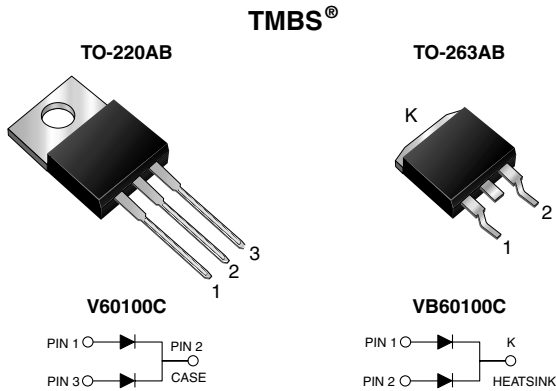


Dual High-Voltage Trench MOS Barrier Schottky Rectifier

Ultra Low $V_F = 0.36\text{ V}$ at $I_F = 5\text{ A}$



FEATURES

- Trench MOS Schottky technology
- Low forward voltage drop, low power losses
- High efficiency operation
- Low thermal resistance
- Meets MSL level 1, per J-STD-020, LF maximum peak of 245 °C (for TO-263AB package)
- Solder dip 260 °C, 40 s (for TO-220AB)
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



RoHS
COMPLIANT

TYPICAL APPLICATIONS

For use in high frequency inverters, switching power supplies, freewheeling diodes, OR-ing diode, dc-to-dc converters and reverse battery protection.

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	2 x 30 A
V_{RRM}	100 V
I_{FSM}	320 A
V_F at $I_F = 30\text{ A}$	0.66 V
T_J max.	150 °C

MECHANICAL DATA

Case: TO-220AB and TO-263AB

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test

Polarity: As marked

Mounting Torque: 10 in-lbs maximum

MAXIMUM RATINGS ($T_A = 25\text{ °C}$ unless otherwise noted)				
PARAMETER	SYMBOL	V60100C	VB60100C	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	100		V
Maximum average forward rectified current (Fig. 1) per device per diode	$I_{F(AV)}$	60	30	A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode	I_{FSM}	320		
Operating junction and storage temperature range	T_J, T_{STG}	- 40 to + 150		°C



ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	TYP.	MAX.	UNIT
Breakdown voltage	I _R = 1.0 mA	T _A = 25 °C	V _{BR}	100 (minimum)	-	
Instantaneous forward voltage per diode ⁽¹⁾	I _F = 5 A I _F = 10 A I _F = 15 A I _F = 20 A I _F = 30 A	T _A = 25 °C	V _F	0.45 0.52 0.58 0.63 0.73	- - 0.63 - 0.79	V
	I _F = 5 A I _F = 10 A I _F = 15 A I _F = 20 A I _F = 30 A	T _A = 125 °C		0.36 0.45 0.53 0.58 0.66	- - 0.58 - 0.70	
Reverse current at rated V _R per diode ⁽²⁾	V _R = 80 V	T _A = 25 °C T _A = 125 °C	I _R	24 13	500 20	μA mA
	V _R = 100 V	T _A = 25 °C T _A = 125 °C		65 30	1000 -	μA mA

Notes:

- (1) Pulse test: 300 μs pulse width, 1 % duty cycle
- (2) Pulse test: Pulse width ≤ 40 ms

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)				
PARAMETER	SYMBOL	V60100C	VB60100C	UNIT
Typical thermal resistance per diode	R _{θJC}	2.5	2.5	°C/W

ORDERING INFORMATION					
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
TO-220AB	V60100C-E3/4W	1.89	4W	50/tube	Tube
TO-263AB	VB60100C-E3/4W	1.38	4W	50/tube	Tube
TO-263AB	VB60100C-E3/8W	1.38	8W	800/reel	Tape and reel

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

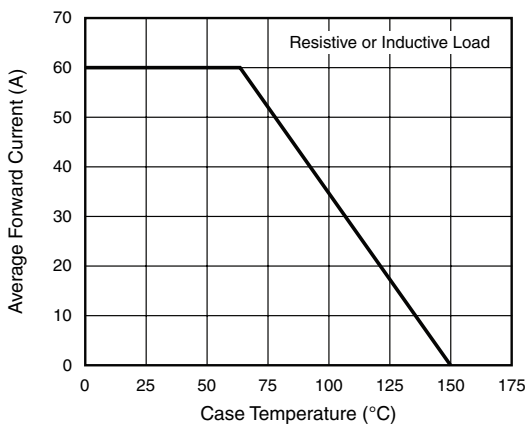


Figure 1. Forward Current Derating Curve

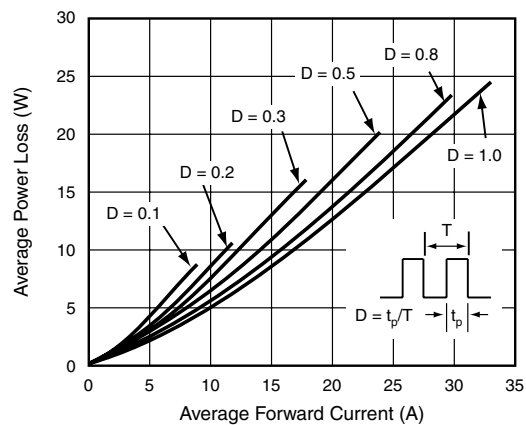
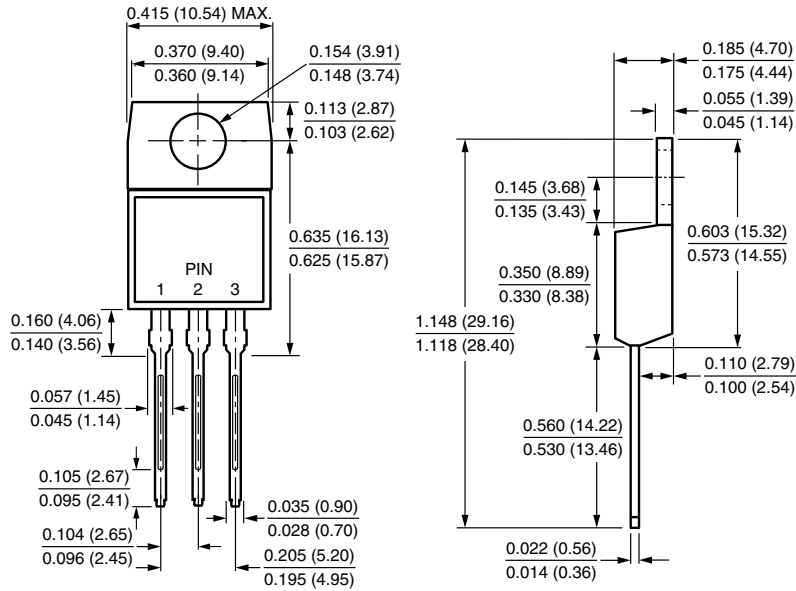


Figure 2. Forward Power Loss Characteristics Per Diode



PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

TO-220AB



TO-263AB

