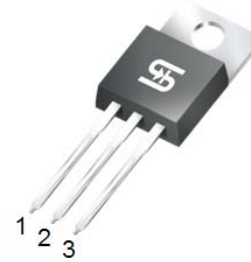


## 40A, 45V - 60V Trench Schottky Rectifiers

### FEATURES

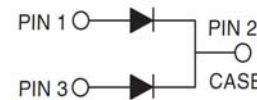
- Patented Trench Schottky technology
- Excellent high temperature stability
- Low forward voltage
- Low power loss/ High efficiency
- High forward surge capability
- Compliant to RoHS directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21



**TO-220AB**

### 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-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	TST40L45CW	TST40L60CW	UNIT		
Maximum repetitive peak reverse voltage			V <sub>RRM</sub>	45	60	V		
Maximum average forward rectified current	per device		I <sub>F(AV)</sub>	40		A		
	per diode			20				
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load per diode			I <sub>FSM</sub>	250		A		
Voltage rate of change (Rated V <sub>R</sub> )			dV/dt	10000		V/μs		
				TYP.	MAX.	TYP.	MAX.	
Instantaneous forward voltage per diode (Note1)	I <sub>F</sub> = 20A	T <sub>J</sub> = 25°C	V <sub>F</sub>	0.49	0.59	0.53	0.63	V
	I <sub>F</sub> = 20A	T <sub>J</sub> = 125°C		0.43	0.53	0.47	0.57	
Maximum instantaneous reverse current per diode at rated reverse voltage	T <sub>J</sub> = 25°C		I <sub>R</sub>	500		μA		
	T <sub>J</sub> = 125°C			100		mA		
Typical thermal resistance per diode			R <sub>θJC</sub>	3		°C/W		
			R <sub>θJL</sub>	3				
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
TST40LXXCW (Note 1, 2)	C0	G	TO-220AB	50 / Tube

Note 1: "XX" defines voltage from 45V (TST40L45CW) to 60V (TST40L60CW)

Note 2: Whole series with green compound

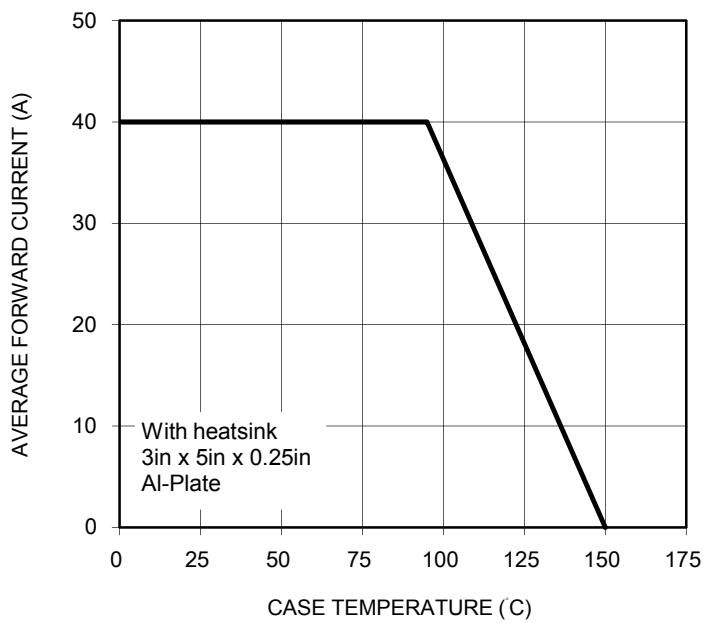
**EXAMPLE**

EXAMPLE PART NO.	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
TST40L60CW C0G	TST40L60CW	C0	G	Green compound

