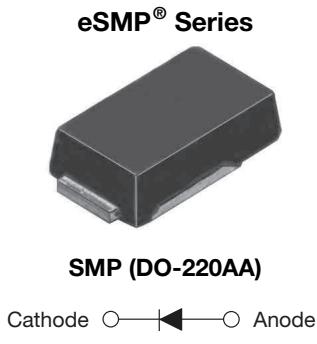


# Surface-Mount TMBS® (Trench MOS Barrier Schottky) Rectifier



## LINKS TO ADDITIONAL RESOURCES



PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	2.0 A
$V_{RRM}$	60 V
$I_{FSM}$	50 A
$V_F$ at $I_F = 2.0$ A	0.45 V
$T_J$ max.	150 °C
Package	SMP (DO-220AA)
Circuit configuration	Single

## FEATURES

- Low profile package
- Trench MOS Schottky technology
- Low power losses, high efficiency
- Low forward voltage drop
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- AEC-Q101 qualified available
  - Automotive ordering code; base P/NHM3
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



## TYPICAL APPLICATIONS

For use in low voltage, high frequency inverters, freewheeling, DC/DC converters, and polarity protection applications.

## MECHANICAL DATA

### Case: SMP (DO-220AA)

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

Base P/NHM3 - halogen-free, RoHS-compliant, and AEC-Q101 qualified

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

M3 suffix meets JESD 201 class 2 whisker test, HM3 suffix meets JESD 201 class 2 whisker test

**Polarity:** color band denotes the cathode end

MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise noted)			
PARAMETER	SYMBOL	V2P6L	UNIT
Device marking code		V26	
Maximum repetitive peak reverse voltage	$V_{RRM}$	60	V
Maximum DC forward current	$I_F$ <sup>(1)</sup>	2	A
Peak forward surge current 10 ms single half sine-wave superimposed on rated load	$I_{FSM}$	50	A
Operating junction and storage temperature range	$T_J$ <sup>(2)</sup>	-40 to +150	°C
Operating junction and storage temperature range	$T_{STG}$	-55 to +150	°C

### Notes

<sup>(1)</sup> Free air, mounted on recommended copper pad area

<sup>(2)</sup> The heat generated must be less than the thermal conductivity from junction-to-ambient:  $dP_D/dT_J < 1/R_{\theta JA}$

ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)							
PARAMETER	TEST CONDITIONS		SYMBOL	TYP.	MAX.	UNIT	
Instantaneous forward voltage	$I_F = 1 \text{ A}$	$T_A = 25^\circ\text{C}$	$V_F$ <sup>(1)</sup>	0.46	-	V	
	$I_F = 2 \text{ A}$			0.52	0.60		
	$I_F = 1 \text{ A}$	$T_A = 125^\circ\text{C}$		0.36	-		
	$I_F = 2 \text{ A}$			0.45	0.53		
Reverse current	$V_R = 60 \text{ V}$	$T_A = 25^\circ\text{C}$	$I_R$ <sup>(2)</sup>	-	0.48	mA	
		$T_A = 125^\circ\text{C}$		2.0	10		
Typical junction capacitance	$4.0 \text{ V}, 1 \text{ MHz}$		$C_J$	255	-	pF	

**Notes**

(1) Pulse test: 300  $\mu\text{s}$  pulse width, 1 % duty cycle

(2) Pulse test: pulse width  $\leq 5 \text{ ms}$

THERMAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise specified)				
PARAMETER	SYMBOL	V2P6L		UNIT
Typical thermal resistance	$R_{\theta JA}$ <sup>(1)</sup>	125		°C/W
	$R_{\theta JM}$ <sup>(2)</sup>	15		

