10A, 200V Trench Schottky Surface Mount Rectifier

FEATURES

- Patented Trench Schottky technology
- Excellent high temperature stability
- Low forward voltage
- Low power loss/ high efficiency
- High forward surge capability
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

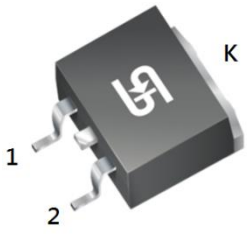
- Switching mode power supply (SMPS)
- Adapters
- DC to DC converters

MECHANICAL DATA

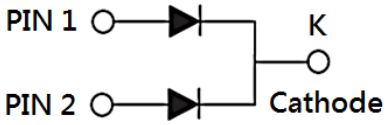
- Case: TO-263AB (D^2PAK)
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: As marked
- Weight: 1.60g (approximately)

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	10	A
V_{RRM}	200	V
I_{FSM}	100	A
$T_{J\ MAX}$	150	°C
Package	TO-263AB (D^2PAK)	
Configuration	Dual dies	

Pb-Free RoHS COMPLIANT HALOGEN FREE



TO-263AB (D^2PAK)



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)			
PARAMETER	**SYMBOL**	**TSD10L200CW**	**UNIT**
Marking code on the device		TSD10L200CW	
Repetitive peak reverse voltage	V_{RRM}	200	V
Reverse voltage, total rms value	$V_{R(RMS)}$	140	V
Forward current	I_F	10	A
Surge peak forward current, 8.3ms single half sine wave superimposed on rated load	I_{FSM}	100	A
Critical rate of rise of off-state voltage	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**	**TYP**	**UNIT**
Junction-to-case thermal resistance	$R_{\Theta JC}$	5	°C/W

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)					
PARAMETER	**CONDITIONS**	**SYMBOL**	**TYP**	**MAX**	**UNIT**
Forward voltage per diode(1)	I_F = 5A, T_J = 25°C	V_F	0.84	0.90	V
	I_F = 10A, T_J = 25°C		0.92	0.98	V
	I_F = 5A, T_J = 125°C		0.72	0.78	V
	I_F = 10A, T_J = 125°C		0.80	0.86	V
Reverse current @ rated V_R per diode(2)	T_J = 25°C	I_R	-	50	μA
	T_J = 125°C		-	5	mA

Notes:

