100	-	100	μA
		T_J = 125°C		10	25	10	25	3	15	3	15	mA
Typical thermal resistance per diode			$R_{\theta JC}$	3.5				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	PACKING CODE SUFFIX	PACKAGE	PACKING
TSF40LXXXC (Note 1)	C0	G	ITO-220AB	50 / Tube

Note 1: "XXX" defines voltage from 100V (TSF40L100C) to 200V (TSF40L200C)

EXAMPLE				
PREFERRED PART NO.	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
TSF40L120C C0G	TSF40L120C	C0	G	Green compound

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

FIG. 1 FORWARD CURRENT DERATING CURVE

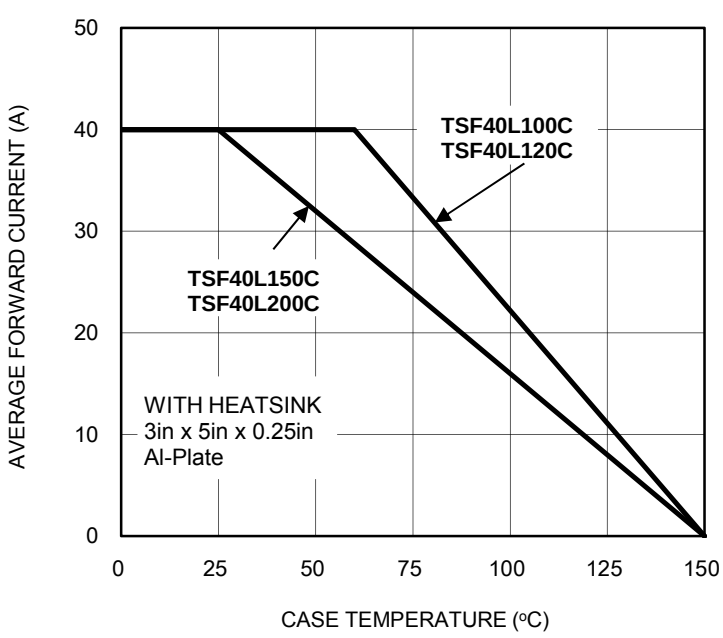


FIG. 2 TYPICAL FORWARD CHARACTERISTICS

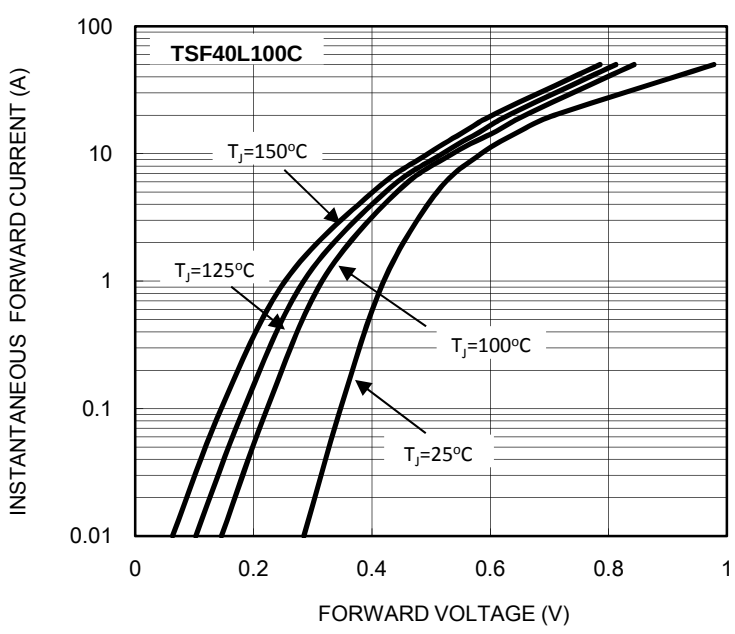


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

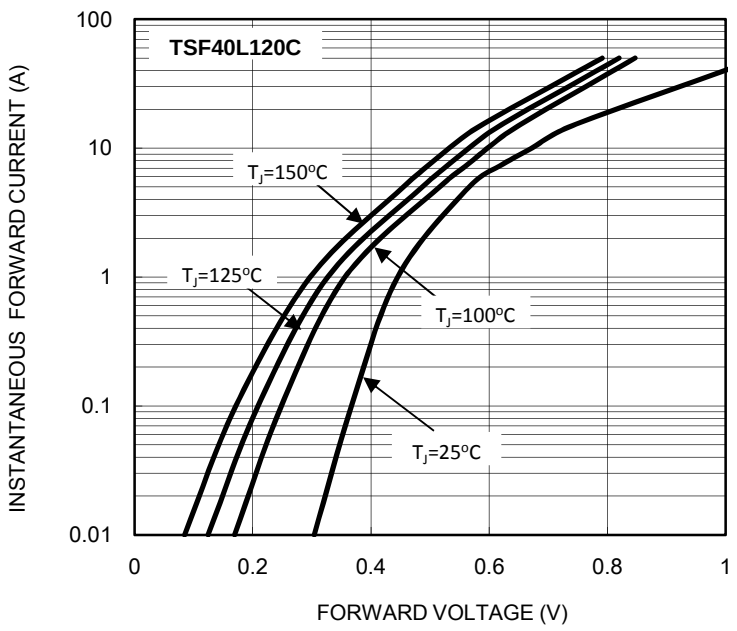


FIG. 4 TYPICAL FORWARD CHARACTERISTICS

