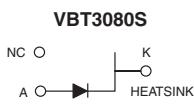
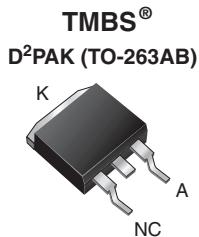


Trench MOS Barrier Schottky Rectifier

Ultra Low $V_F = 0.39$ V at $I_F = 5$ A



DESIGN SUPPORT TOOLS


[click logo to get started](#)

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.

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

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	30 A
V_{RRM}	80 V
I_{FSM}	200 A
V_F at $I_F = 30$ A	0.73 V
T_J max.	150 °C
Package	D2PAK (TO-263AB)
Circuit configuration	Single

MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted)			
PARAMETER	SYMBOL	VB73080S	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 ($T_A = 25^\circ\text{C}$ unless otherwise noted)

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

PARAMETER	SYMBOL	VBT3080S	UNIT
Typical thermal resistance	$R_{\text{th}JC}$	1.5	$^\circ\text{C}/\text{W}$

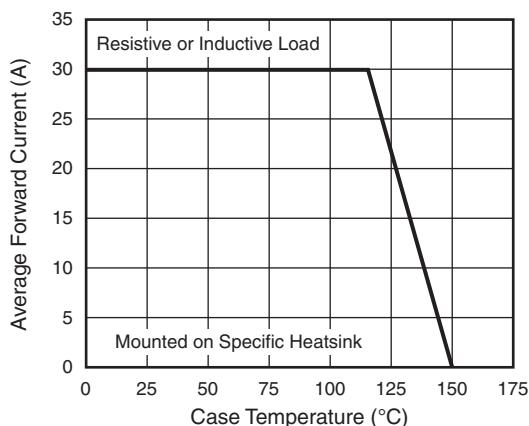
RATINGS AND CHARACTERISTICS CURVES ($T_A = 25^\circ\text{C}$ unless otherwise noted)


