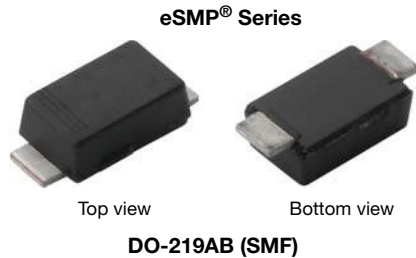


Schottky Rectifier Surface Mount



RoHS
COMPLIANT
HALOGEN
FREE

FEATURES

- For surface mounted applications
- Low-profile package
- Ideal for automated placement
- Low power loss, high efficiency
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Meets JESD 201 class 2 whisker test
- Wave and reflow solderable
- AEC-Q101 qualified available
- Base P/N-E3 - halogen-free, RoHS-compliant
- Base P/N-HE3 - halogen-free, RoHS-compliant, and AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

MECHANICAL DATA

Case: DO-219AB (SMF)

Polarity: color band denotes cathode end

Weight: approx. 15 mg

Packaging codes / options:

18/10K per 13" reel (8 mm tape), 50K/box

08/3K per 7" reel (8 mm tape), 30K/box

Int. construction: single

TYPICAL APPLICATIONS

For use in high frequency inverters, freewheeling, DC/DC converters, and polarity protection in commercial, industrial, and automotive applications.

PARTS TABLE			
PART	ORDERING CODE	MARKING	REMARKS
SL04	SL04-E3-18 or SL04-E3-08 SL04-HE3-18 or SL04-HE3-08	S4	Tape and reel

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ °C}$, unless otherwise specified)				
PARAMETER	TEST CONDITIONS	SYMBOL	VALUE	UNIT
Maximum repetitive peak reverse voltage		V_{RRM}	40	V
Maximum average forward rectified current (fig. 4)		$I_{F(AV)}$	1.1	A
Peak forward surge current 8.3 ms single half sine-wave $T_{J(init)} = 25\text{ °C}$		I_{FSM}	40	A

THERMAL CHARACTERISTICS ($T_{amb} = 25\text{ °C}$, unless otherwise specified)				
PARAMETER	TEST CONDITIONS	SYMBOL	VALUE	UNIT
Thermal resistance junction to lead		R_{thJL}	22	K/W
Thermal resistance junction to ambient air ⁽¹⁾		R_{thJA}	180	K/W
Junction temperature in DC forward current without reverse bias		T_j	175	°C
Storage temperature range		T_{stg}	-55 to +175	°C

Note

⁽¹⁾ Mounted on epoxy substrate with 3 mm x 3 mm Cu pads ($\geq 40\text{ }\mu\text{m}$ thick)

ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)						
PARAMETER	TEST CONDITIONS		SYMBOL	TYP.	MAX.	UNIT
Instantaneous forward voltage	$I_F = 0.5\text{ A}$	$T_J = 25\text{ }^{\circ}\text{C}$	$V_F^{(1)}$	0.41	0.47	V
	$I_F = 1.1\text{ A}$			0.48	0.54	
	$I_F = 0.5\text{ A}$	$T_J = 100\text{ }^{\circ}\text{C}$		0.34	-	
	$I_F = 1.1\text{ A}$			0.43	-	
	$I_F = 0.5\text{ A}$	$T_J = 125\text{ }^{\circ}\text{C}$		0.31	-	
	$I_F = 1.1\text{ A}$			0.42	-	
Reverse current	$V_R = 40\text{ V}$	$T_J = 25\text{ }^{\circ}\text{C}$	I_R	10	20	μA
		$T_J = 100\text{ }^{\circ}\text{C}$		1.2	2.6	mA
		$T_J = 125\text{ }^{\circ}\text{C}$		4.5	13	mA
Typical junction capacitance	$V_R = 4.0\text{ V}$, 1 MHz		C_D	65	-	pF

Note

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

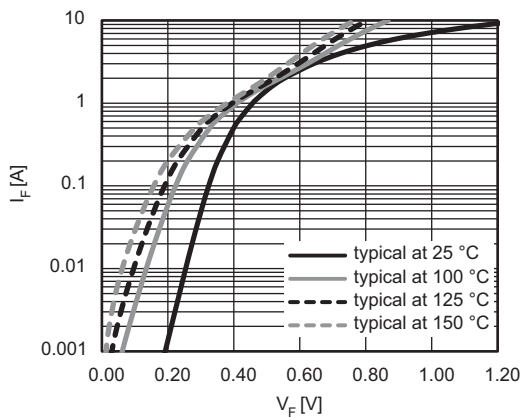
RATINGS AND CHARACTERISTICS CURVES ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


