

## 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

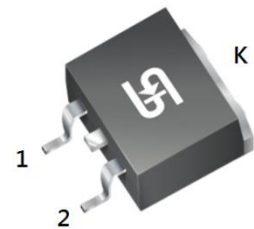
### APPLICATIONS

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

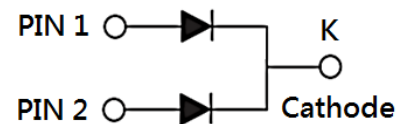
### MECHANICAL DATA

- Case: TO-263AB (D<sup>2</sup>PAK)
- 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
$T_{JMAX}$	150	°C
Package	TO-263AB (D <sup>2</sup> PAK)	
Configuration	Dual dies	



**TO-263AB (D<sup>2</sup>PAK)**



ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ 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/ $\mu\text{s}$
Junction temperature	$T_J$	- 55 to +150	°C
Storage temperature	$T_{STG}$	- 55 to +150	°C

<b>THERMAL PERFORMANCE</b>			
<b>PARAMETER</b>	<b>SYMBOL</b>	<b>TYP</b>	<b>UNIT</b>
Junction-to-case thermal resistance	$R_{\theta JC}$	5	°C/W

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)					
<b>PARAMETER</b>	<b>CONDITIONS</b>	<b>SYMBOL</b>	<b>TYP</b>	<b>MAX</b>	<b>UNIT</b>
Forward voltage per diode <sup>(1)</sup>	$I_F = 5\text{A}, T_J = 25^\circ\text{C}$	$V_F$	0.84	0.90	V
	$I_F = 10\text{A}, T_J = 25^\circ\text{C}$		0.92	0.98	V
	$I_F = 5\text{A}, T_J = 125^\circ\text{C}$		0.72	0.78	V
	$I_F = 10\text{A}, T_J = 125^\circ\text{C}$		0.80	0.86	V
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	$T_J = 25^\circ\text{C}$	$I_R$	-	50	$\mu\text{A}$
	$T_J = 125^\circ\text{C}$		-	5	mA

**Notes:**

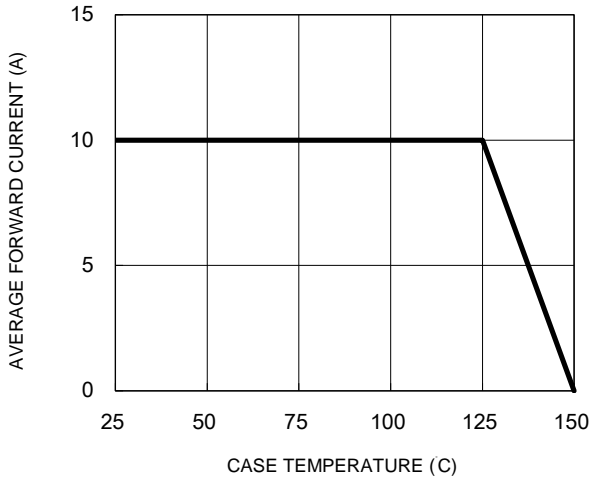
1. Pulse test with  $PW = 0.3\text{ms}$
2. Pulse test with  $PW = 30\text{ms}$

<b>ORDERING INFORMATION</b>		
<b>ORDERING CODE</b>	<b>PACKAGE</b>	<b>PACKING</b>
TSD10L200CW	TO-263AB (D <sup>2</sup> PAK)	800 / Tape & Reel