**Notes**

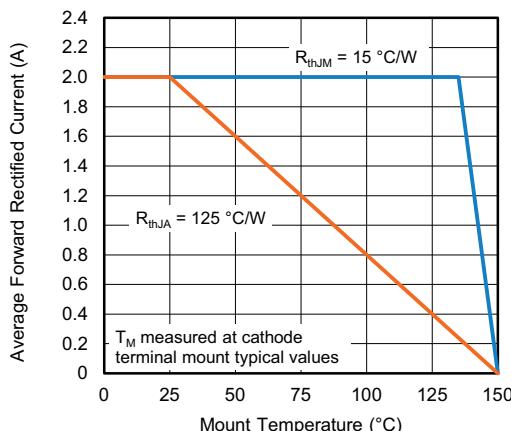
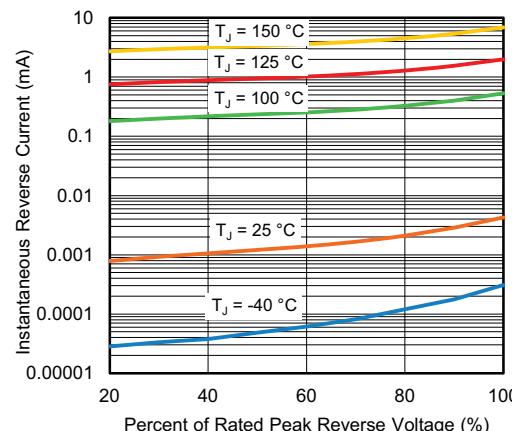
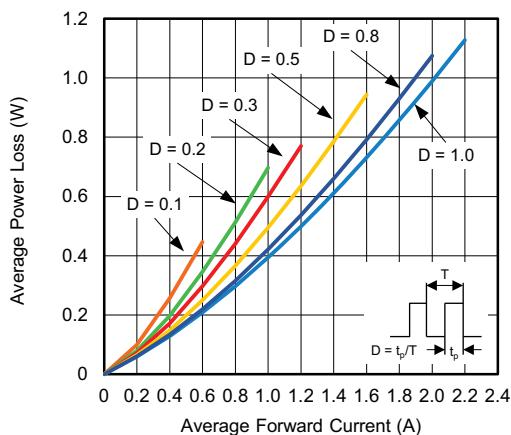
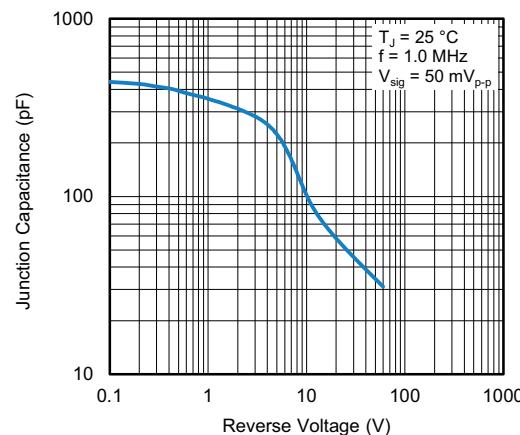
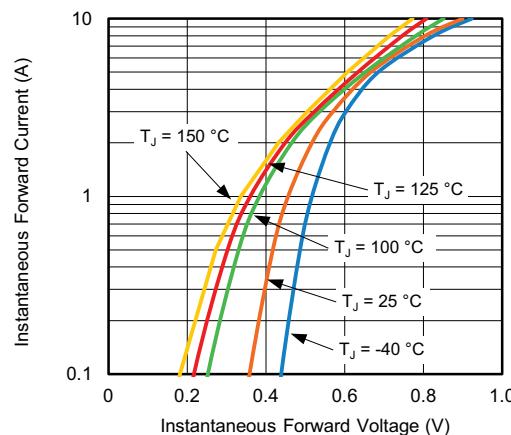
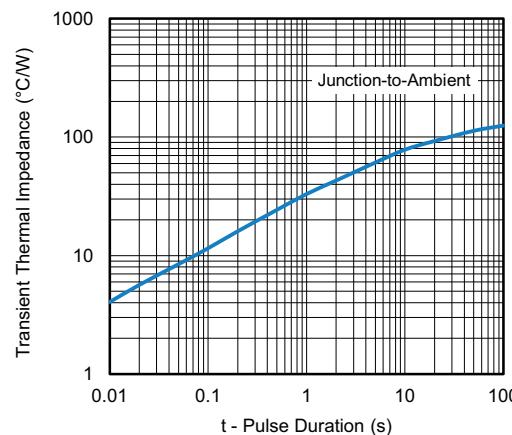
(1) Free air, mounted on recommended PCB, 1 oz. pad area; thermal resistance  $R_{\theta JA}$  - junction-to-ambient

