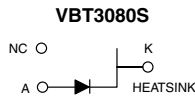
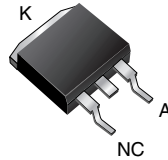


Trench MOS Barrier Schottky Rectifier

 Ultra Low $V_F = 0.39\text{ V}$ at $I_F = 5\text{ A}$
TMBS®
D²PAK (TO-263AB)


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.

LINKS TO ADDITIONAL RESOURCES



PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	30 A
V_{RRM}	80 V
I_{FSM}	200 A
V_F at $I_F = 30\text{ A}$	0.73 V
T_J max.	150 °C
Package	D ² PAK (TO-263AB)
Circuit configuration	Single

MECHANICAL DATA

Case: D²PAK (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 ($T_A = 25\text{ °C}$ unless otherwise noted)			
PARAMETER	SYMBOL	VBT3080S	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	80	V
Maximum average forward rectified current (fig. 1)	$I_{F(AV)}$	30	A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	200	A
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150	°C



ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	TYP.	MAX.	UNIT
Instantaneous forward voltage ⁽¹⁾	$I_F = 5\text{ A}$	$T_A = 25\text{ }^\circ\text{C}$	V_F	0.47	-	V
	$I_F = 15\text{ A}$			0.61	-	
	$I_F = 30\text{ A}$			0.82	0.95	
	$I_F = 5\text{ A}$	$T_A = 125\text{ }^\circ\text{C}$		0.39	-	
	$I_F = 15\text{ A}$			0.57	-	
	$I_F = 30\text{ A}$			0.73	0.82	
Reverse current ⁽²⁾	$V_R = 80\text{ V}$	$T_A = 25\text{ }^\circ\text{C}$	I_R	70	1000	μA
		$T_A = 125\text{ }^\circ\text{C}$		23	45	mA

Notes

- (1) Pulse test: 300 μs pulse width, 1 % duty cycle
- (2) Pulse test: Pulse width $\leq 40\text{ ms}$

THERMAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	VBT3080S	UNIT
Typical thermal resistance	$R_{\theta JC}$	1.5	$^\circ\text{C/W}$

ORDERING INFORMATION (Example)					
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
D ² PAK (TO-263AB)	VBT3080S-M3/4W	1.37	4W	50/tube	Tube
D ² PAK (TO-263AB)	VBT3080S-M3/8W	1.37	8W	800/reel	Tape and reel