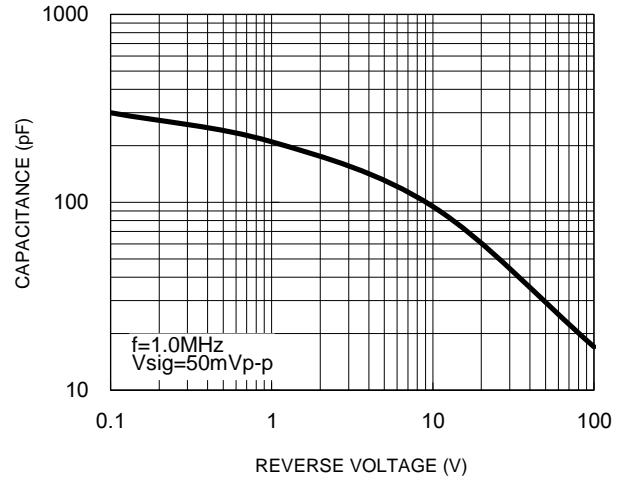
**CHARACTERISTICS CURVES**

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

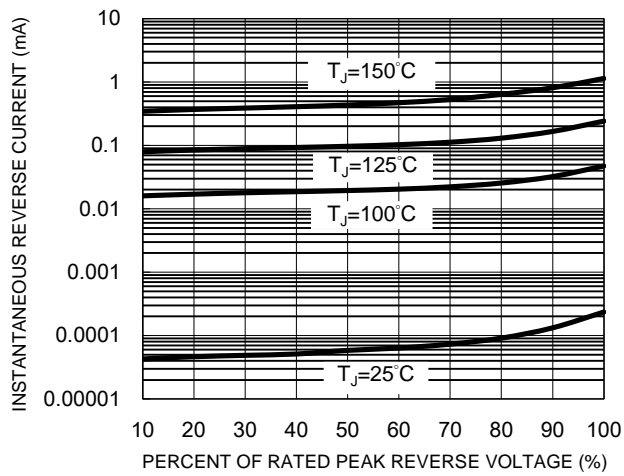
**Fig.1 Forward Current Derating Curve**



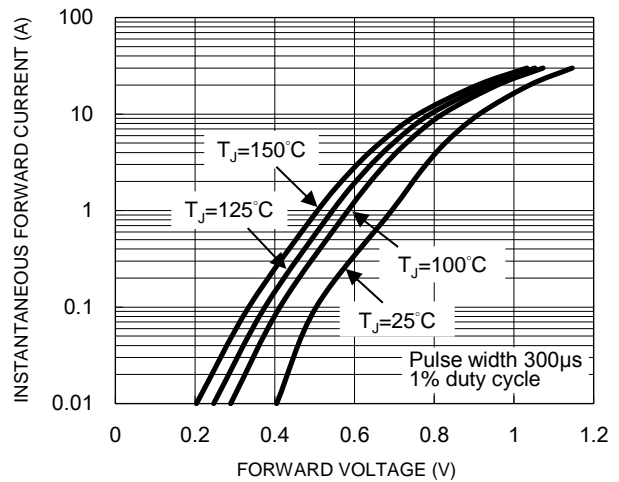
**Fig.2 Typical Junction Capacitance**



**Fig.3 Typical Reverse Characteristics**

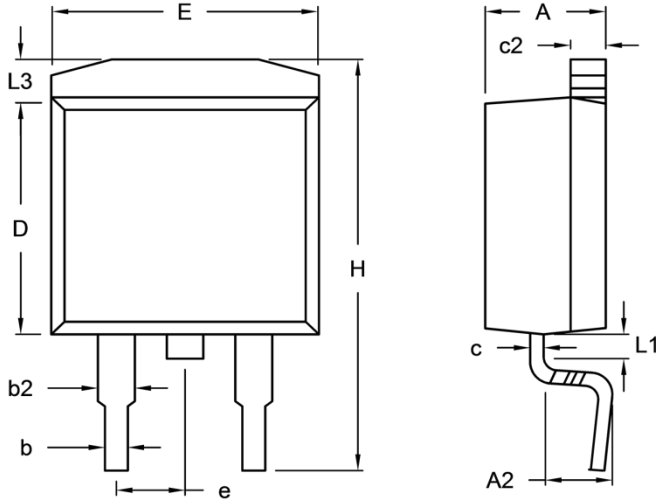


**Fig.4 Typical Forward Characteristics**



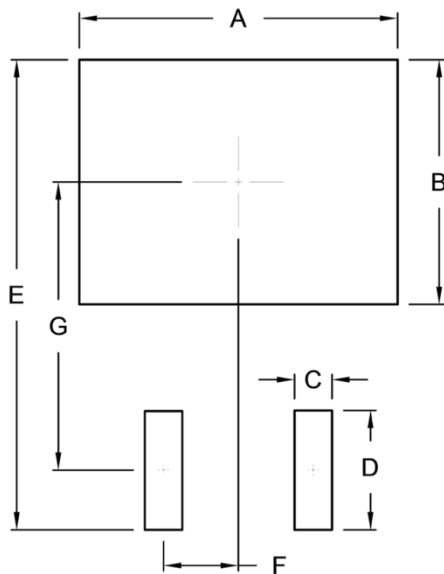
**PACKAGE OUTLINE DIMENSIONS**

TO-263AB (D<sup>2</sup>PAK)



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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