(2) Mounted on 10 mm x 10 mm copper pad area PCB; thermal resistance  $R_{\theta JM}$  - junction-to-mount

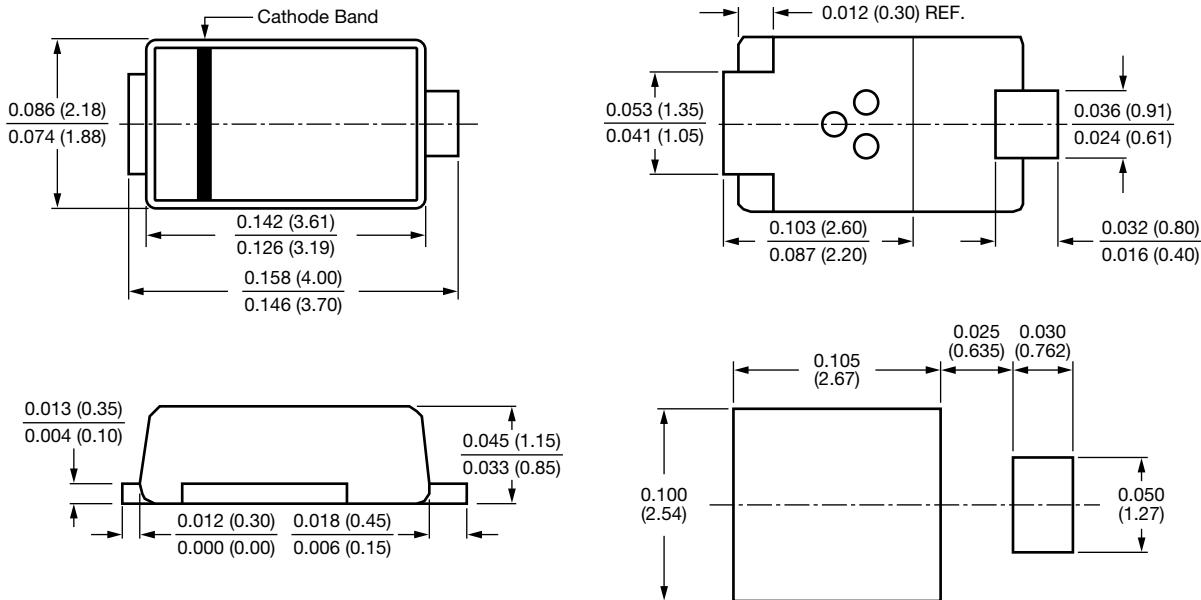
ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
V2P6L-M3/H	0.024	H	3000	7" diameter plastic tape and reel
V2P6L-M3/I	0.024	I	10 000	13" diameter plastic tape and reel
V2P6LHM3/H <sup>(1)</sup>	0.024	H	3000	7" diameter plastic tape and reel
V2P6LHM3/I <sup>(1)</sup>	0.024	I	10 000	13" diameter plastic tape and reel

**Note**

(1) AEC-Q101 qualified

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

**Fig. 1 - Maximum Forward Current Derating Curve**

**Fig. 4 - Typical Reverse Characteristics**

**Fig. 2 - Forward Power Loss Characteristics**

**Fig. 5 - Typical Junction Capacitance**

**Fig. 3 - Typical Instantaneous Forward Characteristics**

**Fig. 6 - Typical Transient Thermal Impedance**

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

**SMP (DO-220AA)**


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