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[Vishay Semiconductor/Diodes Division](#)
[VB30150C-M3/8W](#)

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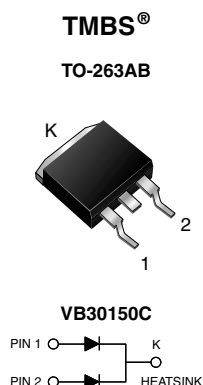
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VB30150C-M3

Vishay General Semiconductor

Dual High-Voltage Trench MOS Barrier Schottky Rectifier

Ultra Low $V_F = 0.56$ V at $I_F = 5.0$ A



FEATURES

- Trench MOS Schottky technology
- Low forward voltage drop, low power losses
- High efficiency operation
- Meets MSL level 1, per J-STD-020, LF maximum peak of 245 °C
- Material categorization:
For definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT
HALOGEN
FREE

TYPICAL APPLICATIONS

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

PRIMARY CHARACTERISTICS

Package	TO-263AB
$I_{F(AV)}$	2 x 15 A
V_{RRM}	150 V
I_{FSM}	140 A
V_F at $I_F = 15$ A	0.71 V
T_J max.	150 °C
Diode variations	Dual common cathode

MECHANICAL DATA

Case: TO-263AB

Molding compound meets UL 94 V-0 flammability rating
Base P/N-M3 - halogen-free, RoHS-compliant, and commercial grade

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

M3 suffix meets JESD 201 class 1A whisker test

Polarity: As marked

Mounting Torque: 10 in-lbs maximum

MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted)

PARAMETER	SYMBOL	VB30150C	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	150	V
Maximum average forward rectified current (fig. 1)	$I_{F(AV)}$	30 15	A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	140	A
Voltage rate of change (rated V_R)	dV/dt	10 000	V/ μ s
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 150	°C

ELECTRICAL CHARACTERISTICS ($T_A = 25$ °C unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	TYP.	MAX.	UNIT
Instantaneous forward voltage per diode ⁽¹⁾	$I_F = 5.0$ A	V_F	0.72	-	V
	$I_F = 7.5$ A		0.81	-	
	$I_F = 15$ A		1.11	1.36	
	$I_F = 5.0$ A		0.56	-	
	$I_F = 7.5$ A		0.61	-	
	$I_F = 15$ A		0.71	0.79	
Reverse current per diode ⁽²⁾	$V_R = 100$ V	I_R	1.5	-	μ A
	$T_A = 25$ °C		2	-	mA
	$T_A = 125$ °C		-	200	μ A
	$V_R = 150$ V		4	20	mA

Notes

⁽¹⁾ Pulse test: 300 μ s pulse width, 1 % duty cycle

⁽²⁾ Pulse test: Pulse width \leq 40 ms



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

PARAMETER	SYMBOL	VB30150C	UNIT
Typical thermal resistance	$R_{\theta JC}$	2.2	$^\circ\text{C/W}$

ORDERING INFORMATION (Example)

PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
TO-263AB	VB30150C-M3/4W	1.39	4W	50/tube	Tube
TO-263AB	VB30150C-M3/8W	1.39	8W	800/reel	Tape and reel

