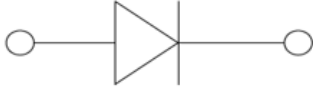


## Small Singal Schottky Rectifier



**SOD123**

### Features

- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- $V_R$  20V/30V/40V
- $I_{FAV}$  1A
- Part no. with suffix "Q" means AEC-Q101 qualified

### Applications

- Use as rectifiers in low-voltage, high-frequency inverters

### Mechanical Data

- **Case:** SOD123
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end
- **Marking:**

|         | Marking |
|---------|---------|
| B5817WQ | SJ      |
| B5818WQ | SK      |
| B5819WQ | SL      |

### ■ Maximum Ratings (Ta=25°C Unless otherwise specified)

| PARAMETER                              | SYMBOL     | UNIT | CONDITIONS       | VALUE       |    |
|--|------------|------|------------------|-------------|----|
| Reverse Voltage                        | $V_R$      | V    |                  | B5817WQ     | 20 |
|  |            |      |                  | B5818WQ     | 30 |
|  |            |      |                  | B5819WQ     | 40 |
| Average Forward Current                | $I_{FAV}$  | A    |                  | 1           |    |
| Peak Forward Surge Current             | $I_{FSM}$  | A    | 8.3ms, half sine | 10          |    |
| Power Dissipation                      | $P_{tot}$  | mW   |                  | 450         |    |
| Thermal Resistance Junction to Ambient | $R_{thJA}$ | °C/W |                  | 222         |    |
| Junction Temperature                   | $T_j$      | °C   |                  | -55 to +125 |    |
| Storage Temperature Range              | $T_{stg}$  | °C   |                  | -55 to +150 |    |



## B5817WQ THRU B5819WQ

### ■ Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER                 | SYMBOL             | UNIT | CONDITIONS                 | PART    | MIN | MAX   |
|---------------------------|--------------------|------|----------------------------|---------|-----|-------|
| Reverse Breakdown Voltage | V <sub>(BR)R</sub> | V    | I <sub>R</sub> =1mA        | B5817WQ | 20  | -     |
|                           |                    |      |                            | B5818WQ | 30  | -     |
|                           |                    |      |                            | B5819WQ | 40  | -     |
| Forward Voltage           | V <sub>F</sub>     | V    | I <sub>F</sub> =1A         | B5817WQ |     | 0.45  |
|                           |                    |      |                            | B5818WQ |     | 0.55  |
|                           |                    |      |                            | B5819WQ |     | 0.60  |
|                           |                    |      | I <sub>F</sub> =3A         | B5817WQ |     | 0.75  |
|                           |                    |      |                            | B5818WQ |     | 0.875 |
|                           |                    |      |                            | B5819WQ |     | 0.90  |
| Reverse Leakage Current   | I <sub>R</sub>     | uA   | V <sub>R</sub> =20V        | B5817WQ |     | 200   |
|                           |                    |      | V <sub>R</sub> =30V        | B5818WQ |     | 40    |
|                           |                    |      | V <sub>R</sub> =40V        | B5819WQ |     | 40    |
| Junction Capacitance      | C <sub>j</sub>     | pF   | V <sub>R</sub> =4V, f=1MHz |         |     | 120   |

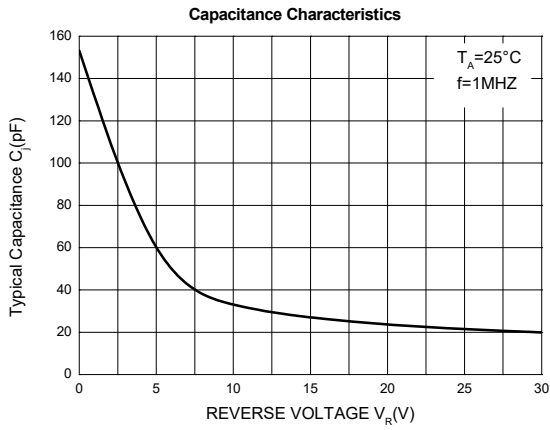
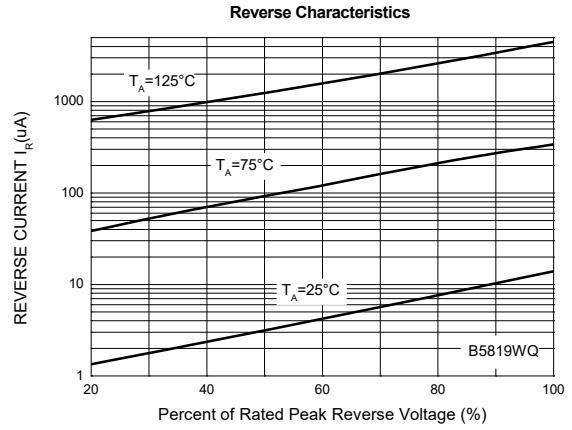
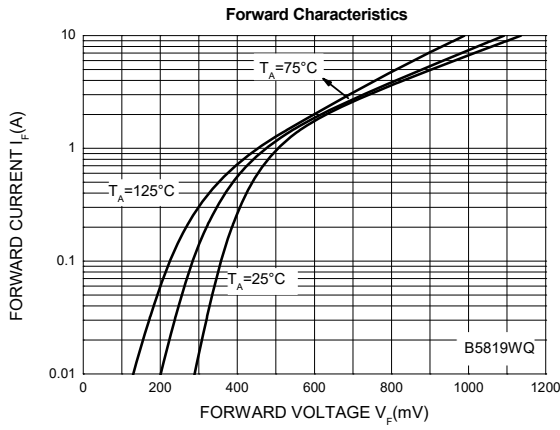
### ■ Ordering Information (Example)

