



**SOT-23 Formed SMD Package**

**BAW56**

**SILICON PLANAR EPITAXIAL HIGH-SPEED DIODES**

*Silicon planar high-speed switching Common Anode*

**Marking**

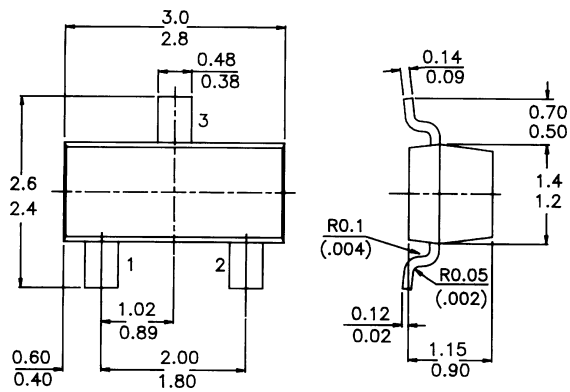
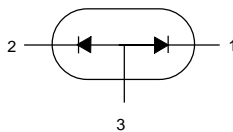
BAW56 = A1

**PACKAGE OUTLINE DETAILS**

ALL DIMENSIONS IN mm

**Pin configuration**

1 = CATHODE  
2 = CATHODE  
3 = ANODE



**ABSOLUTE MAXIMUM RATINGS**

|  |           |      |        |
|--|-----------|------|--------|
| Continuous reverse voltage   | $V_R$     | max. | 75 V   |
| Repetitive peak reverse voltage  | $V_{RRM}$ | max. | 85 V   |
| Repetitive peak forward current  | $I_{FRM}$ | max. | 450 mA |
| Junction temperature   | $T_j$     | max. | 150 °C |
| Forward voltage at $I_F = 50$ mA   | $V_F$     | <    | 1.0 V  |
| Reverse recovery time when switched from<br>$I_F = 10$ mA to $I_R = 10$ mA; $R_L = 100 \Omega$ ;<br>measured at $I_R = 1$ mA | $t_{rr}$  | <    | 4 ns   |
| Recovery charge when switched from<br>$I_F = 10$ mA to $V_R = 5$ V; $R_L = 100 \Omega$                                       | $Q_s$     | <    | 45 pC  |

**RATINGS (per diode) (at  $T_A = 25^\circ\text{C}$  unless otherwise specified)**

**Limiting values**

|                                 |           |      |      |
|---------------------------------|-----------|------|------|
| Continuous reverse voltage      | $V_R$     | max. | 75 V |
| Repetitive peak reverse voltage | $V_{RRM}$ | max. | 85 V |

## BAW56

|  |             |                |             |
|--|-------------|----------------|-------------|
| Forward current (d.c.)   | $I_F$       | max.           | 215 mA      |
| Repetitive peak forward current  | $I_{FRM}$   | max.           | 450 mA      |
| Non-repetitive peak forward current<br>(per crystal)                           |             |                |             |
| $t = 1 \mu s$  | $I_{FSM}$   | max.           | 4 A         |
| $t = 1 ms$   | $I_{FSM}$   | max.           | 1 A         |
| $t = 1 s$  | $I_{FSM}$   | max.           | 0,5 A       |
| Storage temperature range  | $T_{stg}$   | -55 to +150 °C |             |
| Junction temperature   | $T_j$       | max.           | 150 °C      |
| <b>THERMAL RESISTANCE</b>  |             |                |             |
| From junction to ambient   | $R_{thj-a}$ | =              | 500 KW      |
| CHARACTERISTICS (per diode) (at $T_A = 25^\circ C$ unless otherwise specified) |             |                |             |
| $T_j = 25^\circ C$ unless otherwise specified                                  |             |                |             |
| Forward voltage  |             |                |             |
| $I_F = 1 mA$   | $V_F$       | <              | 715 mV      |
| $I_F = 10 mA$  | $V_F$       | <              | 855 mV      |
| $I_F = 50 mA$  | $V_F$       | <              | 1000 mV     |
| $I_F = 150 mA$   | $V_F$       | <              | 1250 mV     |
| Reverse current  |             |                |             |
| $V_R = 25V; T_j = 150^\circ C$   | $I_R$       | <              | 30 $\mu A$  |
| $V_R = 75 V$   | $I_R$       | <              | 1,0 $\mu A$ |
| $V_R = 75V; T_j = 150^\circ C$   | $I_R$       | <              | 50 $\mu A$  |
| Diode capacitance  |             |                |             |
| $V_R = 0; f = 1 MHz$   | $C_d$       | <              | 2,0 pF      |
| Forward recovery voltage when switched to                                      |             |                |             |
| $I_F = 10mA; t_r = 20ns$   | $V_{fr}$    | <              | 1,75 V      |