

100V 40A Ultra Low VF Schottky

Characteristics Summary

Characteristics	Values	Units
IF(AV)	20 X 2	A
VRRM	100	V
VFBC @ 20A, TJ = 125°C	0.61	V, typ.
IR @ TJ = 25°C	13	uA, typ.

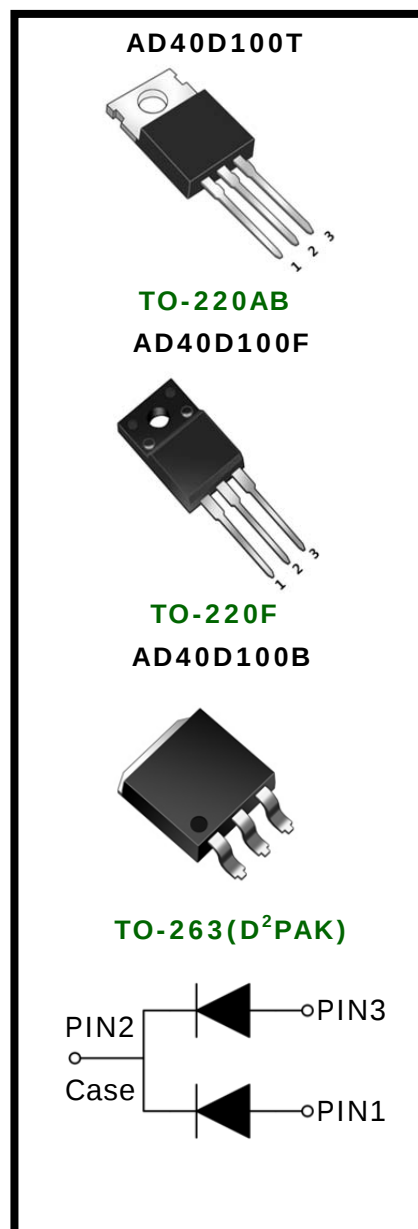
Features

- Ultra Low Forward Voltage (VF) Drop
- Very Low Reverse Leakage in high temperature.
- Softest, fast switching capability
- 150°C Operating Junction Temperature
- Lead Free Finish, RoHS Compliant

Typical Applications

Device optimized for low forward voltage drop to maximize efficiency in Power Supply applications.

- DC/DC Converters
- AC/DC Converters



Maximum Ratings Characteristics

(TA = 25°C unless otherwise specified)

Parameter	Symbol	Values	Units
DC Blocking Voltage	V _{RM}	100	V
Working Peak Reverse Voltage	V _{RWM}		V
Peak Repetitive Reverse Voltage	V _{RRM}		V
Average Rectified Forward Current Per device (Rated VR-20Khz Square Wave) – 50% duty cycle	I _D	40	A
Peak Forward Surge Current – 1/2 60hz	I _{FSM}	250	A
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I _{RRM}	2	A
Typical Thermal Resistance (per leg) Package = TO-220 Package = TO-220F Package = TO-263	R _{θJC}	2 4 3	°C / W
Isolation voltage (TO-220F only)	V _{AC}	1500	V
Maximum Rate of Voltage Change (at Rated VR)	dv/dt	10000	V/uS
Operating Junction Temperature	T _J	-40 to +150	°C
Storage Junction Temperature	T _{STG}	-40 to +150	

Electrical Characteristics – (per leg)

(TA = 25°C unless otherwise specified)

Parameter	Test Conditions		Symbol	Typ.	Max.	Units
Instantaneous Forward Voltage	IF = 5 A	TJ = 25°C	VF*	0.46	-----	V
	IF = 10 A			0.53		
	IF = 20 A			0.67	0.72	
	IF = 5 A	TJ = 125°C		0.38	-----	
	IF = 10 A			0.45		
	IF = 20 A			0.61	0.67	
Instantaneous Reverse Current	VR = 70V	TJ = 25°C	IR*	7.0	-----	uA
	VR = 100V			-----	300	uA
	VR = 70V	TJ = 125°C		8.0	-----	mA
	VR = 100V			14.0	45	mA