Fig. 1 - Typical Forward Characteristics

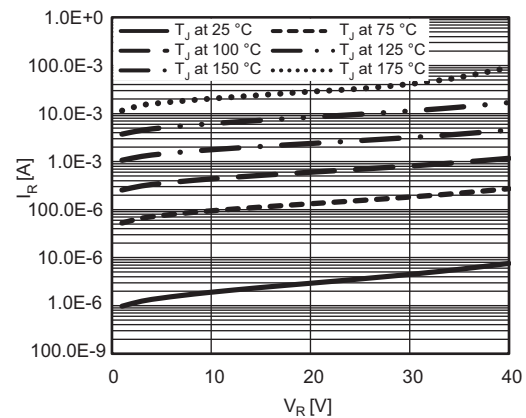


Fig. 3 - Typical Reverse Characteristics

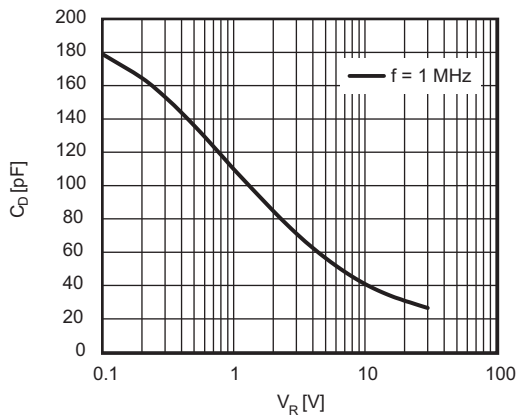


Fig. 2 - Typical Diode Capacitance vs. Reverse Voltage

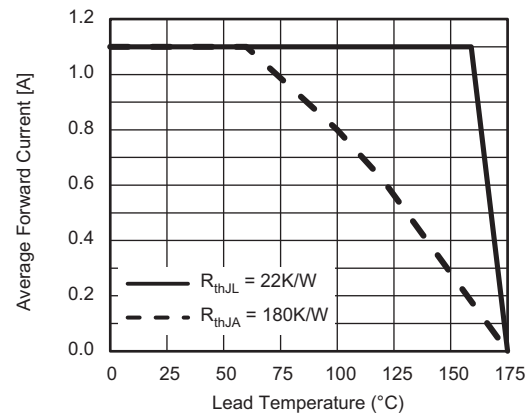


Fig. 4 - Forward Current Derating Curve

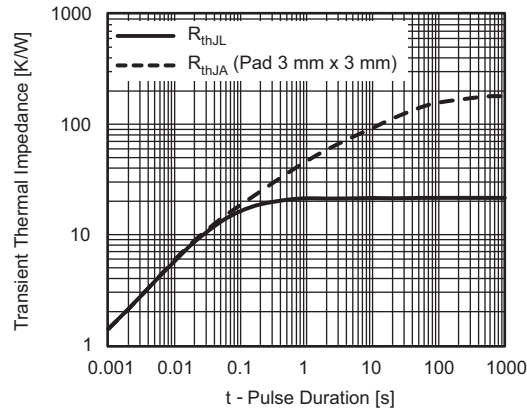
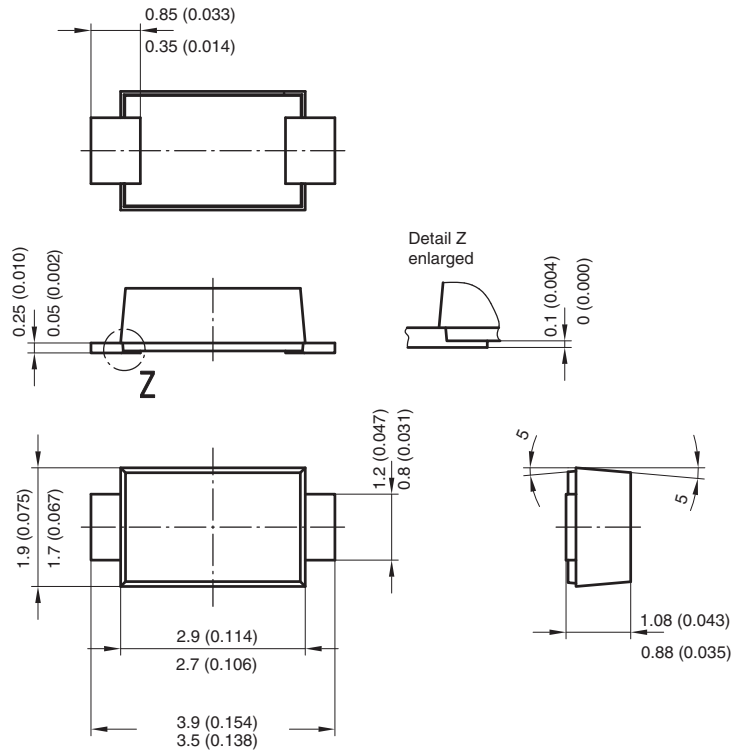
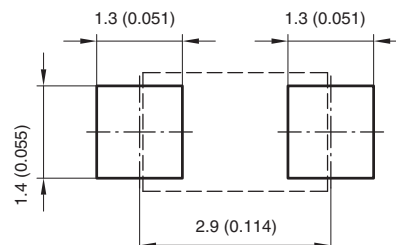


