

20A, 300V 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

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_{F(AV)}$	2 x 10	A
V_{RRM}	300	V
I_{FSM}	180	A
$T_{J\ MAX}$	150	°C
Package	TO-220AB	
Configuration	Dual die	

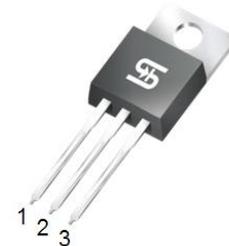
APPLICATIONS

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

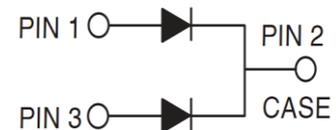


MECHANICAL DATA

- 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 J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: As marked
- Mounting torque: 0.56 Nm max.
- Weight: 1.88 g (approximately)



TO-220AB



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	TST20H300CW	UNIT
Marking code on the device		TST20H300CW	
Repetitive peak reverse voltage	V_{RRM}	300	V
Forward current	Per device Per diode	20	A
		10	
Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load per diode	I_{FSM}	180	A
Voltage rate of change (Rated VR)	dV/dt	10,000	V/ μs
Junction temperature	T_J	- 55 to +150	°C
Storage temperature	T_{STG}	- 55 to +150	°C

THERMAL PERFORMANCE			
PARAMETER	SYMBOL	LIMIT	UNIT
Junction-to-case thermal resistance	$R_{\theta JC}$	3	$^{\circ}C/W$

Thermal Performance Note: Mounted on Heatsink Size of 3"x5"x0.25" Al-Plate.

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^{\circ}C$ unless otherwise noted)					
PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode ⁽¹⁾	$I_F = 10A, T_J = 25^{\circ}C$	V_F	0.89	0.98	V
	$I_F = 10A, T_J = 125^{\circ}C$		0.75	0.84	V
Reverse current @ rated V_R per diode ⁽²⁾	$T_J = 25^{\circ}C$	I_R	-	100	μA
	$T_J = 125^{\circ}C$		-	10	mA

Notes:

1. Pulse test with PW=0.3 ms
2. Pulse test with PW=30 ms

ORDERING INFORMATION				
PART NO.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
TST20H300CW (Note 1)	C0	G	TO-220AB	50 / Tube

Note:

1. Whole series with green compound (halogen-free)

EXAMPLE				
EXAMPLE P/N	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
TST20H300CW C0G	TST20H300CW	C0	G	Green compound