* Pulse width < 300 uS, Duty cycle < 2%



Characteristics Curves

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

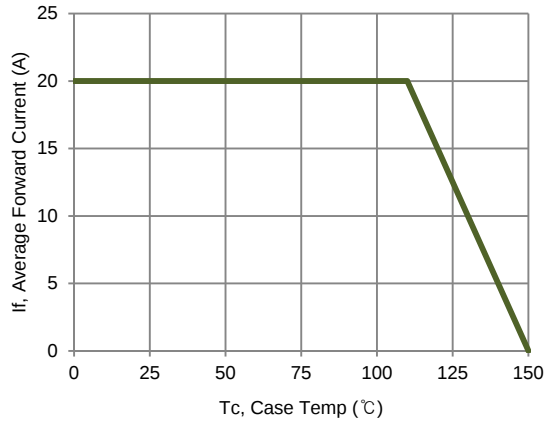


Figure 1 : Current Derating, Case

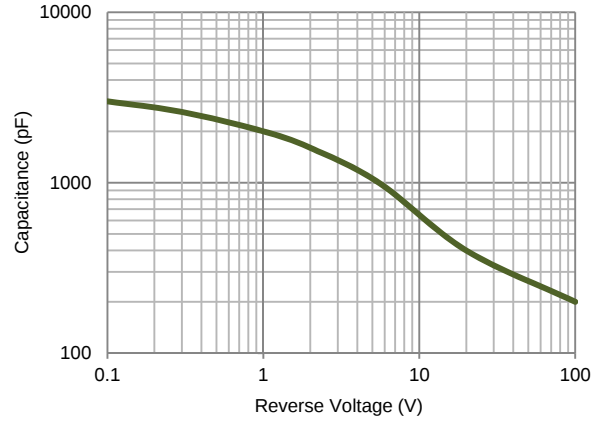


Figure 2 : Typical Junction Capacitance

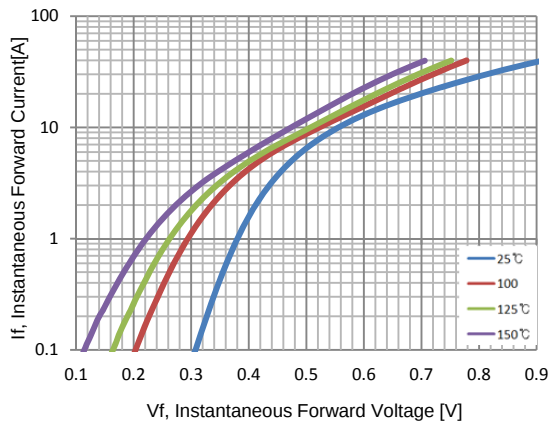


Figure 3 : Typical Forward Voltage

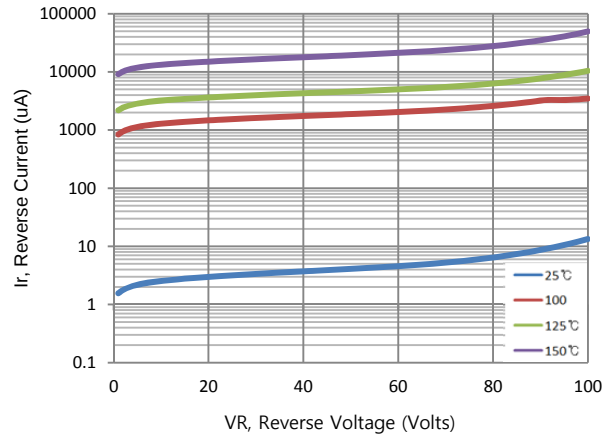
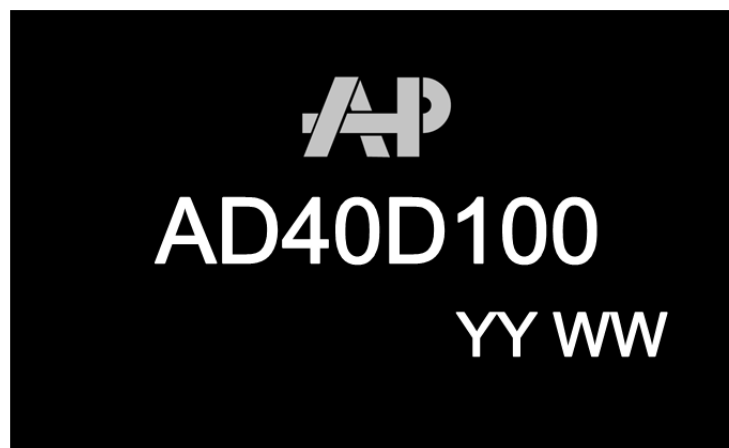


Figure 4: Typical Reverse Current

Ordering Information

Part No	Package	Packing	Finish	Halogen	Packing Unit
AD40D100B	TO-263	Reel & Tape	Sn	Free	2,500ea
AD40D100T	TO-220AB	Tube	Sn	Free	5,000ea
AD40D100F	TO-220F	Tube	Sn	Free	5,000ea

Marking Layout



1ST Line : Company logo

2nd Line : Device Name

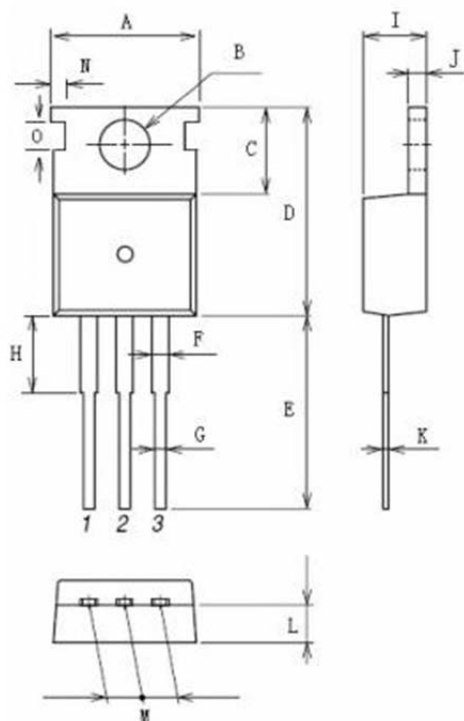
- T : TO-220AB PKG code
- F : TO-220F PKG code
- B : TO-263 PKG code