| PREFERRED P/N           | PACKING CODE | UNIT WEIGHT(g)    | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|-------------------------|--------------|-------------------|----------------------|-------------------------|----------------------------|---------------|
| B5817WQ THRU<br>B5819WQ | F2           | Approximate 0.010 | 3000                 | 30000                   | 120000                     | 7" reel       |



# B5817WQ THRU B5819WQ

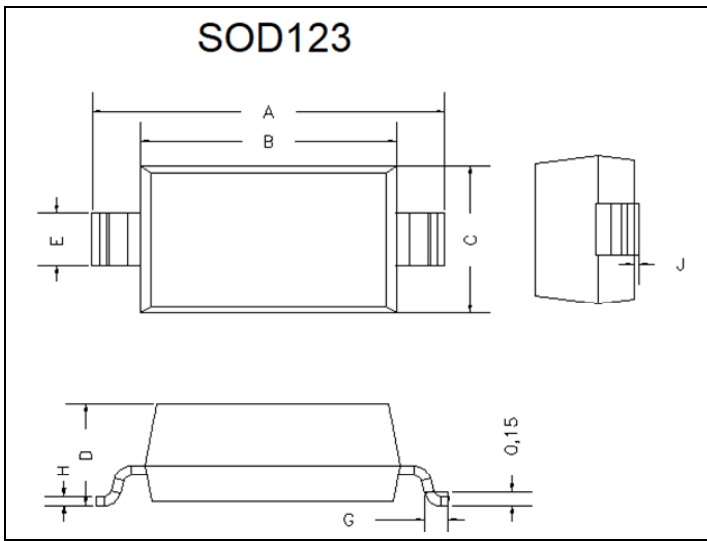
## ■ Characteristics(Typical)





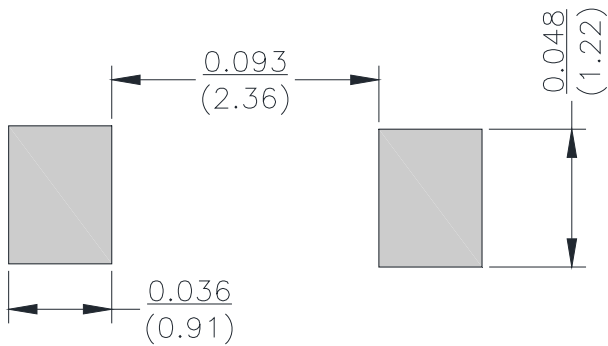
# B5817WQ THRU B5819WQ

## ■ Outline Dimensions



| DIM | INCHES |       | MM   |      | NOTE |
|-----|--------|-------|------|------|------|
|     | MIN    | MAX   | MIN  | MAX  |      |
| A   | 0.140  | 0.152 | 3.55 | 3.85 |      |
| B   | 0.100  | 0.112 | 2.55 | 2.85 |      |
| C   | 0.055  | 0.071 | 1.40 | 1.80 |      |
| D   | -      | 0.053 | -    | 1.35 |      |
| E   | 0.012  | 0.031 | 0.30 | 0.78 |      |
| G   | 0.006  | -     | 0.15 | -    |      |
| H   | -      | 0.010 | -    | 0.25 |      |
| J   | -      | 0.006 | -    | 0.15 |      |

## ■ Soldering Footprint



Unit:  $\frac{\text{inch}}{\text{mm}}$



## B5817WQ THRU B5819WQ

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