



## BAW56W

Preliminary

DIODE

### DUAL SURFACE MOUNT SWITCHING DIODE

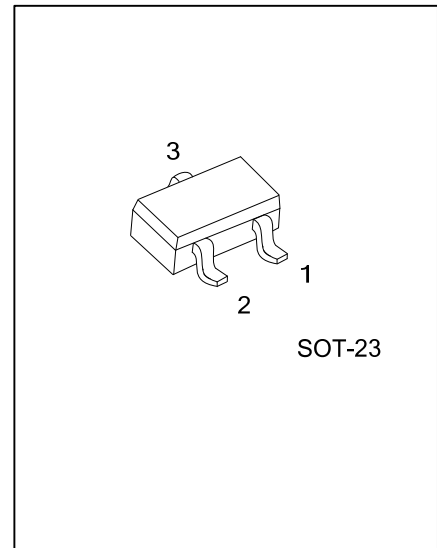
#### DESCRIPTION

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



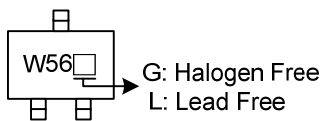
#### ORDERING INFORMATION

| Ordering Number |               | Package | Pin Assignment |    |      | Packing   |
|-----------------|---------------|---------|----------------|----|------|-----------|
| Lead Free       | Halogen Free  |         | 1              | 2  | 3    |           |
| BAW56WL-AE3-R   | BAW56WG-AE3-R | SOT-23  | K1             | K2 | A2A1 | Tape Reel |

Note: Pin Assignment: A: Anode K: Cathode

|  |  |
|--|--|
| <p>BAW56WL-AE3-R</p> <p>(1)Packing Type<br/>(2)Package Type<br/>(3)Lead Free</p> | <p>(1) R: Tape Reel<br/>(2) AE3: SOT-23<br/>(3) G:Halogen Free, L: Lead Free</p> |
|--|--|

#### MARKING



■ ABSOLUTE MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$ , unless otherwise specified)

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

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               |
|--|-----------------|---------|--------------------|
| Thermal Resistance Junction to Ambient Air | $R_{\theta JA}$ | 625     | $^\circ\text{C/W}$ |

■ ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ , unless otherwise specified)

| PARAMETER                          | SYMBOL      | TEST CONDITIONS  | MIN | TYP | MAX   | UNIT          |
|------------------------------------|-------------|--|-----|-----|-------|---------------|
| Reverse Breakdown Voltage (Note 1) | $V_{BR(R)}$ | $I_R = 100\mu\text{A}$   | 75  |     |       | V             |
| Forward Voltage (Note 1)           | $V_{FM}$    | $I_F = 1.0\text{mA}$   |     |     | 0.715 | V             |
|                                    |             | $I_F = 10\text{mA}$  |     |     | 0.855 |               |
|                                    |             | $I_F = 50\text{mA}$  |     |     | 1.0   |               |
|                                    |             | $I_F = 150\text{mA}$   |     |     | 1.25  |               |
| Peak Reverse Current (Note 1)      | $I_{RM}$    | $V_R = 75\text{V}$   |     |     | 2.5   | $\mu\text{A}$ |
|                                    |             | $V_R = 75\text{V}, T_J = 150^\circ\text{C}$                              |     |     | 50    |               |
|                                    |             | $V_R = 25\text{V}, T_J = 150^\circ\text{C}$                              |     |     | 30    |               |
|                                    |             | $V_R = 20\text{V}$   |     |     | 25    | nA            |
| Junction Capacitance               | $C_J$       | $V_R = 0, f = 1.0\text{MHz}$   |     |     | 2.0   | pF            |
| Reverse Recovery Time              | $T_{RR}$    | $I_F = I_R = 10\text{mA}, I_{RR} = 0.1 \times I_R,$<br>$R_L = 100\Omega$ |     |     | 4.0   | ns            |

Note: 1. Short duration test pulse used to minimize self-heating effect.

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