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

ORDERING INFORMATION		
ORDERING CODE	**PACKAGE**	**PACKING**
TSD10L200CW	TO-263AB (D^2PAK)	800 / Tape & Reel

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

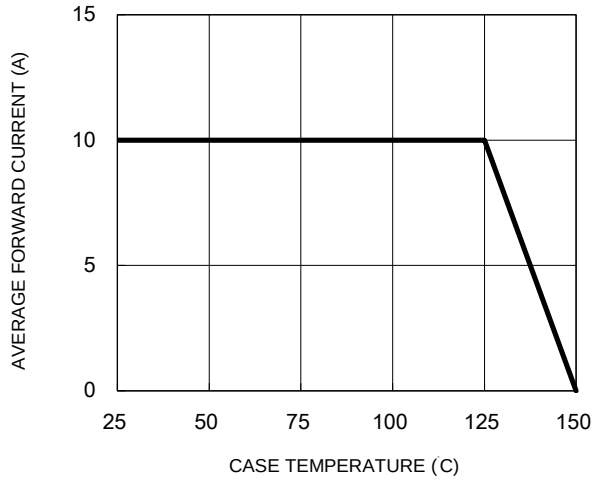


Fig.2 Typical Junction Capacitance

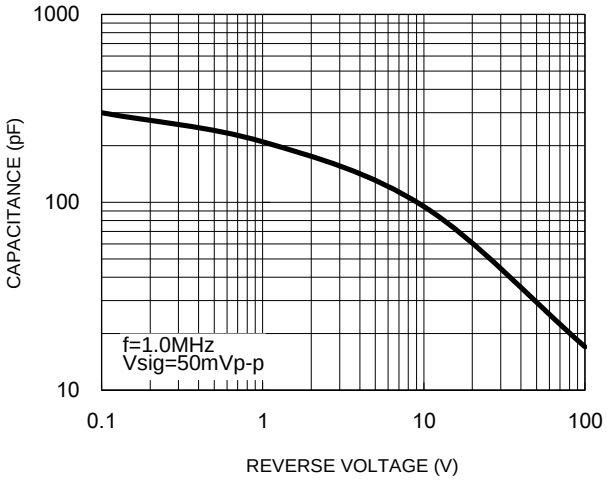


Fig.3 Typical Reverse Characteristics

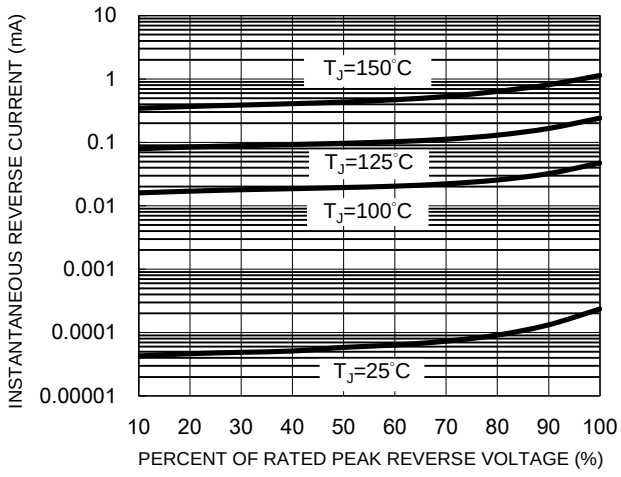
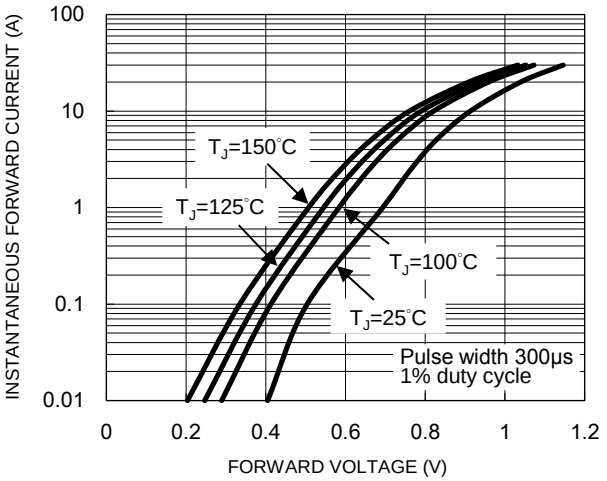
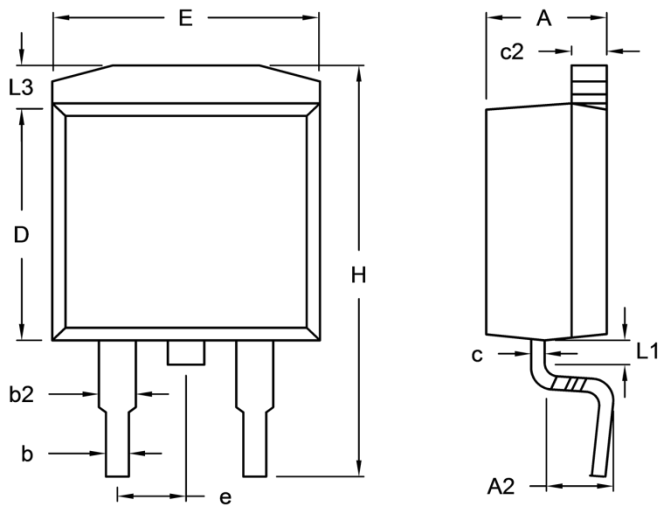


Fig.4 Typical Forward Characteristics



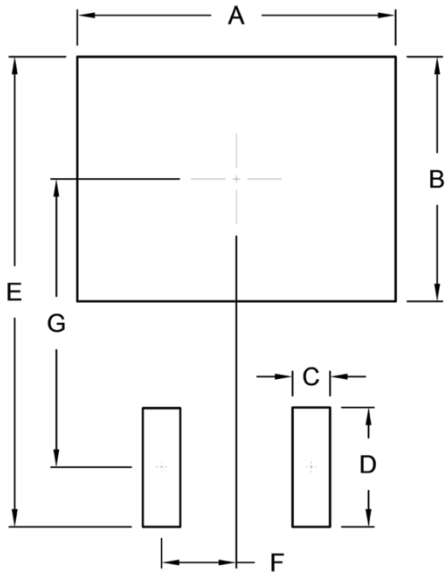
PACKAGE OUTLINE DIMENSIONS

TO-263AB (D^2PAK)



DIM	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	4.390	4.790	0.173	0.189
A2	2.540 (TYP)		0.100 (TYP)	
b	0.675	0.975	0.027	0.038
b2	1.150	1.550	0.045	0.061
c	0.400	0.600	0.016	0.024
c2	1.150	1.450	0.045	0.057
D	8.250	9.250	0.325	0.364
E	9.600	10.050	0.378	0.396
e	2.540 (TYP)		0.100 (TYP)	
H	14.920	15.520	0.587	0.611
L1	0.900 (TYP)		0.035 (TYP)	
L3	1.400 (TYP)		0.055 (TYP)	

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	10.80	0.425
B	8.30	0.327
C	1.27	0.050
D	4.05	0.159
E	15.95	0.628
F	2.54	0.100
G	9.775	0.385

MARKING DIAGRAM

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

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