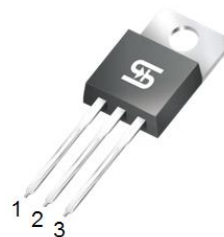


20A, 45V - 60V Trench Schottky Rectifiers

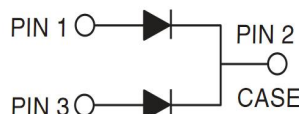
FEATURES

- 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 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 _A =25°C unless otherwise noted)								
PARAMETER			SYMBOL	TST20U45CW		TST20U60CW		UNIT
Maximum repetitive peak reverse voltage			V _{RRM}	45		60		V
Maximum average forward rectified current	per device		I _{F(AV)}	20				A
	per diode			10				
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load per diode			I _{FSM}	200				A
Voltage rate of change (Rated V _R)			dV/dt	1000				V/μs
				TYP.	MAX.	TYP.	MAX.	
Instantaneous forward voltage per diode (Note1)	I _F = 10A	T _J = 25°C	V _F	0.45	0.51	0.48	0.54	V
	I _F = 20A			0.53	0.59	0.57	0.63	
	I _F = 10A	T _J = 125°C		0.38	0.44	0.42	0.48	
	I _F = 20A			0.50	0.56	0.55	0.61	
Instantaneous reverse current per diode at rated reverse voltage		T _J = 25°C	I _R	500				μA
		T _J = 125°C		100				mA
Typical thermal resistance per diode			R _{θJC}	3				°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
TST20UXXCW	C0	G	TO-220AB	50 / Tube

Note 1: "XX" defines voltage from 45V (TST20U45CW) to 60V (TST20U60CW)

EXAMPLE

PREFERRED PART NO.	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
TST20U60CW C0G	TST20U60CW	C0	G	Green compound