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

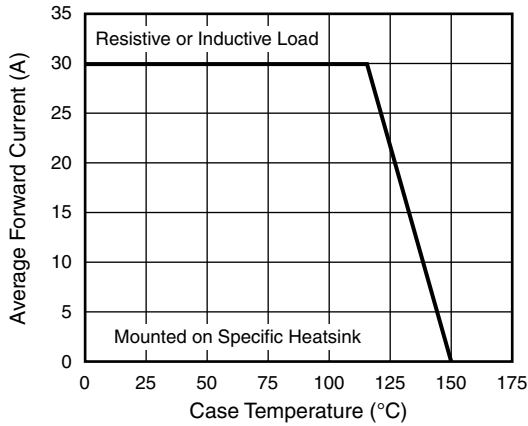


Fig. 1 - Maximum Forward Current Derating Curve

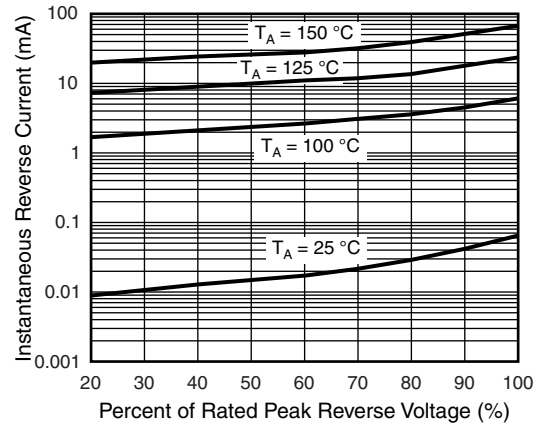


Fig. 4 - Typical Reverse Characteristics Per Diode

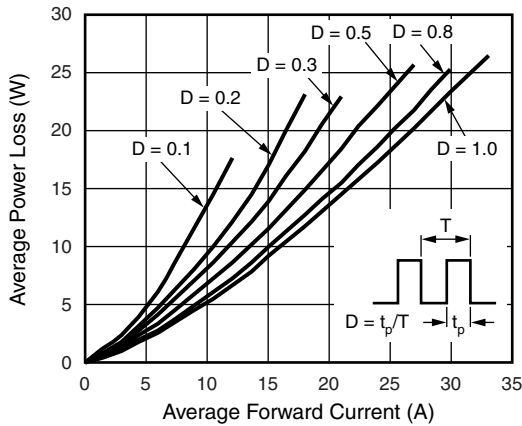


Fig. 2 - Forward Power Loss Characteristics Per Diode

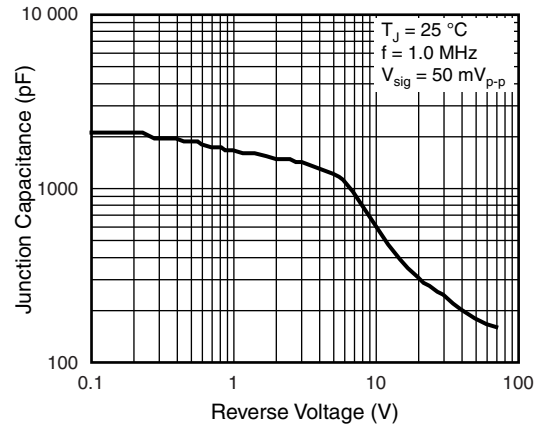


Fig. 5 - Typical Junction Capacitance Per Diode

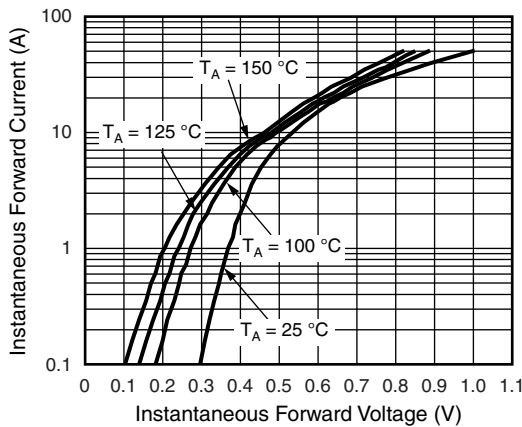


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

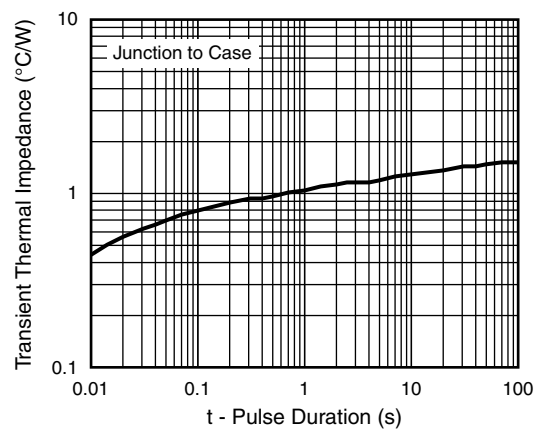
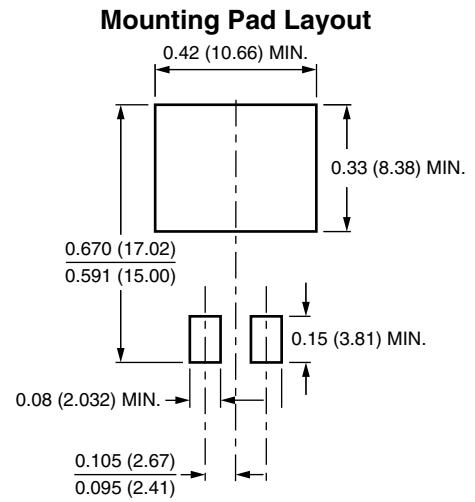
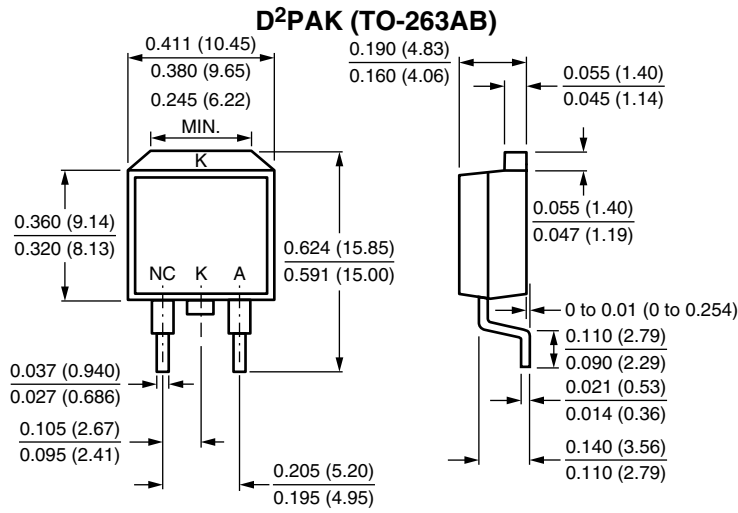


Fig. 6 - Typical Transient Thermal Impedance Per Device

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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