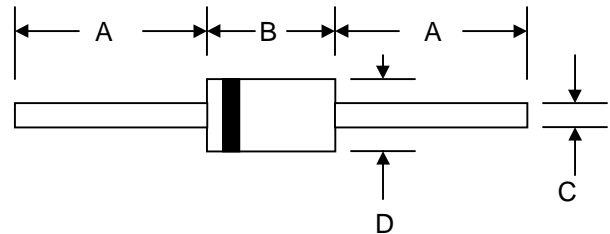


## Features

- Glass Passivated Die Construction
- 500W Peak Pulse Power Dissipation
- 180V – 220V Standoff Voltage
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Case Material has UL Flammability Classification Rating 94V-O



## Mechanical Data

- Case: DO-15, Molded Plastic
- Terminals: Axial Leads, Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band Except Bi-Directional
- Marking: Type Number
- Weight: 0.40 grams (approx.)
- **Lead Free: For RoHS / Lead Free Version, Add “-LF” Suffix to Part Number, See Page 5**

DO-15		
Dim	Min	Max
A	25.4	—
B	5.50	7.62
C	0.71	0.864
D	2.60	3.60
All Dimensions in mm		

“C” Suffix Designates Bi-directional Devices  
 “A” Suffix Designates 5% Tolerance Devices  
 No Suffix Designates 10% Tolerance Devices

## Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation at $T_A = 25^\circ\text{C}$ (Note 1, 2, 5) Figure 3	PPPM	500 Minimum	W
Peak Forward Surge Current (Note 3)	IFSM	70	A
Peak Pulse Current on 10/1000 $\mu\text{s}$ Waveform (Note 1) Figure 1	IPPM	See Table 1	A
Steady State Power Dissipation (Note 2, 4)	PM(AV)	1.0	W
Operating and Storage Temperature Range	$T_j, T_{STG}$	-65 to +175	$^\circ\text{C}$

- Note: 1. Non-repetitive current pulse per Figure 1 and derated above  $T_A = 25^\circ\text{C}$  per Figure 4.  
 2. Mounted on 40mm<sup>2</sup> copper pad.  
 3. 8.3ms single half sine-wave duty cycle = 4 pulses per minutes maximum.  
 4. Lead temperature at 75 $^\circ\text{C}$ .  
 5. Peak pulse power waveform is 10/1000 $\mu\text{s}$ .



Fig. 1 Pulse Waveform



Fig. 2 Typical Junction Capacitance



Fig. 3 Pulse Rating Curve



Fig. 4 Pulse Derating Curve



Fig. 5, Steady State Power Derating

## UNI-DIRECTIONAL 500 WATT AXIAL LEAD TVS

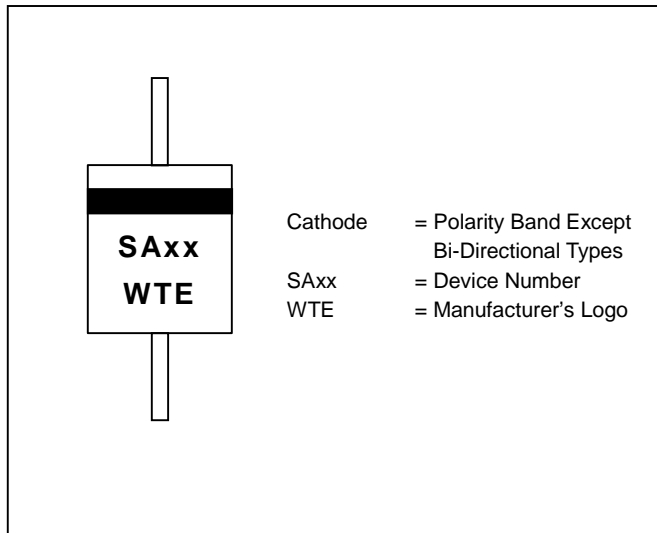
UNI-DIRECTIONAL PART NUMBER	REVERSE STAND-OFF VOLTAGE VRWM (V)	BREAKDOWN VOLTAGE VBR (V) MIN. @IT	BREAKDOWN VOLTAGE VBR (V) MAX. @IT	TEST CURRENT IT (mA)	MAXIMUM CLAMPING VOLTAGE @Ipp Vc (V)	PEAK PULSE CURRENT Ipp (A)	REVERSE LEAKAGE @VRWM IR (uA)
SA180	180.00	198.00	253.80	1	322.0	1.6	1
SA180A	180.00	198.00	230.40	1	292.0	1.7	1
SA190	190.00	209.00	267.90	1	340.0	1.5	1
SA190A	190.00	209.00	243.20	1	308.0	1.6	1
SA200	200.00	220.00	282.00	1	358.0	1.4	1
SA200A	200.00	220.00	256.00	1	324.0	1.5	1
SA210	210.00	231.00	296.10	1	376.0	1.3	1
SA210A	210.00	231.00	268.80	1	340.0	1.5	1
SA220	220.00	242.00	310.20	1	394.0	1.3	1
SA220A	220.00	242.00	281.60	1	356.0	1.4	1