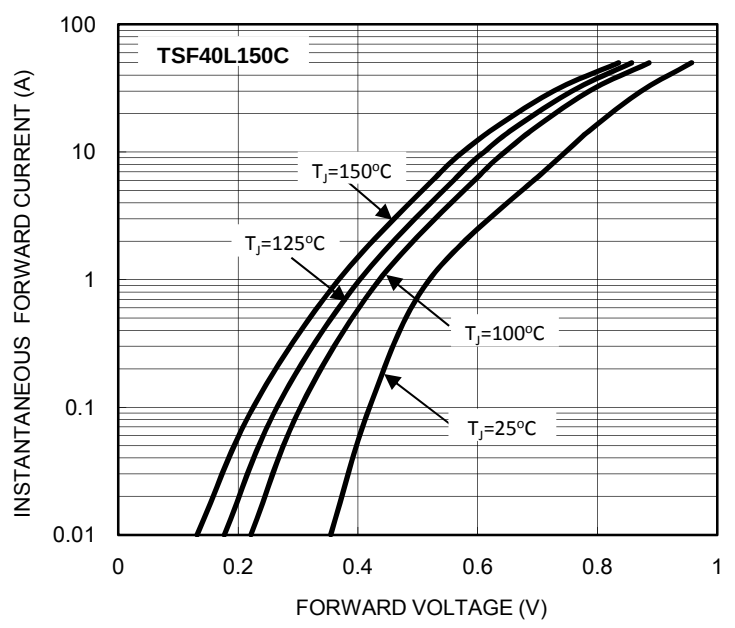


FIG. 5 TYPICAL FORWARD CHARACTERISTICS

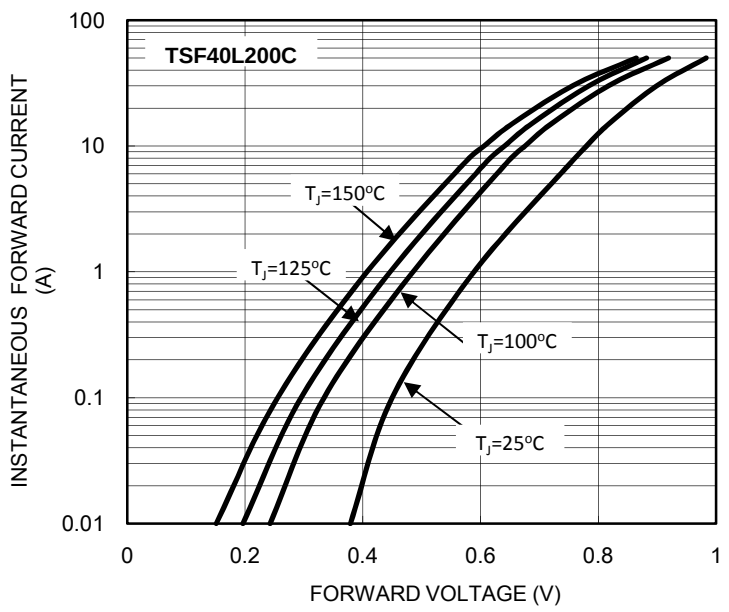


FIG. 6 TYPICAL REVERSE CHARACTERISTICS

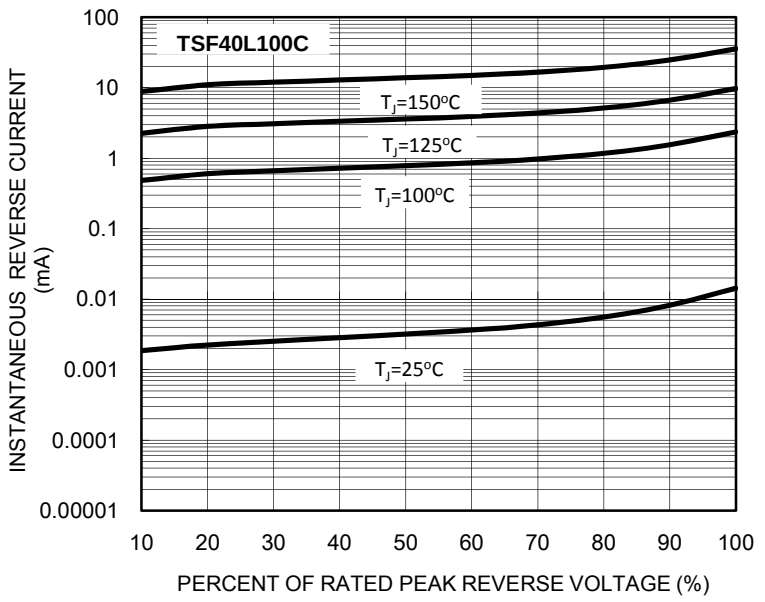


FIG. 7 TYPICAL REVERSE CHARACTERISTICS

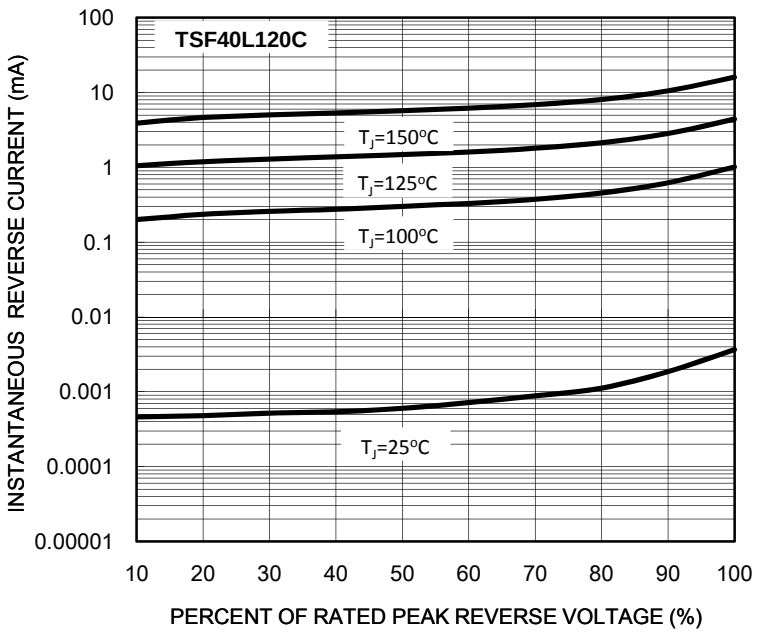


FIG. 8 TYPICAL REVERSE CHARACTERISTICS

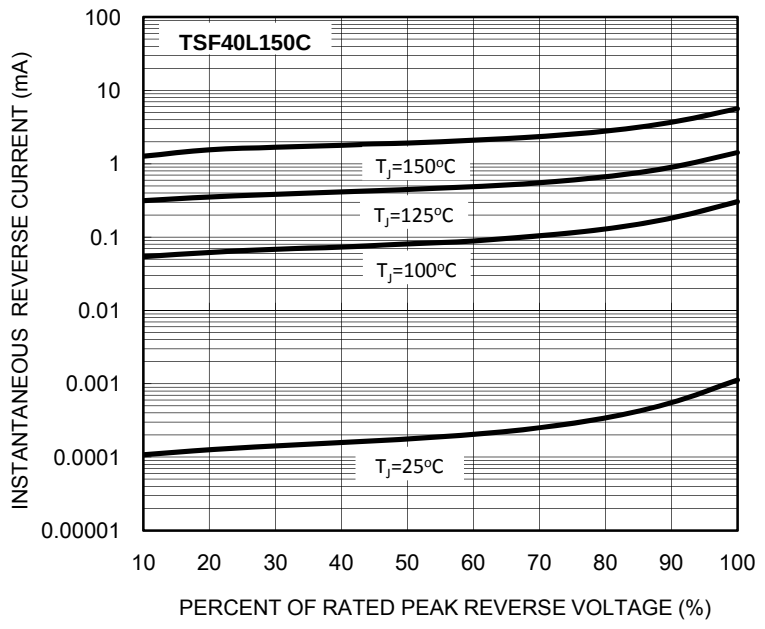


FIG. 9 TYPICAL REVERSE CHARACTERISTICS

