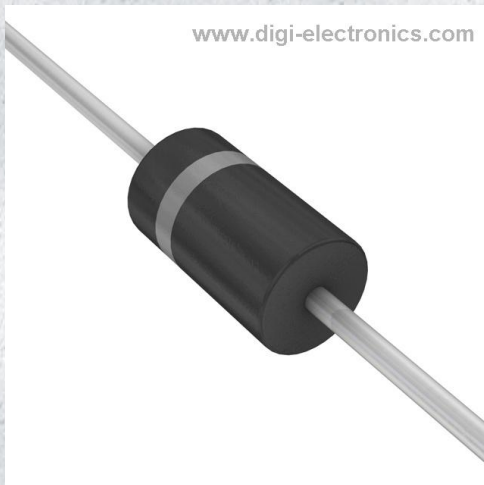


# SAC15/B Datasheet



<https://www.DiGi-Electronics.com>

|                              |   |
|------------------------------|---|
| DiGi Electronics Part Number | SAC15/B-DG  |
| Manufacturer                 | YAGEO   |
| Manufacturer Product Number  | SAC15/B   |
| Description                  | SAC, DO-204AC, 15V, 23.6V, BOX                              |
| Detailed Description         | 23.6V Clamp 20A Ipp Tvs Diode Through Hole DO-204AC (DO-15) |

This model SAC15/B is available at DiGi Electronics.

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## Purchase and inquiry

Manufacturer Product Number:

SAC15/B

Series:

SAC

Type:

Zener

Voltage - Reverse Standoff (Typ):

15V

Voltage - Clamping (Max) @ Ipp:

23.6V

Power - Peak Pulse:

500W

Applications:

General Purpose

Operating Temperature:

-55°C ~ 150°C (TJ)

Package / Case:

DO-204AC, DO-15, Axial

Manufacturer:

YAGEO

Product Status:

Active

Unidirectional Channels:

1

Voltage - Breakdown (Min):

16.7V

Current - Peak Pulse (10/1000µs):

20A

Power Line Protection:

No

Capacitance @ Frequency:

-

Mounting Type:

Through Hole

Supplier Device Package:

DO-204AC (DO-15)

## Environmental & Export classification

RoHS Status:

ROHS3 Compliant

ECCN:

EAR99

Moisture Sensitivity Level (MSL):

1 (Unlimited)

HTSUS:

8541.10.0080

# DATA SHEET

## TRANSIENT VOLTAGE SUPPRESSORS

### AC/DC POWER SUPPLY

SAC series

RoHS compliant & Halogen free

Product specification— November 20, 2022 V.3



## Transient Voltage Suppressors (TVS) Data Sheet

### Features

- Glass passivated junction
- Low inductance
- Excellent clamping capability
- 500W peak pulse power capability at 10/1000 $\mu$ s waveform, repetition rate (duty cycle): 0.01%
- Fast response time
- Ideal for data line applications.
- High Temperature soldering guaranteed: 265 $^{\circ}$ C/10 seconds/.375", (9.5mm) lead length, 5lbs (2.3kg) tension
- Plastic package has underwriters laboratory flammability 94V-0
- Meets MSL level 1, per J-STD-020
- Safety certification: UL
- IEC61000-4-2 ESD 30KV Air, 30KV contact compliance



### Mechanical Data

- Case: JEDEC DO-15 Moulded plastic
- Terminal: Axial leads, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode except bi-directional models
- Mounting Position: Any
- Weight: 0.42g

### Applications

- I/O interface
- AC/DC power supply
- Low frequency signal transmission line (RS232, RS485, etc.)

### Maximum Ratings and Characteristics

Ratings at 25 $^{\circ}$ C ambient temperature unless otherwise specified.

| Rating  | Symbol         | Value       | Units        |
|---|----------------|-------------|--------------|
| Peak pulse power dissipation at 10/1000 $\mu$ s waveform (Note1, Fig.1) | $P_{PPM}$      | Minimum 500 | Watts        |
| Peak pulse current of at 10/1000 $\mu$ s waveform (Note 1, Fig.3)       | $I_{PPM}$      | See Table   | Amps         |
| Steady state power dissipation at $T_L=75^{\circ}$ C (Fig.5)            | $P_{M(AV)}$    | 3.0         | Watts        |
| Operating junction and Storage Temperature Range.                       | $T_J, T_{STG}$ | -55 to +150 | $^{\circ}$ C |

Notes: 1. Non-repetitive current pulse, per Fig.3 and derated above  $T_A=25^{\circ}$ C per Fig.2.