## BI-DIRECTIONAL 500 WATT AXIAL LEAD TVS

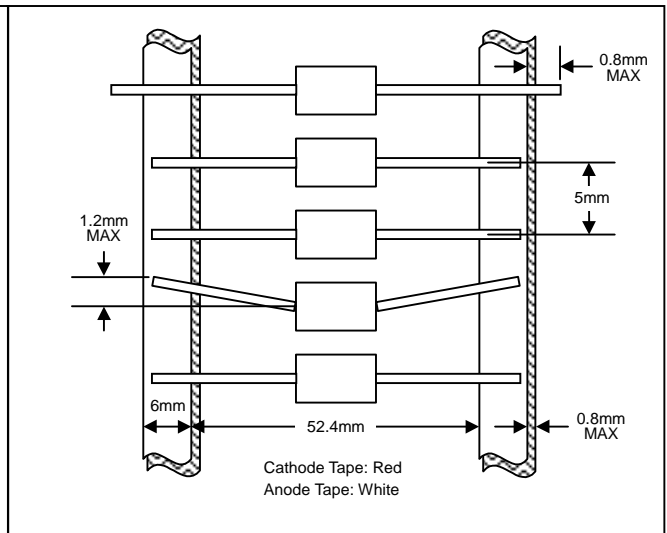
BI-DIRECTIONAL PART NUMBER	REVERSE STAND-OFF VOLTAGE VRWM (V)	BREAKDOWN VOLTAGE VBR (V) MIN. @IT	BREAKDOWN VOLTAGE VBR (V) MAX. @IT	TEST CURRENT IT (mA)	MAXIMUM CLAMPING VOLTAGE @Ipp Vc (V)	PEAK PULSE CURRENT Ipp (A)	REVERSE LEAKAGE @VRWM IR (uA)
SA180C	180.00	198.00	253.80	1	322.0	1.6	1
SA180CA	180.00	198.00	230.40	1	292.0	1.7	1
SA190C	190.00	209.00	267.90	1	340.0	1.5	1
SA190CA	190.00	209.00	243.20	1	308.0	1.6	1
SA200C	200.00	220.00	282.00	1	358.0	1.4	1
SA200CA	200.00	220.00	256.00	1	324.0	1.5	1
SA210C	210.00	231.00	296.10	1	376.0	1.3	1
SA210CA	210.00	231.00	268.80	1	340.0	1.5	1
SA220C	220.00	242.00	310.20	1	394.0	1.3	1
SA220CA	220.00	242.00	281.60	1	356.0	1.4	1