Fig. 5 - Typical Transient Thermal Impedance

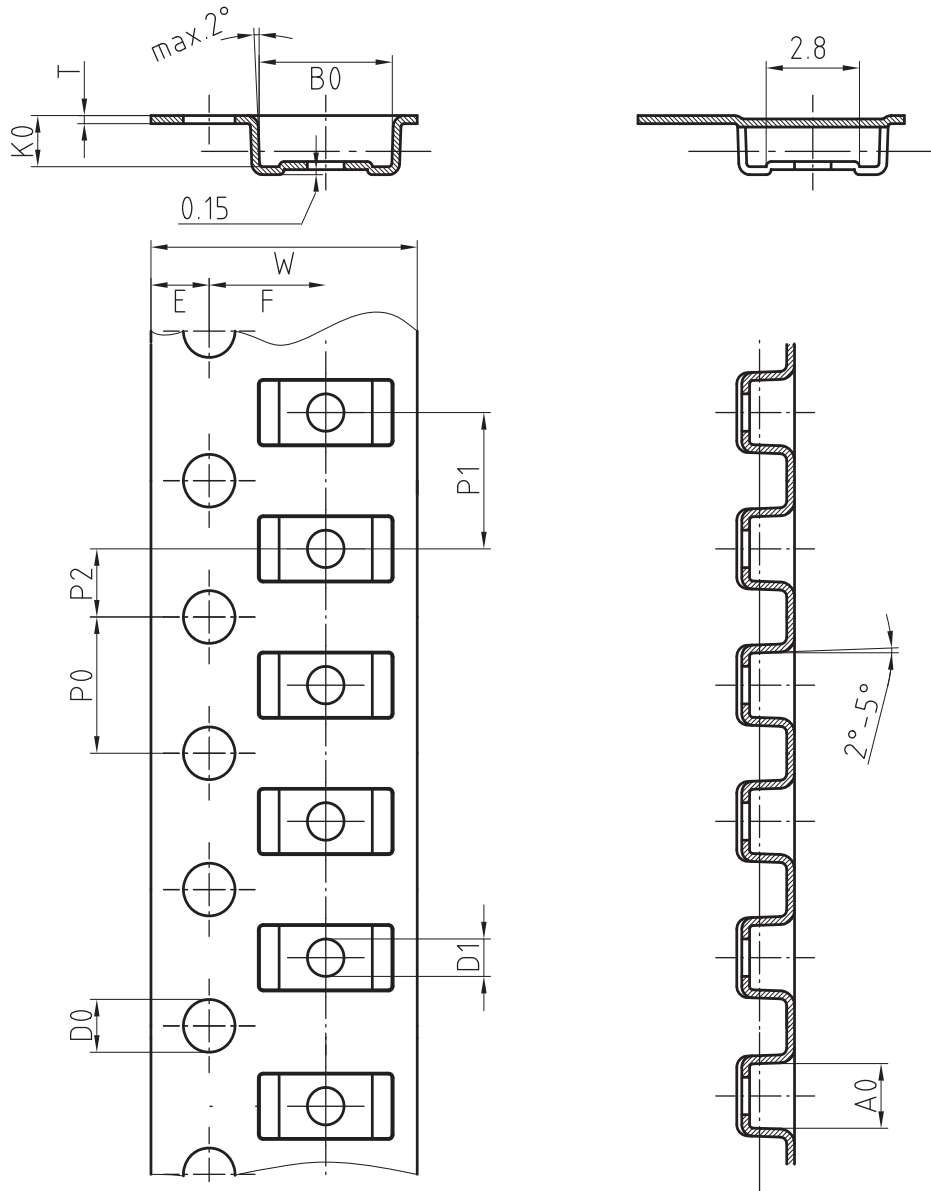
PACKAGE DIMENSIONS in millimeters (inches): **DO-219AB (SMF)**



Foot print recommendation:



Created - Date: 15. February 2005
 Rev. 3 - Date: 13. March 2007
 Document no.:S8-V-3915.01-001 (4)
 17247

BLISTERTAPE DIMENSIONS in millimeters: **DO-219 AB (SMF)**


Mat:	A0	B0	K0	W	T	P0	P2	P1	D0	D1	E	F
PS	1.9	4.0	1.5	8.0	0.235	4.0	2.0	4.0	1.5	1	1.75	3.5

Document-No.: S8-V-3717.02-001 (3)

18513



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