Fig. 1 - Maximum Forward Current Derating Curve

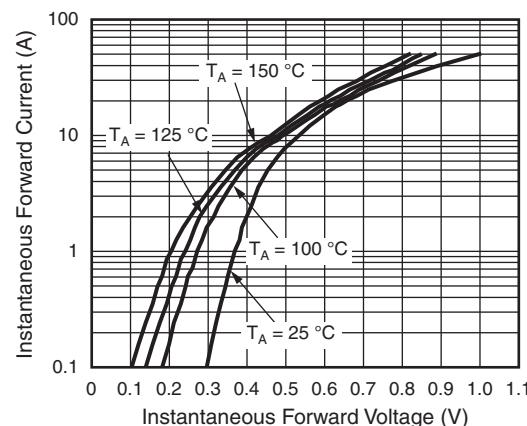


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

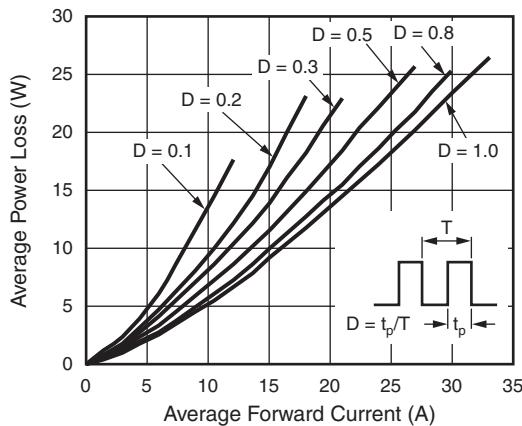


Fig. 2 - Forward Power Loss Characteristics Per Diode

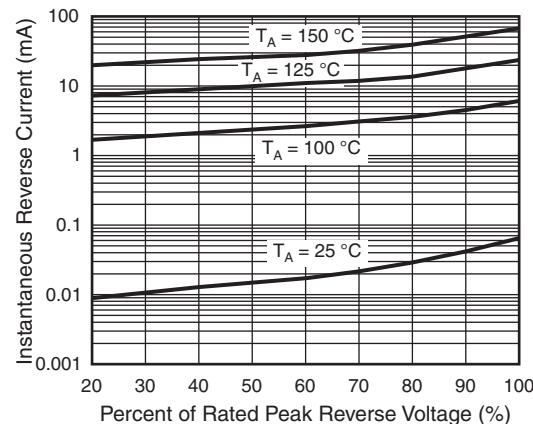


Fig. 4 - Typical Reverse Characteristics Per Diode

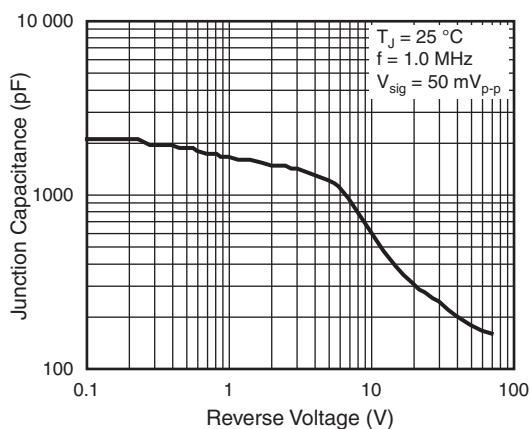


Fig. 5 - Typical Junction Capacitance Per Diode

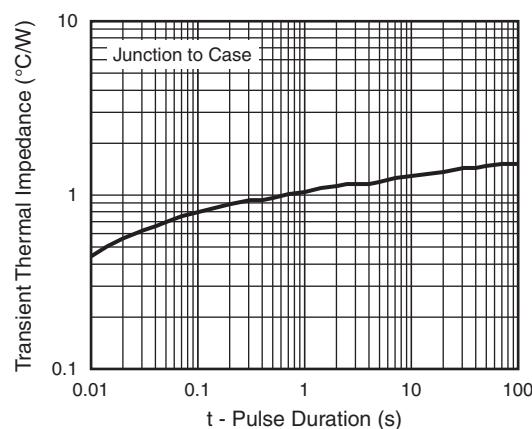
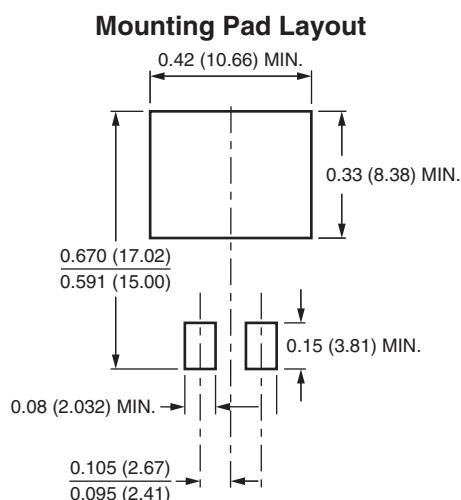
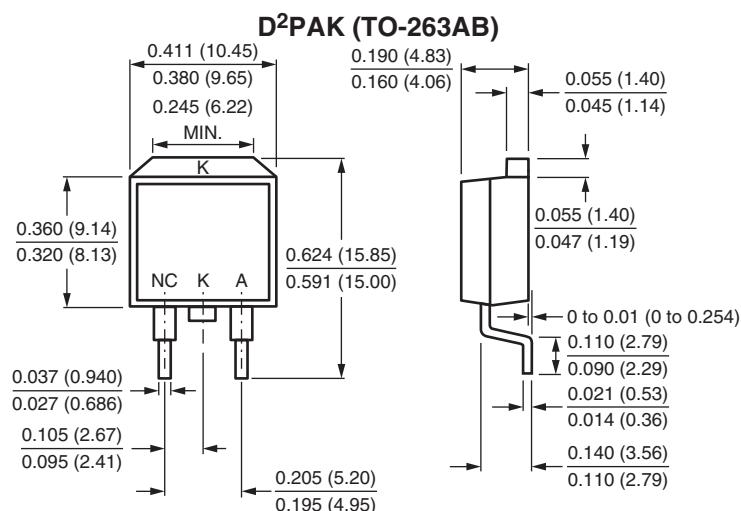


Fig. 6 - Typical Transient Thermal Impedance Per Device

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



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