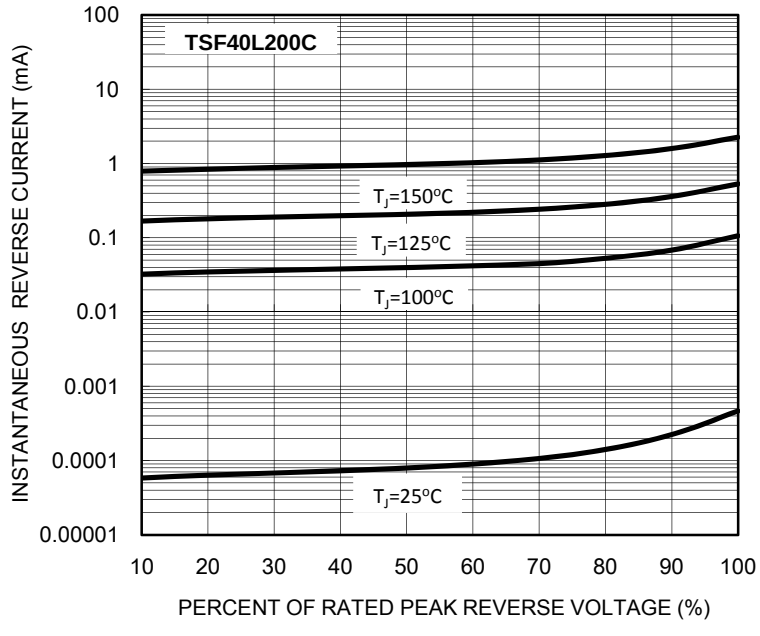
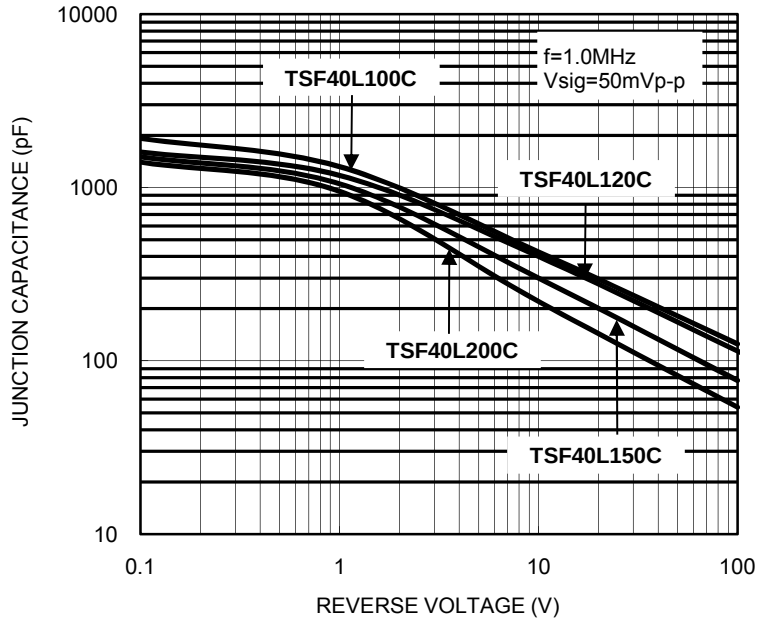
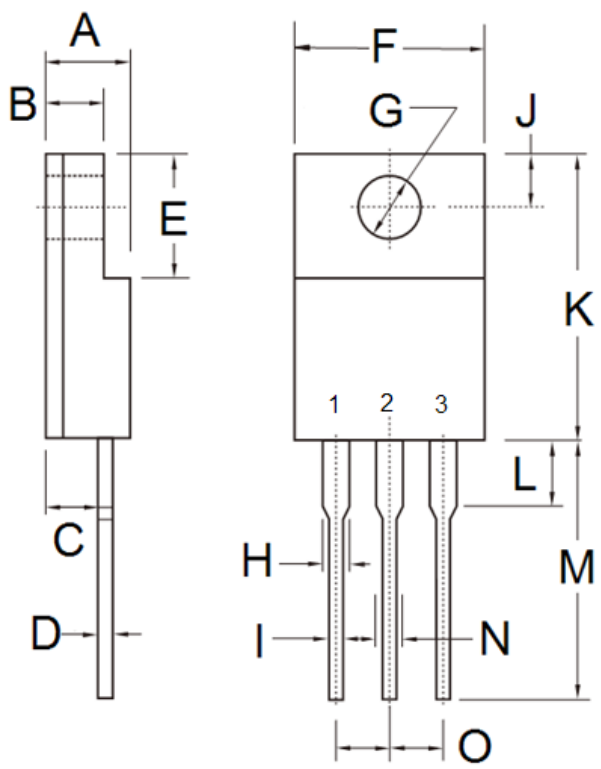


FIG. 10 TYPICAL JUNCTION CAPACTIANCE



PACKAGE OUTLINE DIMENSIONS

ITO-220AB



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	4.30	4.70	0.17	0.19
B	2.50	3.16	0.10	0.12
C	2.30	2.96	0.09	0.12
D	0.46	0.76	0.02	0.03
E	6.30	6.90	0.25	0.27
F	9.60	10.30	0.38	0.41
G	3.00	3.40	0.12	0.13
H	0.95	1.45	0.04	0.06
I	0.50	0.90	0.02	0.04
J	2.40	3.20	0.09	0.13
K	14.80	15.50	0.58	0.61
L	-	4.10	-	0.16
M	12.60	13.80	0.50	0.54
N	-	1.80	-	0.07
O	2.41	2.67	0.09	0.11

MARKING DIAGRAM

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

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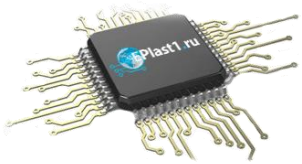

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