RATINGS AND CHARACTERISTICS CURVES

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

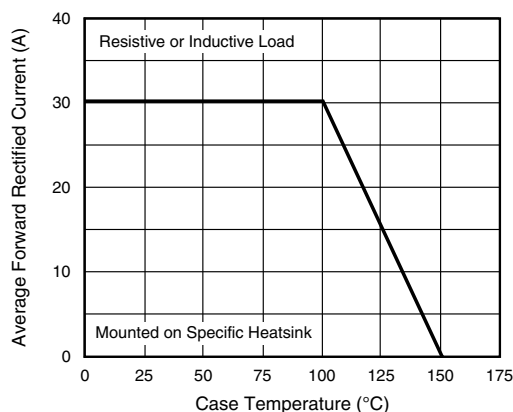


Fig. 1 - Maximum Forward Current Derating Curve

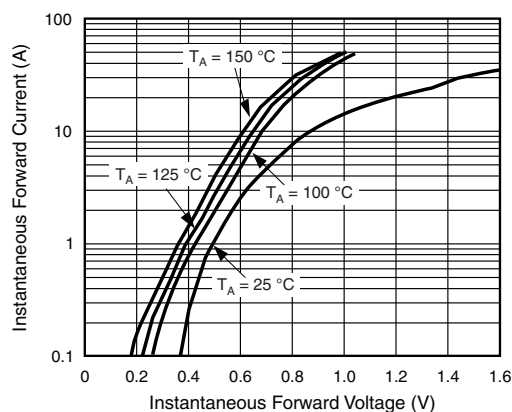


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

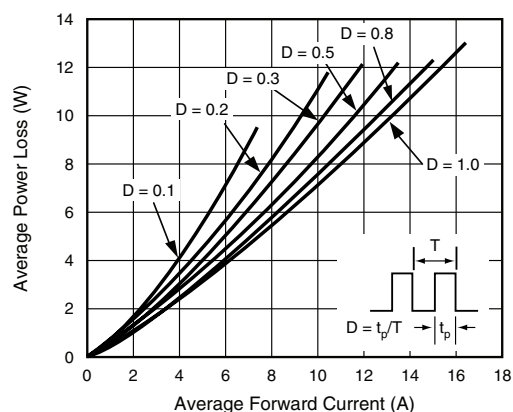


Fig. 2 - Forward Power Dissipation Characteristics Per Diode

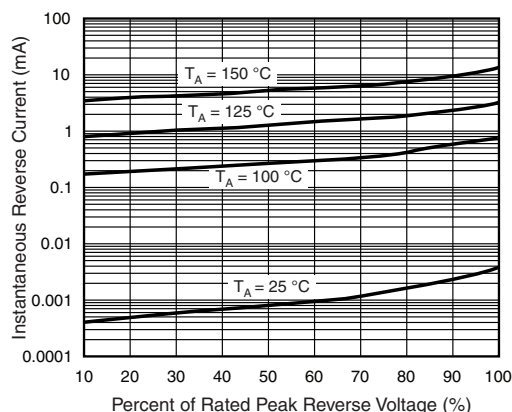


Fig. 4 - Typical Reverse Characteristics Per Diode



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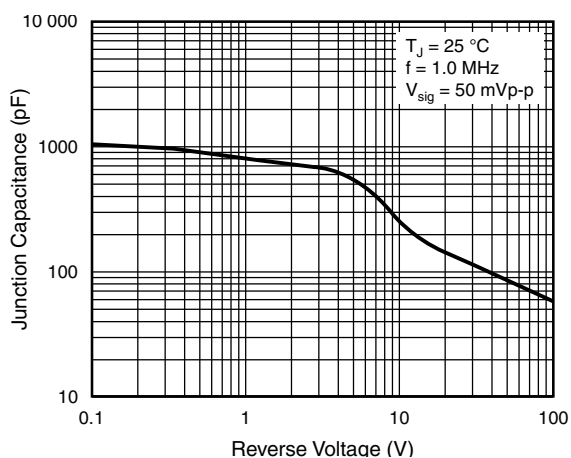


Fig. 5 - Typical Junction Capacitance Per Diode

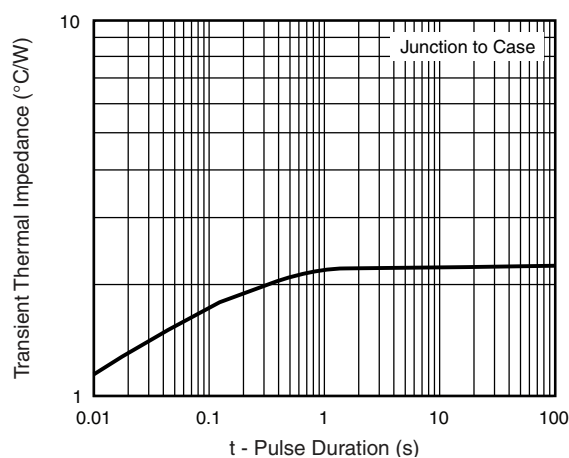
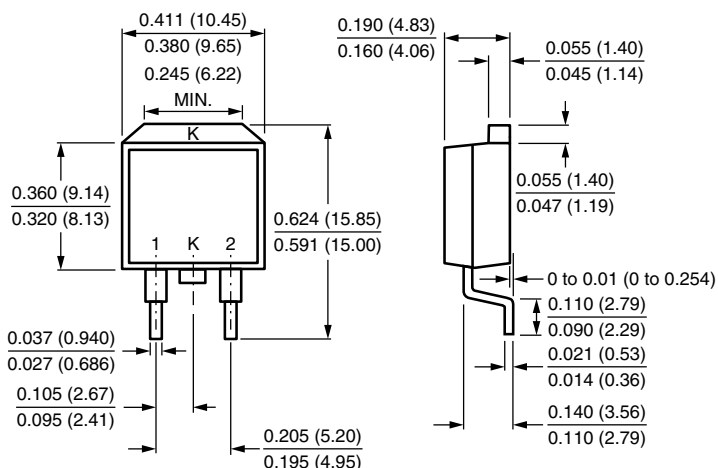


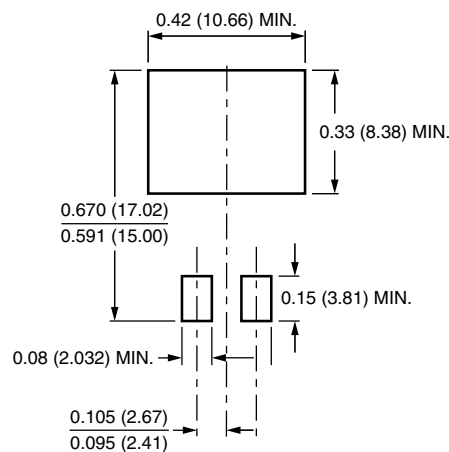
Fig. 6 - Typical Transient Thermal Impedance Per Diode

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

TO-263AB



Mounting Pad Layout





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