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

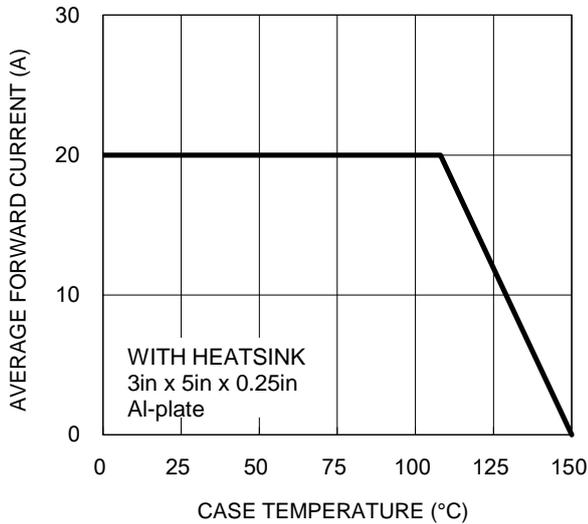


Fig.2 Typical Junction Capacitance

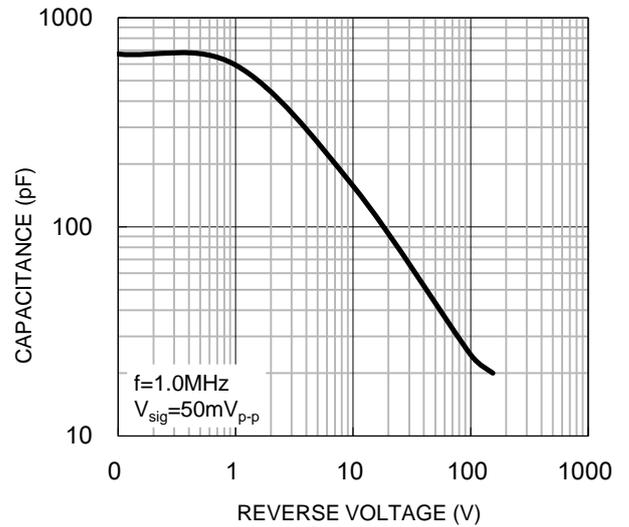


Fig.3 Typical Reverse Characteristics

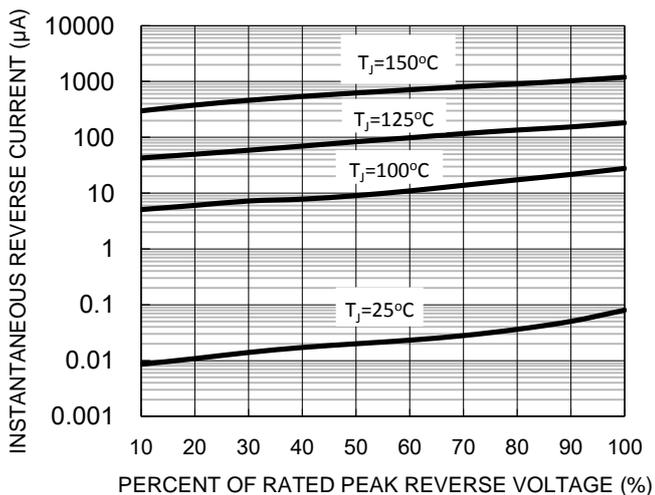
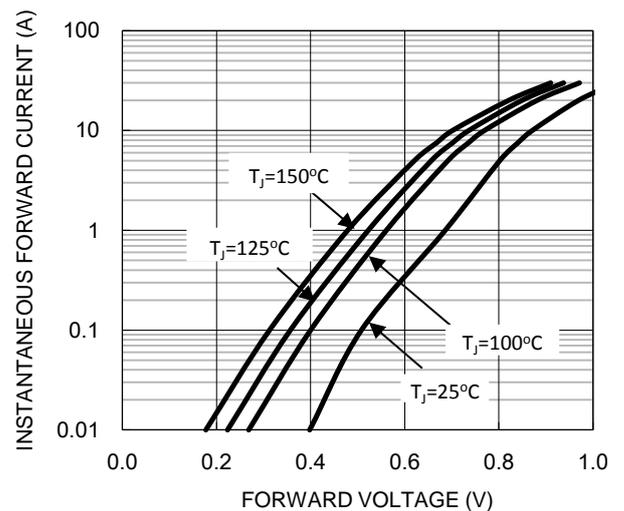
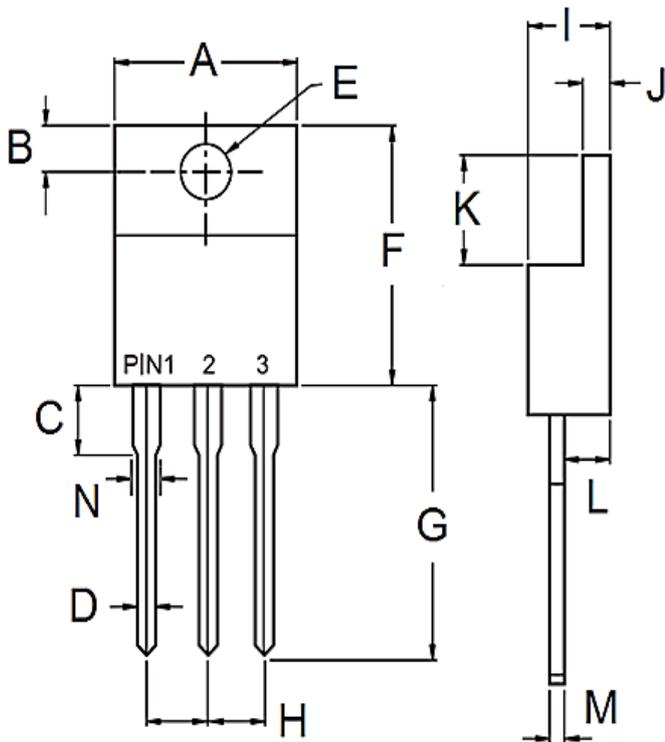


Fig.4 Typical Forward Characteristics



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 = Marking Code
- G =Green Compound
- YWW = Date Code
- F = Factory Code

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