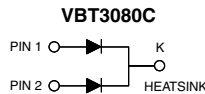
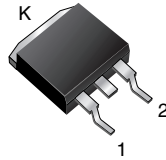


## Dual Trench MOS Barrier Schottky Rectifier

 Ultra Low  $V_F = 0.46\text{ V}$  at  $I_F = 5\text{ A}$ 
**TMBS®**  
**D<sup>2</sup>PAK (TO-263AB)**


### LINKS TO ADDITIONAL RESOURCES



PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	2 x 15 A
$V_{RRM}$	80 V
$I_{FSM}$	150 A
$V_F$ at $I_F = 15\text{ A}$	0.65 V
$T_J$ max.	150 °C
Package	D <sup>2</sup> PAK (TO-263AB)
Circuit configuration	Common cathode

### 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](http://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:** D<sup>2</sup>PAK (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	VB T3080C	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	80	V
Maximum average forward rectified current (fig. 1)	$I_{F(AV)}$	per device	30
		per diode	15
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode	$I_{FSM}$	150	A
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150	°C

ELECTRICAL CHARACTERISTICS ( $T_A = 25\text{ °C}$ unless otherwise noted)							
PARAMETER	TEST CONDITIONS		SYMBOL	TYP.	MAX.	UNIT	
Instantaneous forward voltage per diode <sup>(1)</sup>	$I_F = 5\text{ A}$	$T_A = 25\text{ °C}$	$V_F$	0.52	-	V	
				$I_F = 7.5\text{ A}$	0.58		-
					$I_F = 15\text{ A}$		0.75
	$I_F = 5\text{ A}$	$T_A = 125\text{ °C}$		0.46	-		
				$I_F = 7.5\text{ A}$	0.52		-
				$I_F = 15\text{ A}$	0.65		0.70
Reverse current per diode <sup>(2)</sup>	$V_R = 80\text{ V}$	$T_A = 25\text{ °C}$	$I_R$	30	700	μA	
		$T_A = 125\text{ °C}$		20	35	mA	

#### Notes

<sup>(1)</sup> Pulse test: 300 μs pulse width, 1 % duty cycle

<sup>(2)</sup> Pulse test: Pulse width ≤ 40 ms



THERMAL CHARACTERISTICS ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)				
PARAMETER		SYMBOL	VBT3080C	UNIT
Typical thermal resistance	per diode	$R_{\theta JC}$	2.5	$^\circ\text{C/W}$
	per device		2.0	

ORDERING INFORMATION (Example)					
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
D <sup>2</sup> PAK (TO-263AB)	VBT3080C-M3/4W	1.39	4W	50/tube	Tube
D <sup>2</sup> PAK (TO-263AB)	VBT3080C-M3/8W	1.39	8W	800/reel	Tape and reel