3rd Line : Date Code

- YY : Last one digit of calendar year
- WW : Work week code

Package Dimensions

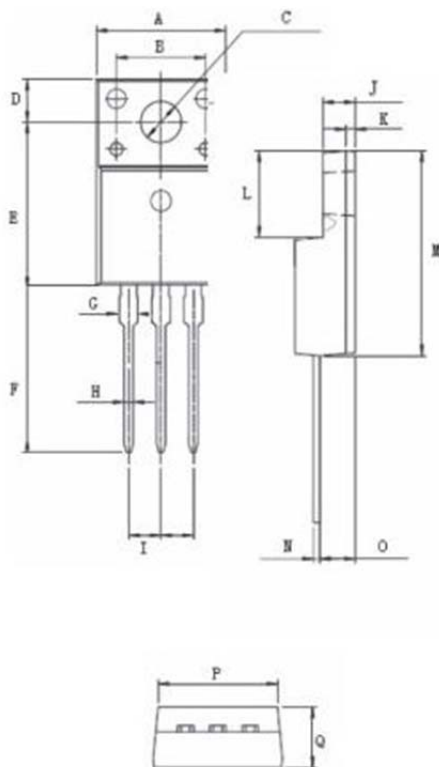
TO-220 Dual Gauge



Unit: mm

Item	Min	Max
A	9.85	10.15
B	3.60	3.70
C	6.35	6.55
D	15.55	15.95
E	12.85	13.15
F	1.17	1.37
G	0.70	0.90
H	2.30	2.70
I	4.40	4.60
J	1.20	1.40
K	0.40	0.60
L	2.23	2.53
M	4.98	5.18
N	0.55	0.75
O	1.62	1.82

TO-220F

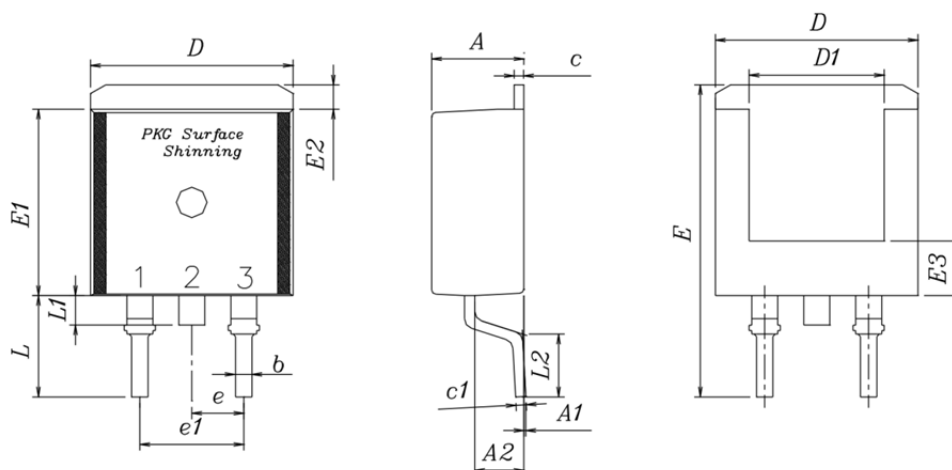


Unit: mm

Item	Min	Max
A	9.92	10.32
B	6.90	7.10
C	3.35	3.55
D	3.25	3.35
E	12.35	12.75
F	12.80	13.20
G	1.22	1.42
H	0.70	0.90
I	2.45Typical	
J	2.45	2.65
K	0.60	0.80
L	6.57	6.77
M	15.80	16.00
N	0.40	0.60
O	2.62	2.92
P	9.20	9.40
Q	4.62	4.80

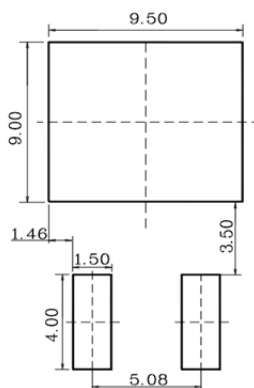
Package Dimensions

TO-263



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	4.35	4.50	4.65	
A1	—	—	0.15	
A2	2.20	2.40	2.60	
b	0.70	0.80	0.90	
c	0.40	0.50	0.60	
c1	0.40	0.50	0.60	
D	9.80	10.00	10.20	
D1	6.40	6.60	6.80	
E	15.00	15.40	15.80	
E1	9.05	9.20	9.35	
E2	1.00	1.20	1.40	
E3	2.50	2.70	2.90	
e	2.34	2.54	2.74	
e1	4.88	5.08	5.28	
L	4.60	5.00	5.40	
L1	1.40	1.45	1.50	
L2	2.50	—	—	

Recommend PCB solder land (Unit: mm)



REV. 01

Revision History

No	Date	Contents
1	2016-03-18	Initial Brief Datasheet Release

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Contact. **Tel** 82.70.4693.2299 **FAX** 82.70.4000.4009

E-mail: sales@apsemi.com

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