**Transient Voltage Suppressors** | SAC

**Dimensions (DO-204AC/DO-15)**

|   | Symbol | Millimeters |       | Inches |      |
|---|--------|-------------|-------|--------|------|
|   |        | Min.        | Max.  | Min.   | Max. |
| L | 25.40  | -           | 1.000 | -      |      |
| T | 5.80   | 7.60        | 0.230 | 0.300  |      |
| d | 2.60   | 3.60        | 0.104 | 0.140  |      |
| s | 0.71   | 0.86        | 0.028 | 0.034  |      |

**Electrical Characteristics (T<sub>A</sub>=25°C)**

| Part Number | Reverse Stand-Off Voltage | Minimum Breakdown Voltage @I <sub>T</sub> =1mA | Maximum Reverse Leakage @V <sub>RWM</sub> | Maximum Clamping Voltage @I <sub>PP</sub> =5A | Maximum Peak Pulse Current | Maximum Junction Capacitance @0V | Working Inverse Blocking Voltage | Inverse Blocking Leakage Current | Peak Inverse Blocking Voltage |
|-------------|---------------------------|--|---|---|----------------------------|----------------------------------|----------------------------------|----------------------------------|-------------------------------|
|             | V <sub>RWM</sub> (V)      | V <sub>BR</sub> (V)                            | I <sub>R</sub> (μA)                       | V <sub>C</sub> (V)                            | I <sub>PP</sub> (A)        | pF                               | V <sub>WIB</sub> (V)             | I <sub>IB</sub> (mA)             | V <sub>PIB</sub> (V)          |
| SAC5.0      | 5.0                       | 7.60   | 300                                       | 10.0  | 44.0                       | 50                               | 75                               | 1.0                              | 100                           |
| SAC6.0      | 6.0                       | 7.90   | 300                                       | 11.2  | 41.0                       | 50                               | 75                               | 1.0                              | 100                           |
| SAC7.0      | 7.0                       | 8.33   | 300                                       | 12.6  | 38.0                       | 50                               | 75                               | 1.0                              | 100                           |
| SAC8.0      | 8.0                       | 8.89   | 100                                       | 13.4  | 36.0                       | 50                               | 75                               | 1.0                              | 100                           |
| SAC8.5      | 8.5                       | 9.44   | 50  | 14.0  | 34.0                       | 50                               | 75                               | 1.0                              | 100                           |
| SAC10       | 10.0                      | 11.10  | 5   | 16.3  | 29.0                       | 50                               | 75                               | 1.0                              | 100                           |
| SAC12       | 12.0                      | 13.30  | 1   | 19.0  | 25.0                       | 50                               | 75                               | 1.0                              | 100                           |
| SAC15       | 15.0                      | 16.70  | 1   | 23.6  | 20.0                       | 50                               | 75                               | 1.0                              | 100                           |
| SAC18       | 18.0                      | 20.00  | 1   | 28.8  | 15.0                       | 50                               | 75                               | 1.0                              | 100                           |
| SAC22       | 22.0                      | 24.40  | 1   | 35.4  | 14.0                       | 50                               | 75                               | 1.0                              | 100                           |
| SAC26       | 26.0                      | 28.90  | 1   | 42.3  | 11.1                       | 50                               | 75                               | 1.0                              | 100                           |
| SAC30       | 30.0                      | 33.30  | 1   | 48.6  | 10.0                       | 50                               | 75                               | 1.0                              | 100                           |
| SAC36       | 36.0                      | 40.00  | 1   | 60.0  | 8.6                        | 50                               | 75                               | 1.0                              | 100                           |
| SAC45       | 45.0                      | 50.00  | 1   | 77.0  | 6.8                        | 50                               | 150                              | 1.0                              | 200                           |
| SAC50       | 50.0                      | 55.50  | 1   | 88.0  | 5.8                        | 50                               | 150                              | 1.0                              | 200                           |