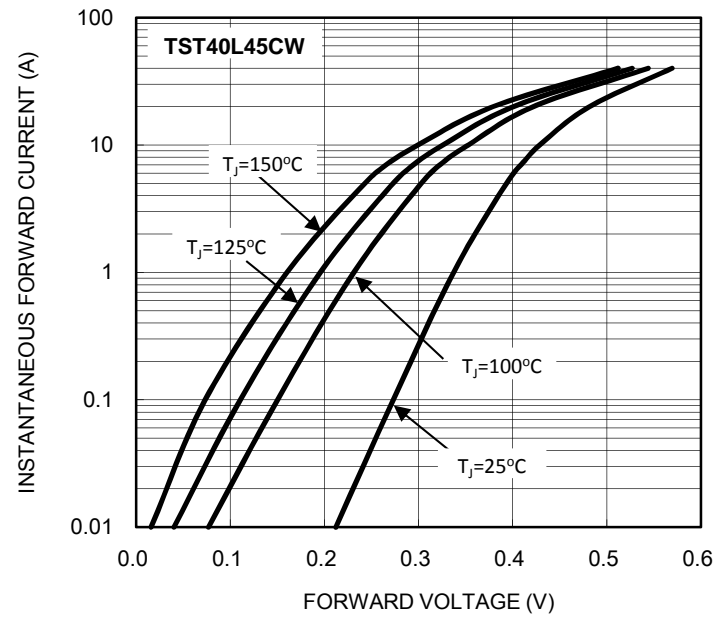
**RATINGS AND CHARACTERISTICS CURVES**

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

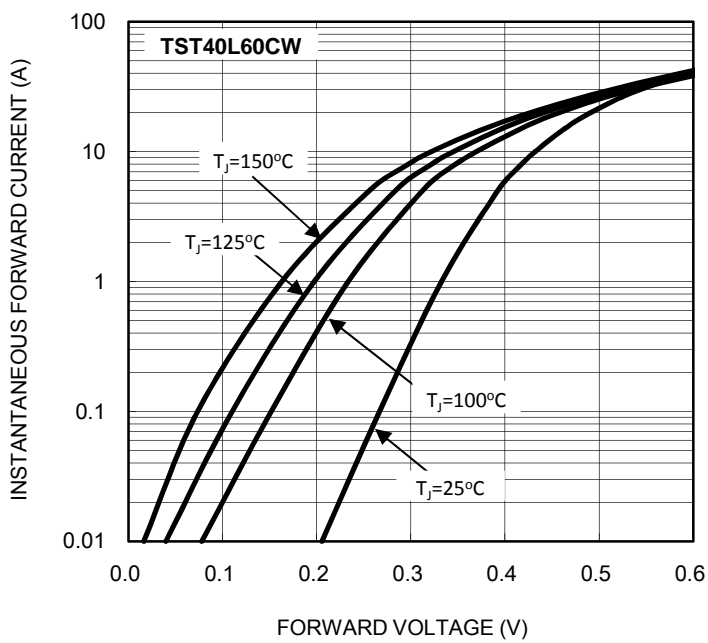
**FIG.1 FORWARD CURRENT DERATING CURVE**



