

## 24V Surface Mount Transient Voltage Suppressor



### FEATURES

- AEC-Q101 qualified
- Extremely low clamping voltage
- Bidirectional Transient Voltage Suppressor
- Low leakage current
- Clamping ratio ( $V_c$  / Stand-off Voltage) between 1.0~1.05
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS compliant
- Halogen-free

### APPLICATIONS

- Transient Surge Protection

### MECHANICAL DATA

- Case: DO-214AA (SMB)
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Weight: 0.08g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$V_{WM}$	24	V
$V_{BR}$	35	V
$T_J$ MAX	175	°C
Package	DO-214AA (SMB)	



DO-214AA (SMB)



### ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNIT
Junction temperature	$T_J$	-55 to +175	°C
Storage temperature	$T_{STG}$	-55 to +175	°C

### ELECTRICAL SPECIFICATIONS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

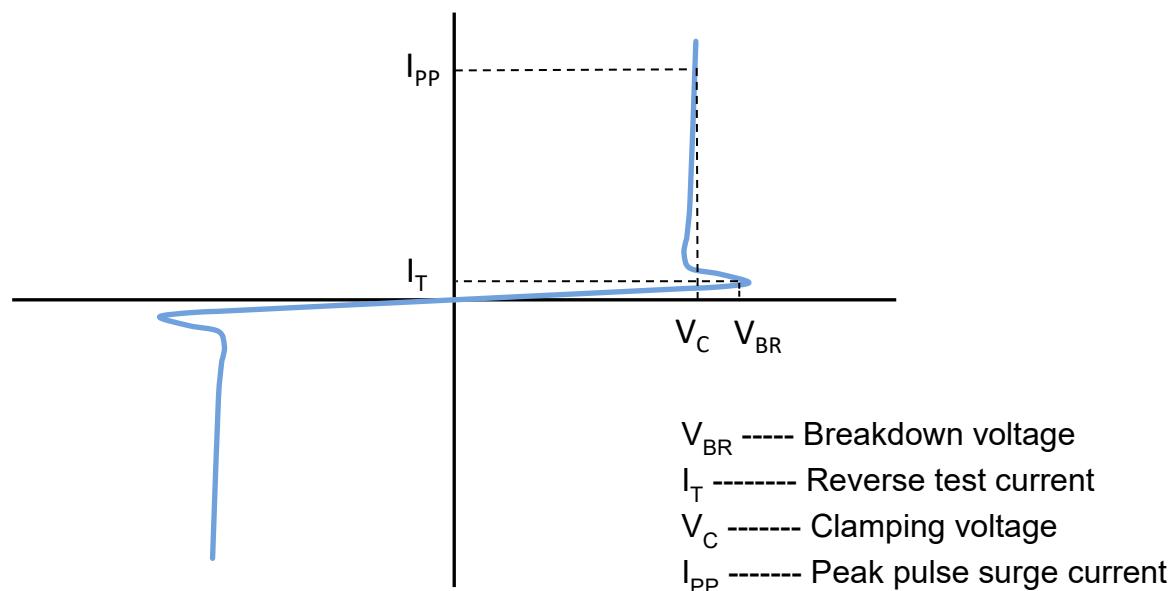
Part number	Breakdown voltage $V_{BR}$ at $I_T$ (V) (Note 1)	Test current $I_T$ (mA)	Working stand-off voltage $V_{WM}$ (V)	Maximum blocking leakage current $I_R$ at $V_{WM}$ ( $\mu\text{A}$ ) (Note 1)	Maximum peak impulse current $I_{PPM}$ (A) $t_p = 10/1000$ ( $\mu\text{s}$ )	Typical clamping voltage $V_c$ at $I_{PPM}$ (V)	
LSMB24CAH	31	35	1	24	1	45	24

#### Notes:

1. Pulse test with PW = 30ms

**ORDERING INFORMATION**

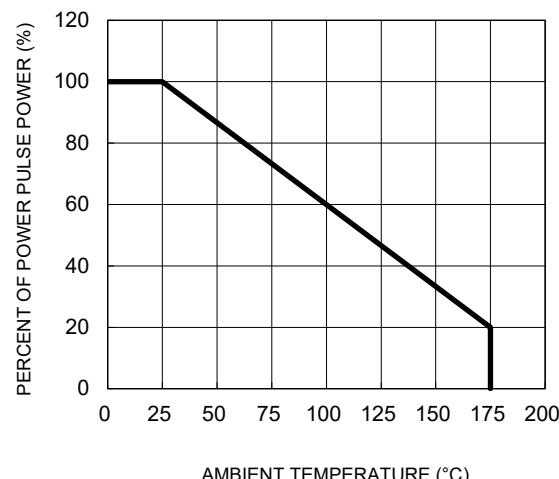
ORDERING CODE	PACKAGE	PACKING
LSMB24CAH	DO-214AA (SMB)	3,000 / Tape & Reel