**Ratings and Characteristic Curves ( $T_A=25^\circ\text{C}$  unless otherwise noted)**

Figure 1. Peak Pulse Power Rating Curve

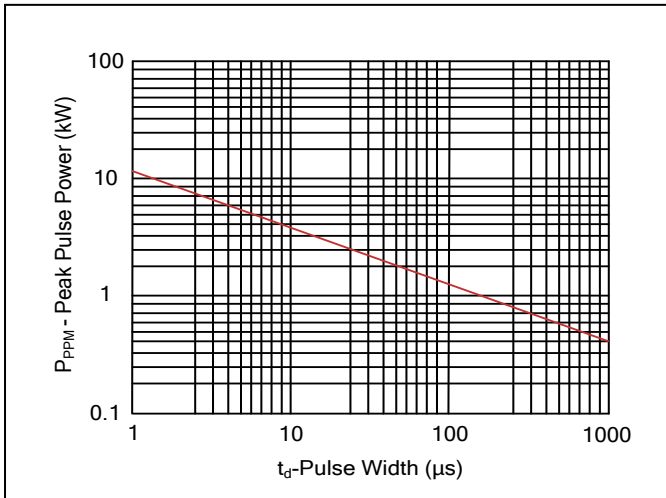


Figure 2. Pulse Derating Curve

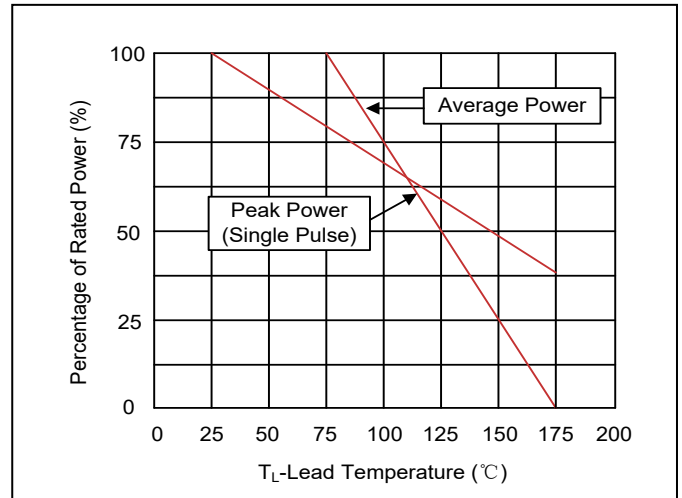