RATINGS AND CHARACTERISTICS CURVES

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

FIG.1 FORWARD CURRENT DERATING CURVE

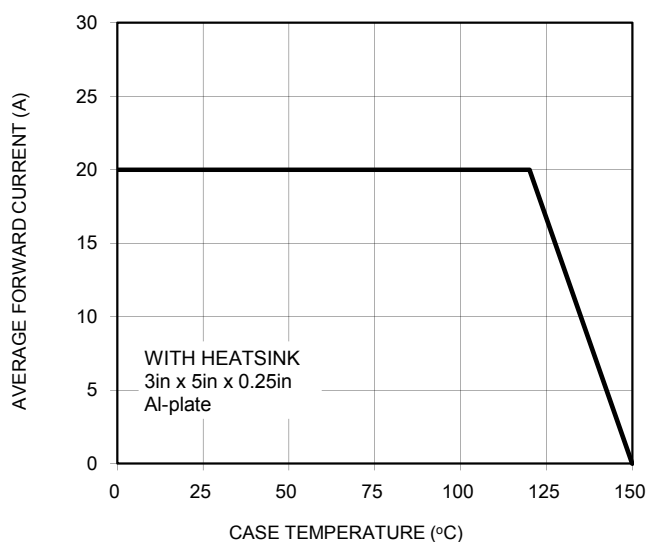


FIG. 2 TYPICAL FORWARD CHARACTERISTICS

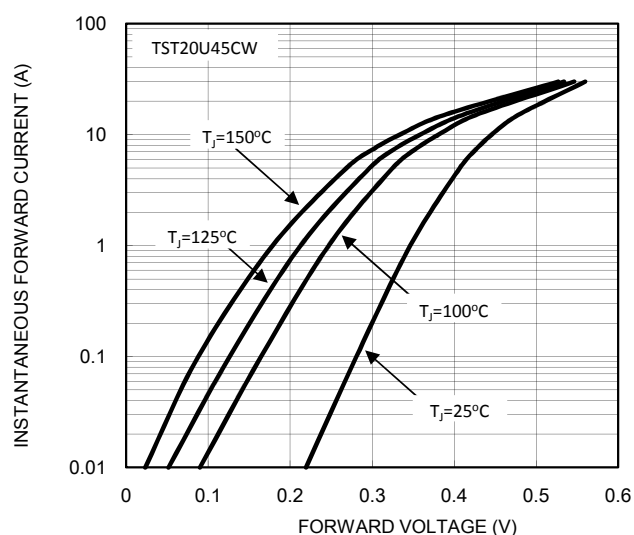


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

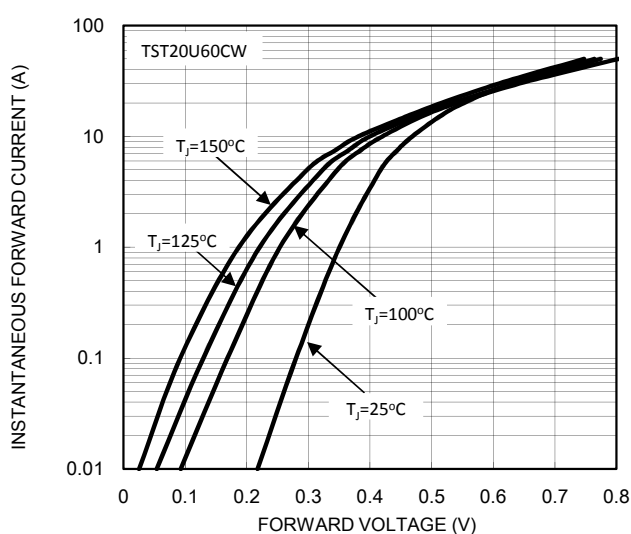


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

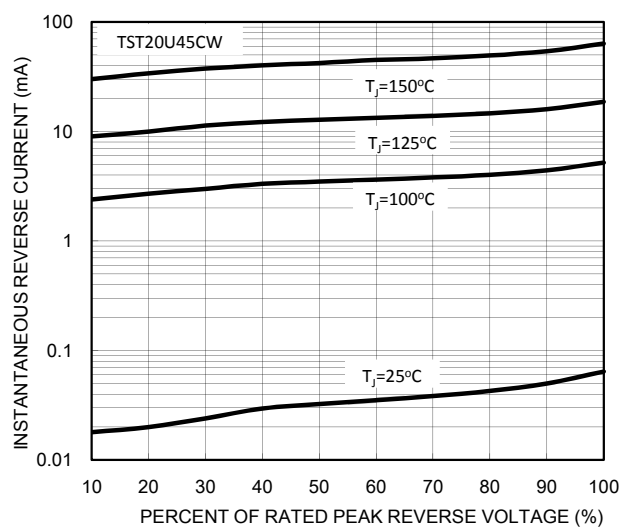


FIG. 5 TYPICAL REVERSE CHARACTERISTICS

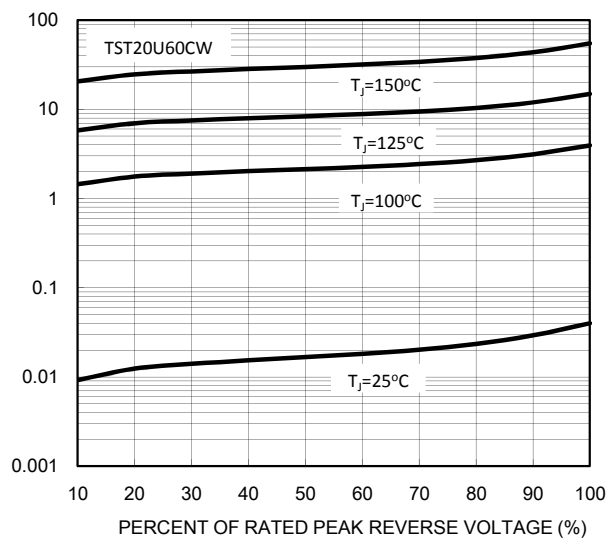


FIG. 6 TYPICAL JUNCTION CAPACITANCE

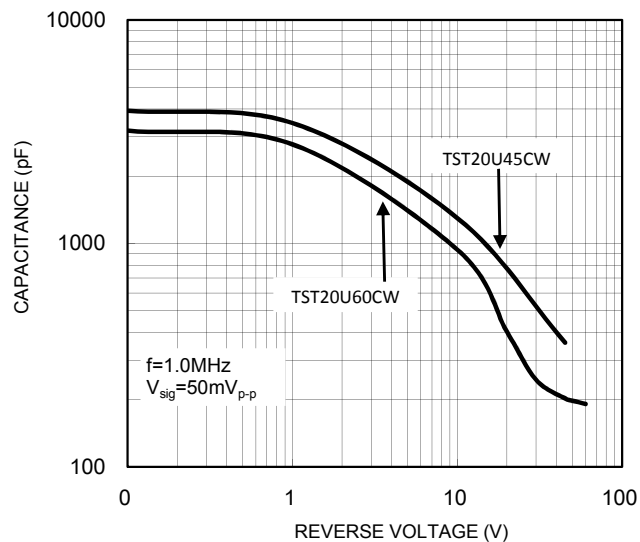
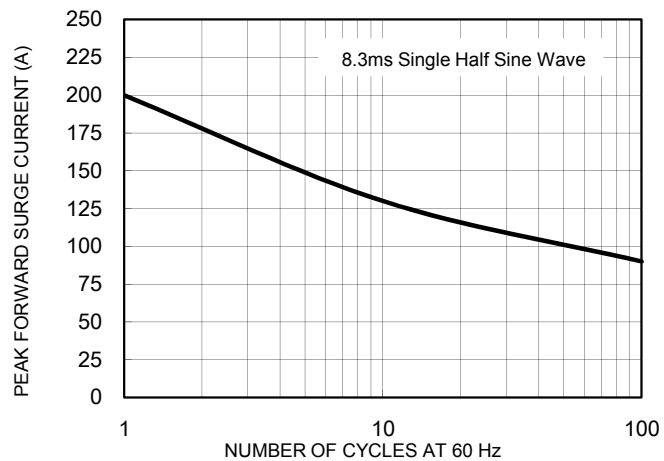
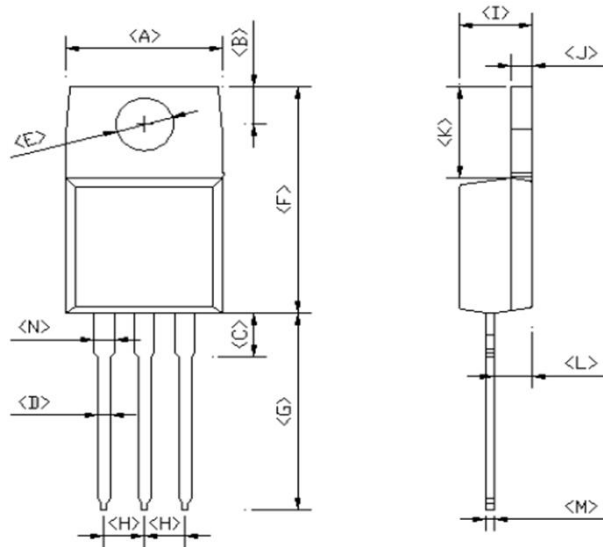


FIG. 7 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT



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

Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Taiwan Semiconductor:

[TST20U45CW C0G](#) [TST20U60CW C0G](#) [TST20U45CW](#) [TST20U60CW](#)