**I - V CURVE CHARACTERISTICS**


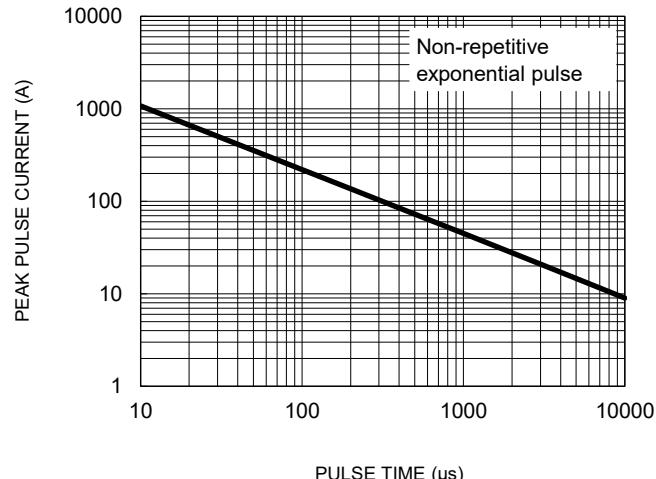
## CHARACTERISTICS CURVES

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

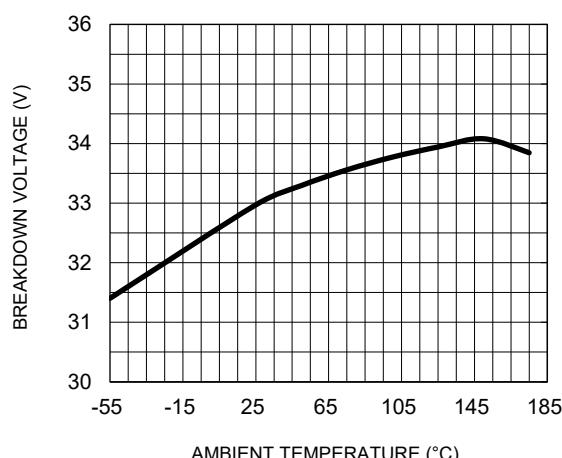
**Fig.1 Peak Pulse Power Derating Curve**



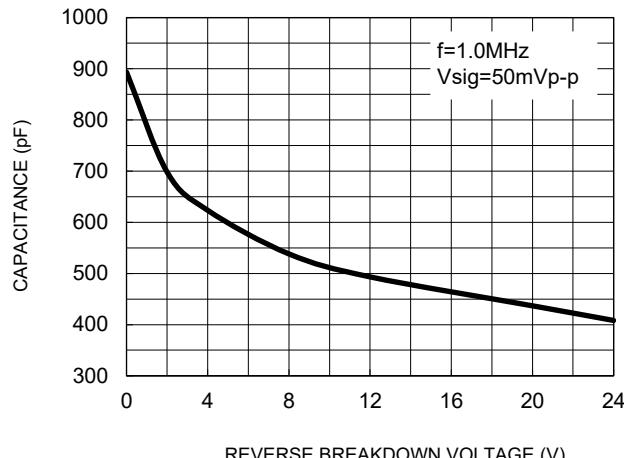
**Fig.2 Peak Pulse Current vs. Pulse Time**



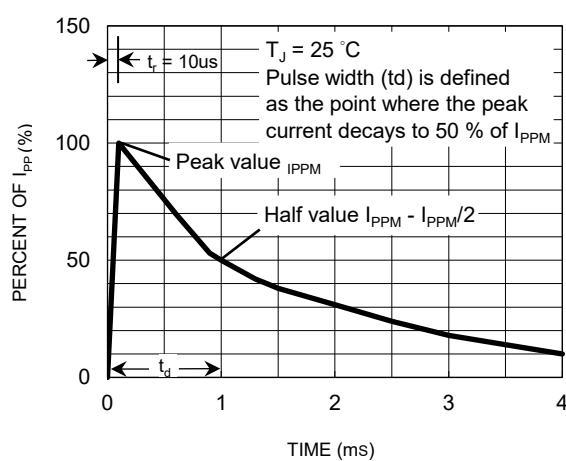
**Fig.3 Typical Breakdown Voltage vs. Temperature**

