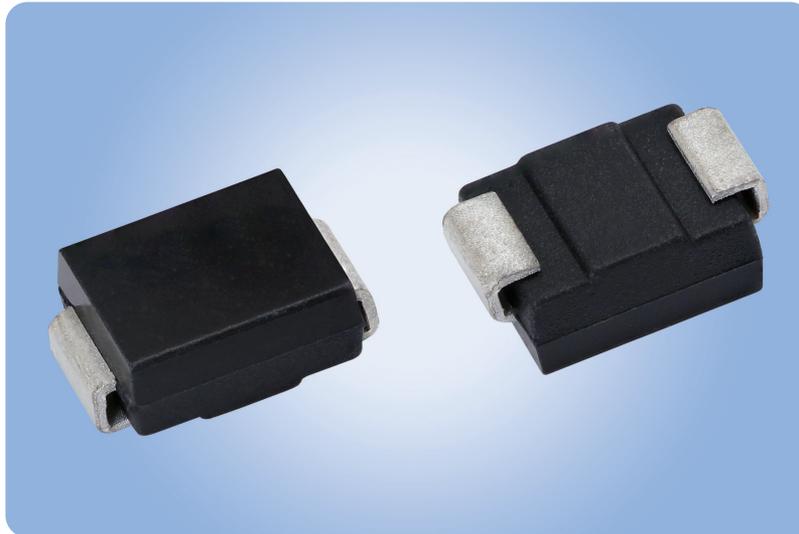




DIODES

SMBJxxxD Series

TRANSZORB® TVS Offer More Precise Breakdown Voltage, Higher Peak Pulse Surge Current Capability, and Lower Clamping Voltage



KEY BENEFITS

- Designed to protect sensitive electronics against voltage transients induced by inductive load switching and lightning
- Tight breakdown voltage tolerance of $\pm 3.5\%$
- Low profile SMB (DO-214AA) package
- High peak pulse surge currents from 2.03 A to 65.9 A
- Excellent clamping capability from 9.1 V to 301 V
- High surge capability to 600 W at 10/1000 μ s
- Stand-off voltages from 5 V to 188 V
- Available with uni-directional polarity
- Temperature range from $-55\text{ }^{\circ}\text{C}$ to $+150\text{ }^{\circ}\text{C}$
- Ideal for automated placement

APPLICATIONS

- DC adapter power line protection, power supply snubber circuits, and general voltage surge protection in consumer, computer, industrial, and telecommunication equipment

RESOURCES

- Datasheet: SMBJxxxD Series - www.vishay.com/ppg?87606
- For technical questions contact: DiodesAmerica@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



Surface-Mount TRANSZORB[®] Transient Voltage Suppressors


SMB (DO-214AA)

PRIMARY CHARACTERISTICS	
V_{BR} (uni-directional)	6.5 V to 228 V
V_{BR} (bi-directional)	6.5 V to 145 V
V_{WM} (uni-directional)	5.0 V to 188 V
V_{WM} (bi-directional)	5.0 V to 120 V
P_{PPM}	600 W
P_D at $T_M = 50\text{ }^\circ\text{C}$	5.0 W
P_D at $T_A = 25\text{ }^\circ\text{C}$	1.0 W
T_J max.	150 $^\circ\text{C}$
Polarity	Uni-directional, bi-directional
Package	SMB (DO-214AA)

DEVICES FOR BI-DIRECTIONAL APPLICATIONS

For bi-directional devices use CD suffix (e.g. SMBJ5.0CD).
Electrical characteristics apply in both directions.

FEATURES

- Low profile package
- Ideal for automated placement
- $\pm 3.5\%$: very tight V_{BR} tolerance
- Low leakage current
- Available in uni-directional and bi-directional
- 600 W peak pulse power capability with a 10/1000 μs waveform, repetitive rate (duty cycle): 0.01 %
- Excellent clamping capability
- Very fast response time
- Low incremental surge resistance
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 $^\circ\text{C}$
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT
HALOGEN
FREE

TYPICAL APPLICATIONS

Use in sensitive electronics for protection against voltage transients induced by inductive load switching and lightning on ICs, MOSFETs, and signal lines of sensor units for consumer, computer, industrial, and telecommunications applications.

MECHANICAL DATA

Case: SMB (DO-214AA)

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

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

M3 suffix meets JESD 201 class 2 whisker test

Polarity: for uni-directional types the band denotes cathode end, no cathode band on bi-directional types

MAXIMUM RATINGS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)				
PARAMETER		SYMBOL	VALUE	UNIT
Peak pulse power dissipation	with a 10/1000 μs waveform	$P_{PPM}^{(1)}$	600	W
Peak pulse current	with a 10/1000 μs waveform	$I_{PPM}^{(1)}$	See next table	A
Power dissipation	$T_M = 50\text{ }^\circ\text{C}$	$P_D^{(2)}$	5.0	W
	$T_A = 25\text{ }^\circ\text{C}$	$P_D^{(3)}$	1.0	
Operating junction and storage temperature range		T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

Notes

(1) Non-repetitive current pulse, per fig. 3 and derated above $T_A = 25\text{ }^\circ\text{C}$ per fig. 2

(2) Power dissipation mounted on infinite heatsink

(3) Power dissipation mounted on minimum recommended pad layout

Revision: 16-Jan-2018