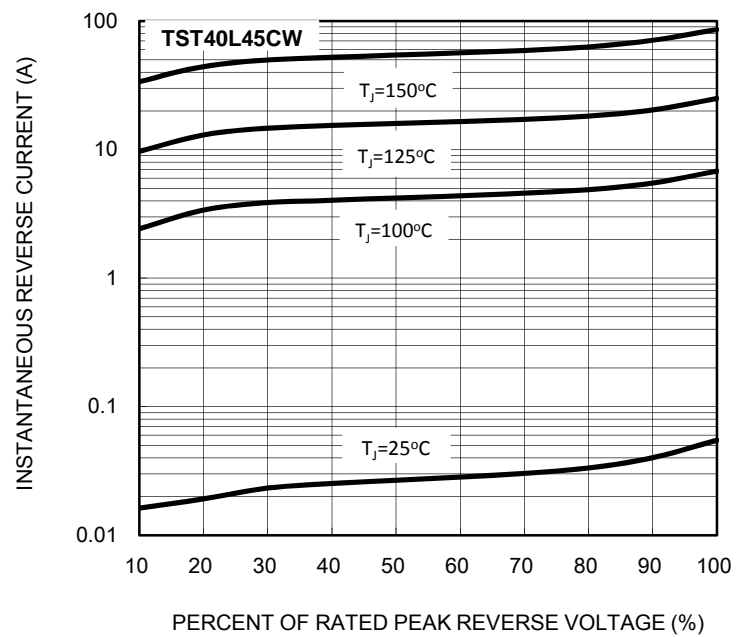
**FIG.2 TYPICAL FORWARD CHARACTERISTICS**



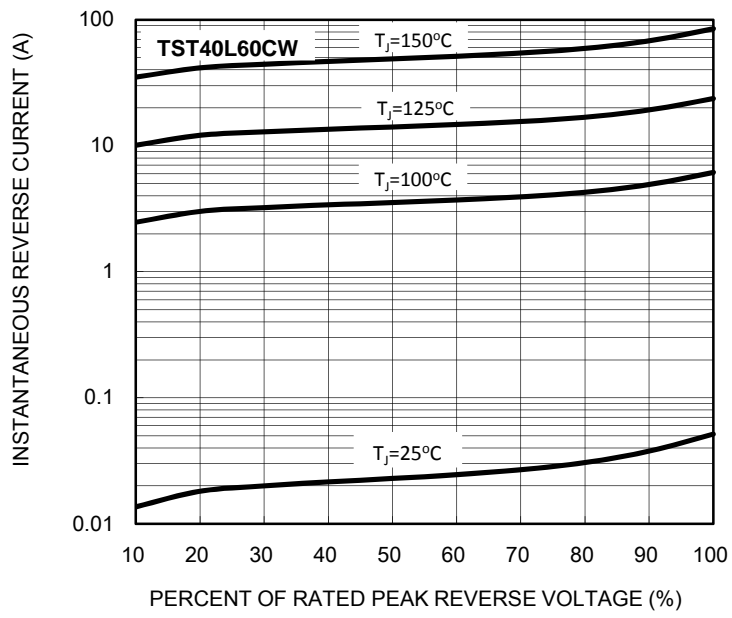
**FIG.3 TYPICAL FORWARD CHARACTERISTICS**



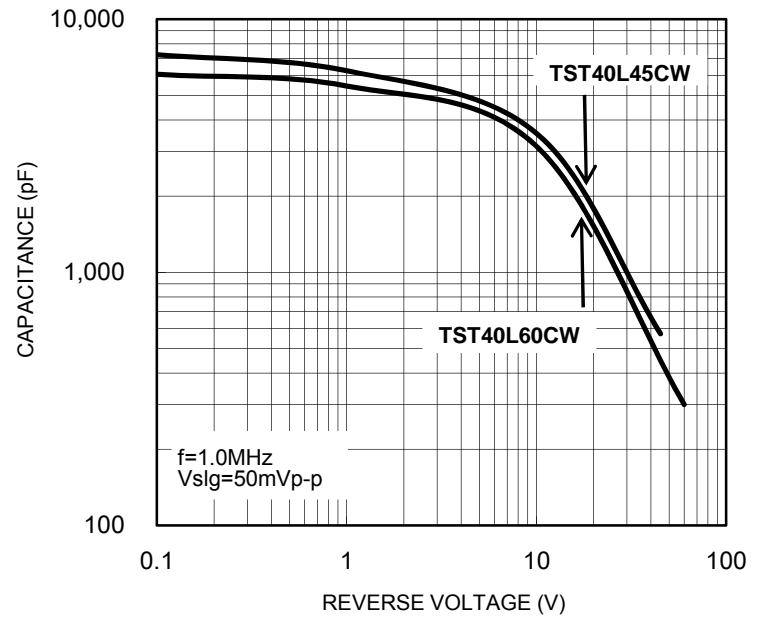
**FIG.4 TYPICAL REVERSE CHARACTERISTICS**



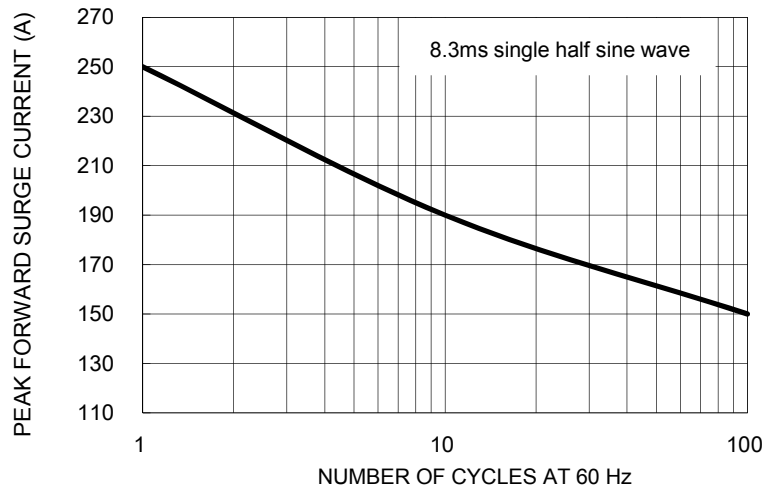
**FIG.5 TYPICAL REVERSE CHARACTERISTICS**



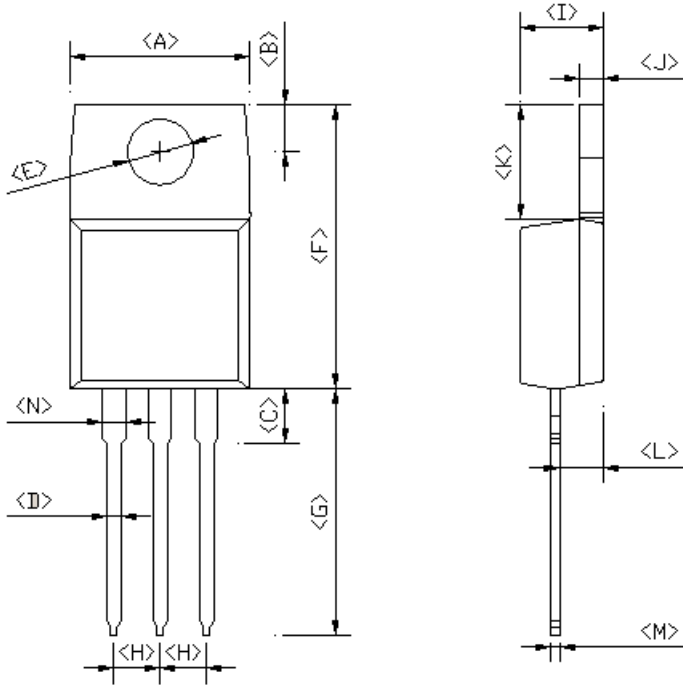
**FIG.6 TYPICAL JUNCTION CAPACITANCE**



**FIG. 7 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



**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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