Figure 3. Pulse Waveform

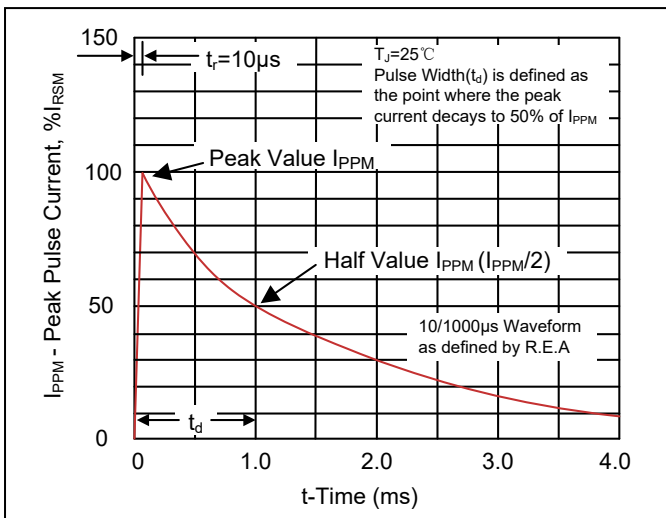


Figure 4. AC Line Protection Application

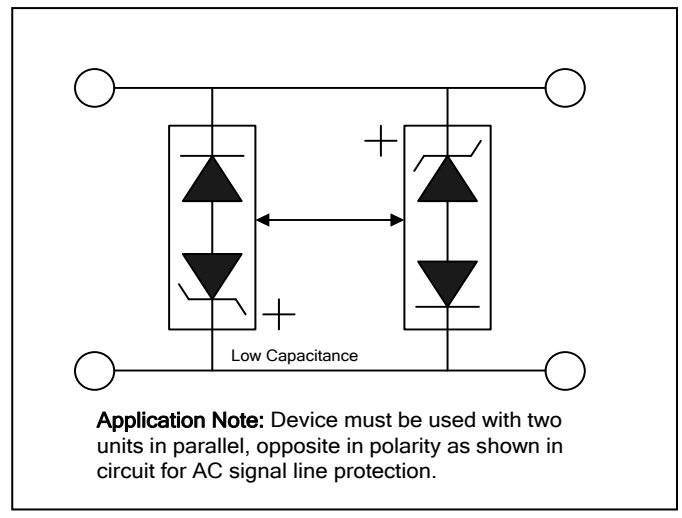
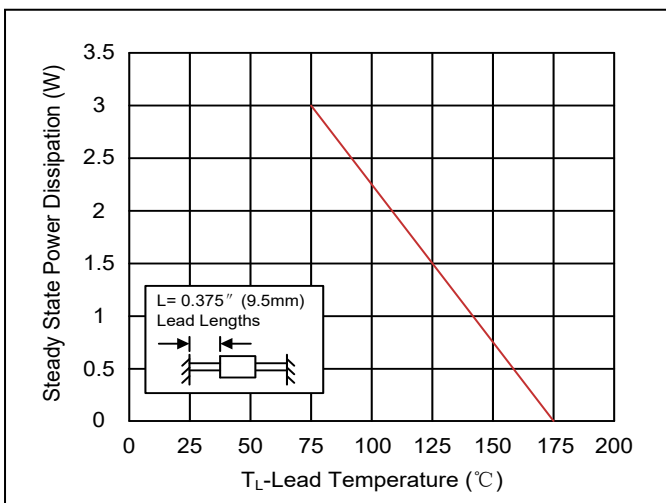
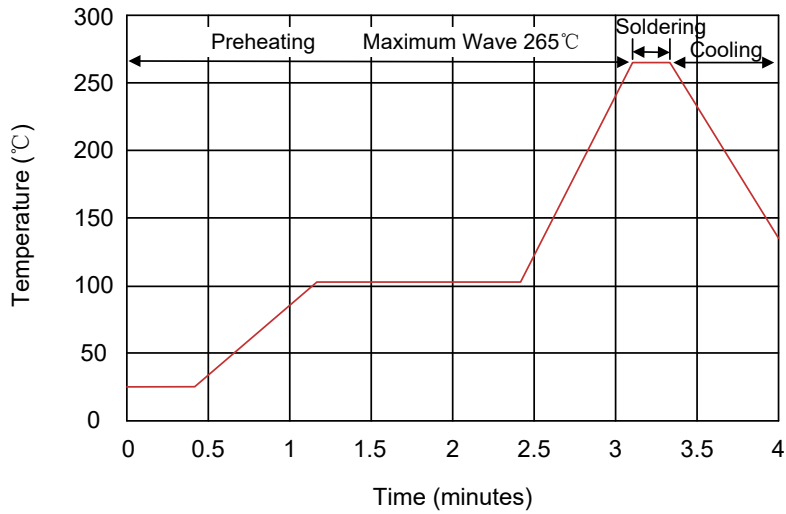


