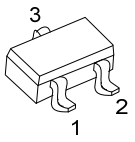
# DUAL SURFACE MOUNT SWITCHING DIODE




SOT-323

## ■ DESCRIPTION

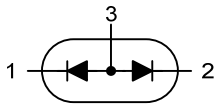
The UTC **BAW56W** is a dual surface mount switching diode providing the designers with ultra-fast switching and high conductance.

The UTC **BAW56W** is suitable for general purpose switching applications.

## ■ FEATURES

* Ultra-fast switching
* Low switching loss
* High Conductance

## ■ SYMBOL



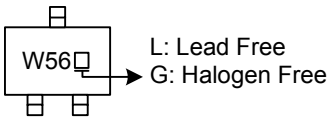

## ■ ORDERING INFORMATION

| Ordering Number | | Package | Pin Assignment | | | Packing |
|---|---|---|---|---|---|---|
| Lead Free | Halogen Free | | 1 | 2 | 3 | |
| BAW56WL-AL3-R | BAW56WG-AL3-R | SOT-323 | K1 | K2 | A1A2 | Tape Reel |

Note: Pin Assignment: A: Anode K: Cathode

| | |
|---|---|
| BAW56WG-AL3-R<br>(1)Packing Type<br>(2)Package Type<br>(3)Green Package | (1) R: Tape Reel<br>(2) AL3: SOT-323<br>(3) G: Halogen Free and Lead Free, L: Lead Free |

## ■ MARKING



## ■ ABSOLUTE MAXIMUM RATINGS ($T_A$=25°C, unless otherwise specified)

| PARAMETER | | SYMBOL | RATINGS | UNIT |
|---|---|---|---|---|
| Non-Repetitive Peak Reverse Voltage | | $V_{RM}$ | 100 | V |
| Repetitive Peak Reverse Voltage | | $V_{RRM}$ | 75 | V |
| Working Peak Reverse Voltage | | $V_{RWM}$ | 75 | V |
| DC Blocking Voltage | | $V_R$ | 75 | V |
| RMS Reverse Voltage | | $V_{R(RMS)}$ | 53 | V |
| Forward Continuous Current | | $I_{FM}$ | 300 | mA |
| Average Rectified Output Current | | $I_O$ | 150 | mA |
| Non-Repetitive Peak Forward Surge Current | t=1.0μs | $I_{FSM}$ | 2.0 | A |
| | t=1.0s | | 1.0 | |
| Power Dissipation | | $P_D$ | 200 | mW |
| Junction Temperature | | $T_J$ | -65 ~ +150 | °C |
| Storage Temperature | | $T_{STG}$ | -65 ~ +150 | °C |

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

## ■ THERMAL DATA

| PARAMETER | SYMBOL | RATINGS | UNIT |
|---|---|---|---|
| Junction to Ambient (Note 2) | $\theta_{JA}$ | 625 | °C/W |

## ■ ELECTRICAL CHARACTERISTICS ($T_A$ =25°C, unless otherwise specified)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|
| Reverse Breakdown Voltage (Note 1) | $V_{BR(R)}$ | $I_R$ = 100μA | 75 | | | V |
| Forward Voltage (Note 1, 3) | $V_F$ | $I_F$ = 1.0mA | | | 0.715 | V |
| | | $I_F$ = 10mA | | | 0.855 | |
| | | $I_F$ = 50mA | | | 1.0 | |
| | | $I_F$ = 150mA | | | 1.25 | |
| Peak Reverse Current (Note 1) | $I_R$ | $V_R$ = 75V | | | 2.5 | μA |
| | | $V_R$ = 75V, $T_J$ = 150°C | | | 50 | |
| | | $V_R$ = 25V, $T_J$ = 150°C | | | 30 | |
| | | $V_R$ = 20V | | | 25 | nA |
| Junction Capacitance | $C_J$ | $V_R$ = 0, f = 1.0MHz | | | 2.0 | pF |
| Reverse Recovery Time | $T_{RR}$ | $I_F$ = $I_R$ = 10mA, $I_{RR}$ = 0.1 x $I_R$, $R_L$ = 100Ω | | | 4.0 | ns |

Notes: 1.Short duration test pulse used to minimize self-heating effect.
2. Part mounted on FR-4 PC board with recommended pad layout.
3. Pulse Test: Pulse Width: 300μs, Duty Cycle ≤ 2%.