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

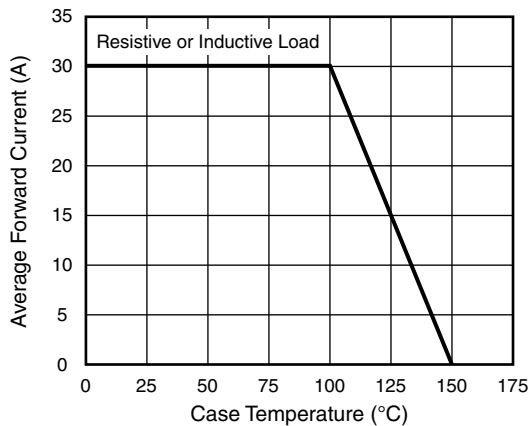


Fig. 1 - Maximum Forward Current Derating Curve

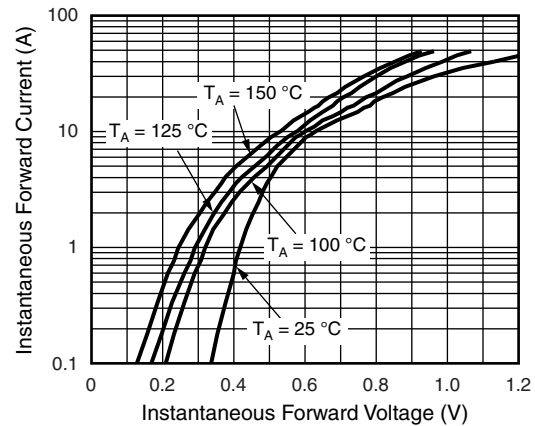


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

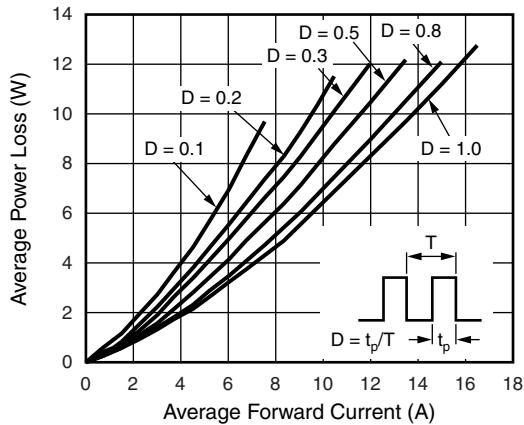


Fig. 2 - Forward Power Loss Characteristics Per Diode

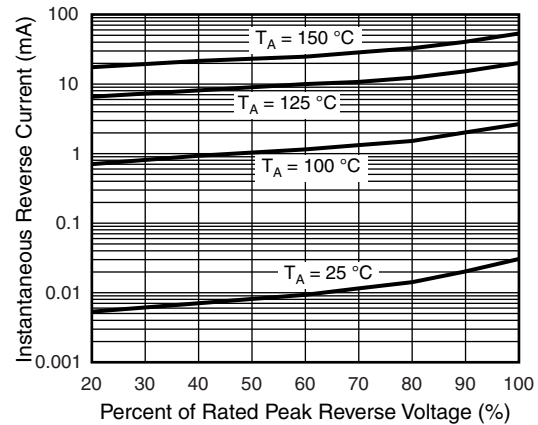


Fig. 4 - Typical Reverse Characteristics Per Diode

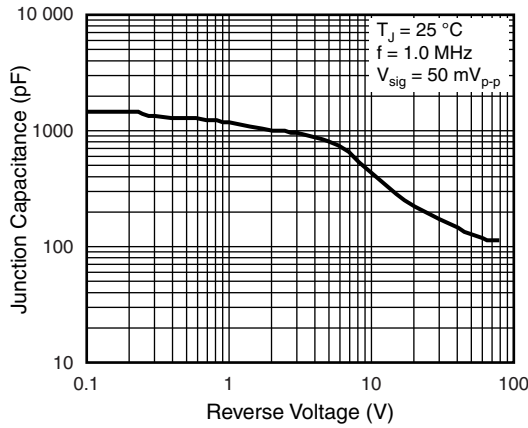


Fig. 5 - Typical Junction Capacitance Per Diode

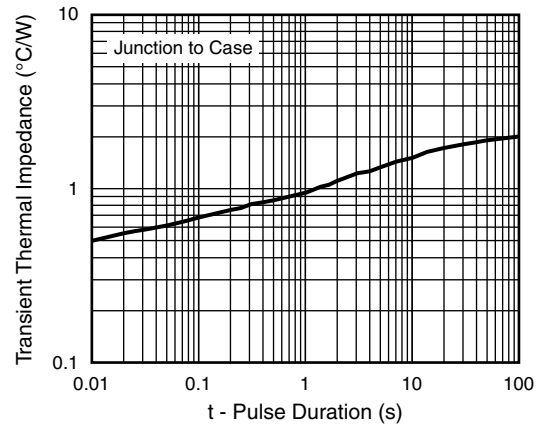
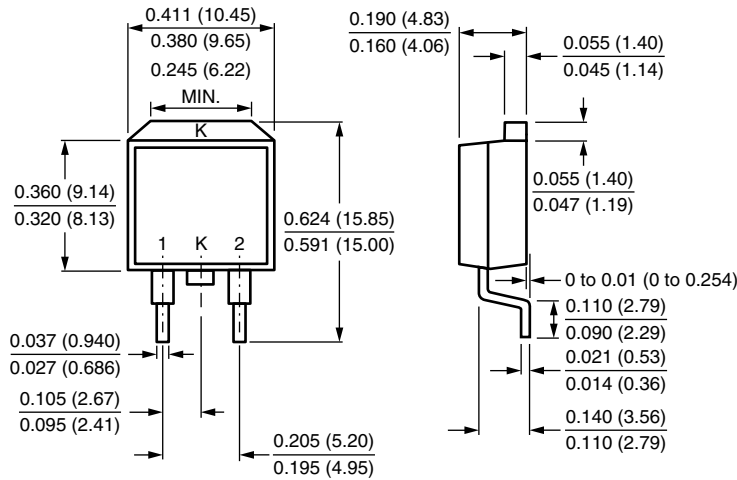


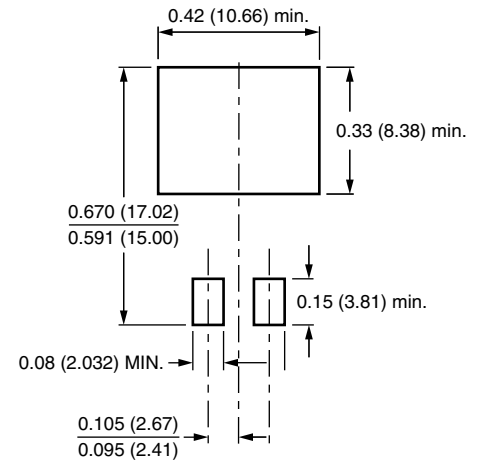
Fig. 6 - Typical Transient Thermal Impedance Per Device

**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)

**D<sup>2</sup>PAK (TO-263AB)**



**Mounting Pad Layout**





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