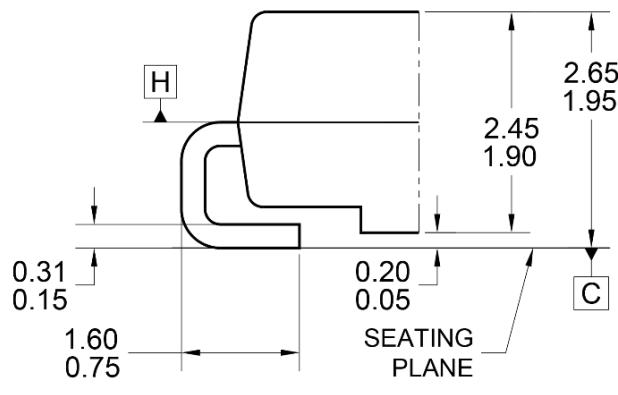
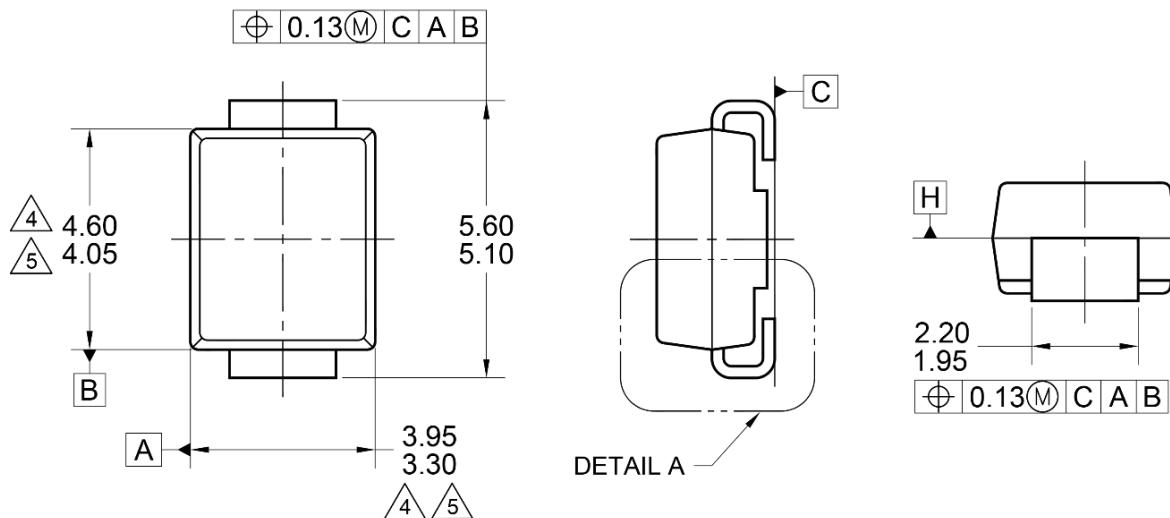
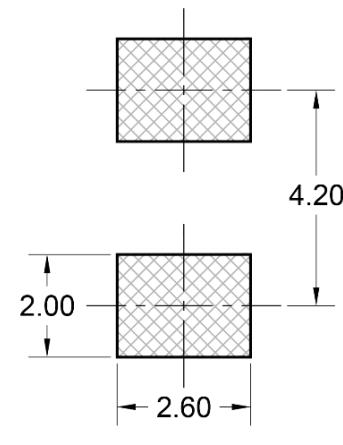
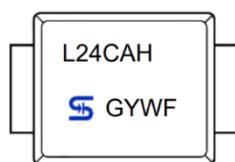


**Fig.4 Typical Junction Capacitance**



**Fig.5 10/1000μs pulse waveform**



**PACKAGE OUTLINE DIMENSIONS**
**DO-214AA (SMB)**

 DETAIL A, ROTATED -90°  
 (SCALE 2:1)

 SUGGESTED PAD  
 LAYOUT


MARKING DIAGRAM

G = Green compound  
 YW = Date code  
 F = Factory code

NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994.
3. PACKAGE OUTLINE REFERENCE:  
 JEDEC DO-214, VARIATION AA, ISSUE D.
- 4 MOLDED PLASTIC BODY DIMENSIONS DO NOT INCLUDE MOLD FLASH.
- 5 MOLDED PLASTIC BODY LATERAL DIMENSIONS TO BE DETERMINED AT DATUM PLANE H.
6. DWG NO. REF: HQ2SD07-DO214SMB-035 REV A.

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