Figure 5. Steady State Power Dissipation Derating Curve



**Recommended Soldering Conditions**

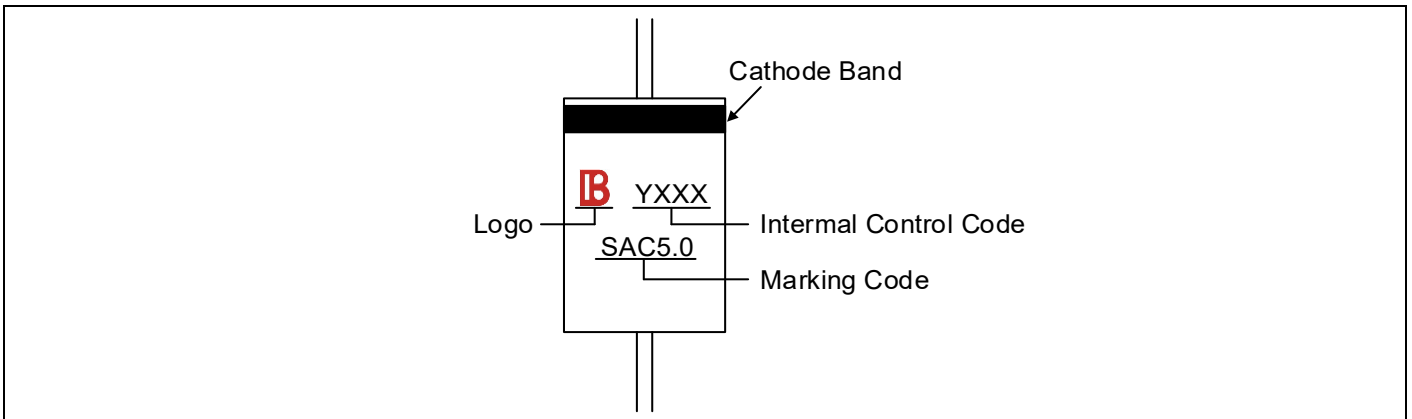
Wave Soldering



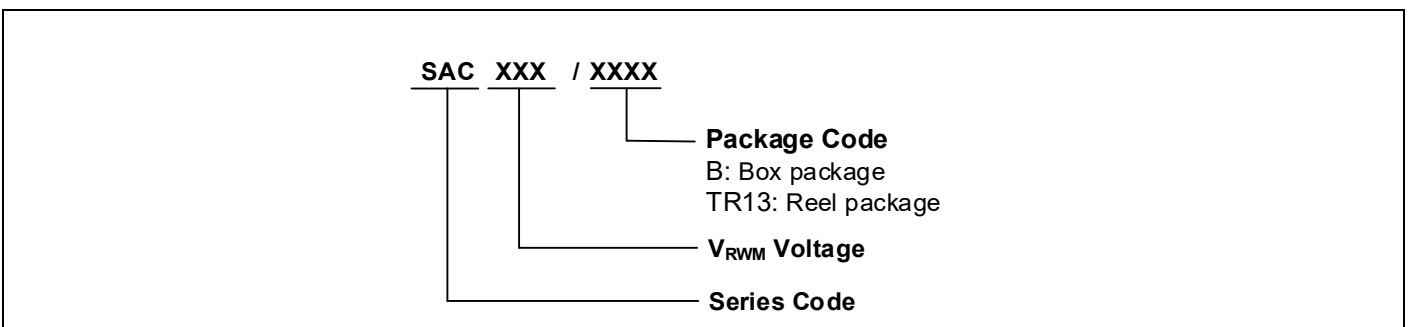
Recommended Conditions

| Item             | Conditions |
|------------------|------------|
| Peak Temperature | 265°C      |
| Dipping Time     | 10 seconds |
| Soldering        | 1 time     |

**Marking Code**



**Part Number Code**

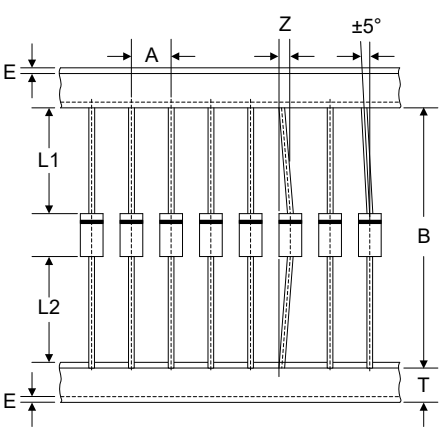
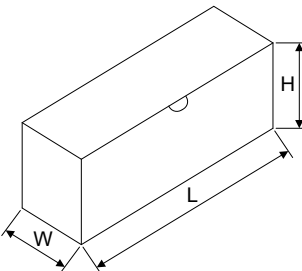
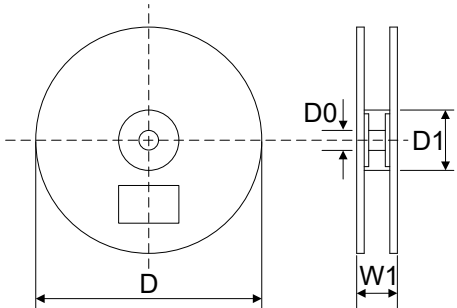


**Ordering Code for Different Package**

Box package: Add suffix “/B” at the end of the part number, such as SACXXX/B

Reel package: Add suffix “/TR13” at the end of the part number, such as SACXXX/TR13

**Packaging**

| Tape  | Symbol   | Dimension (mm) |
|---|--|----------------|
|    | A  | 5.0±0.5        |
|   | B  | 53.0±1.0       |
|   | Z  | 1.2Max.        |
|   | T  | 6.0±0.4        |
|   | E  | 0.8Max.        |
|   | L1-L2  | 1.0Max.        |
|   |  | L              |
| W   |  | 75.0±5.0       |
| H   |  | 114.0±5.0      |
| Quantity: 2000PCS   |  |                |
|  | D  | 330.0±3.0      |
|   | D0   | 16.4±2.0       |
|   | D1   | 86.0±2.0       |
|   | W1   | 76.0±3.0       |
|   | Quantity: 4000PCS  |                |

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