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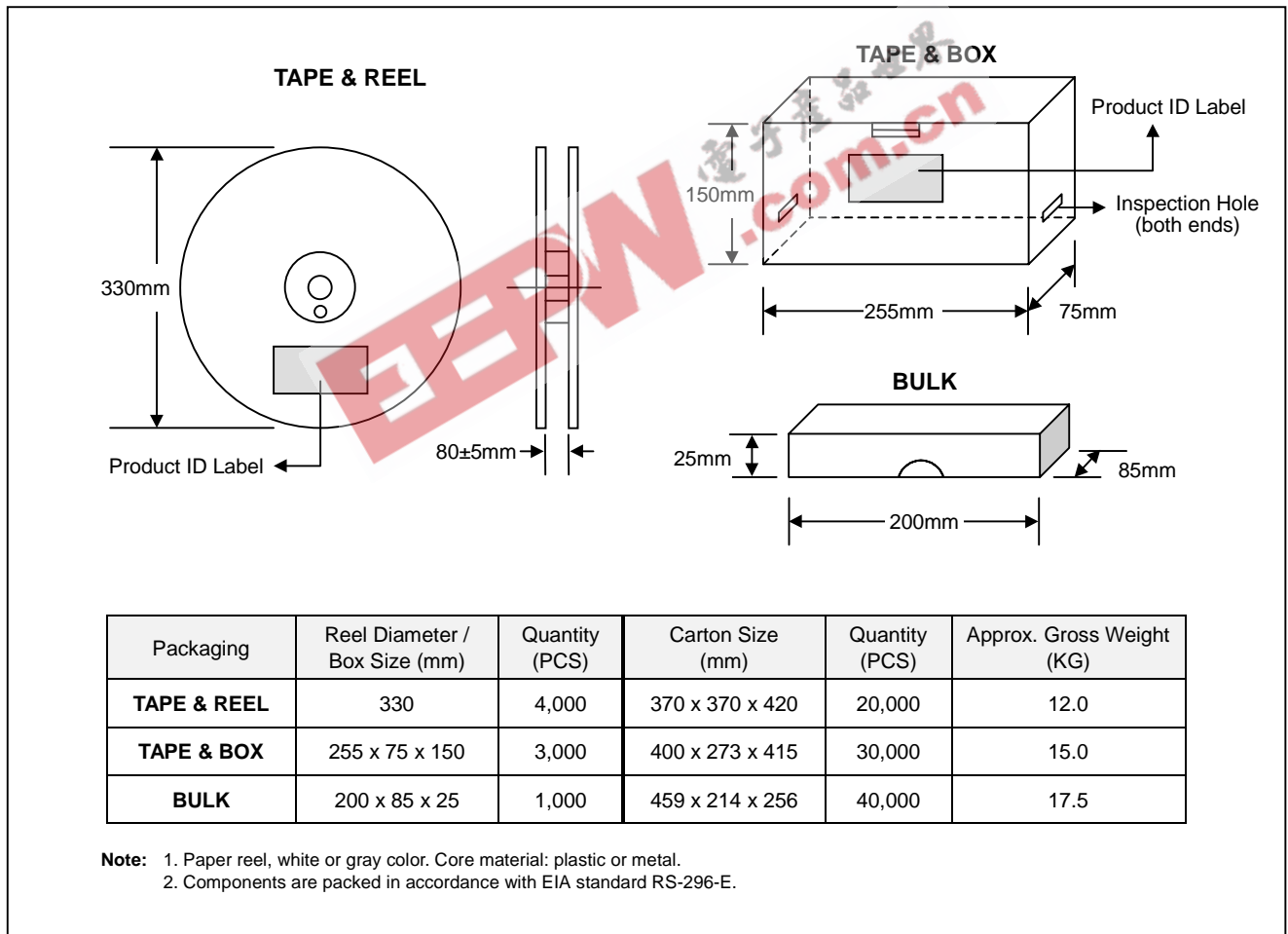
## MARKING INFORMATION



## TAPING SPECIFICATIONS



## PACKAGING INFORMATION



## ORDERING INFORMATION

Product No.	Package Type	Shipping Quantity
SAxx-T3	DO-15	4000/Tape & Reel
<b>SAxx-TB</b>	DO-15	3000/Tape & Box
SAxx	DO-15	1000 Units/Box

1. Products listed in **bold** are WTE **Preferred** devices.
2. Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.
3. **To order RoHS / Lead Free version, add "-LF" suffix to part number above. For example, SA180-TB-LF.**

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**WARNING:** DO NOT USE IN LIFE SUPPORT EQUIPMENT. WTE power semiconductor products are not authorized for use as critical components in life support devices or systems without the express written approval.

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