



## BAW56

Preliminary

DIODE

### DUAL SURFACE MOUNT SWITCHING DIODE

#### DESCRIPTION

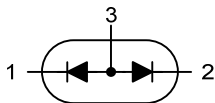
The UTC **BAW56** is a dual surface mount switching diode providing the designers with ultra-fast switching and high conductance.

The UTC **BAW56** is suitable for general purpose switching applications.

#### FEATURES

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

#### SYMBOL



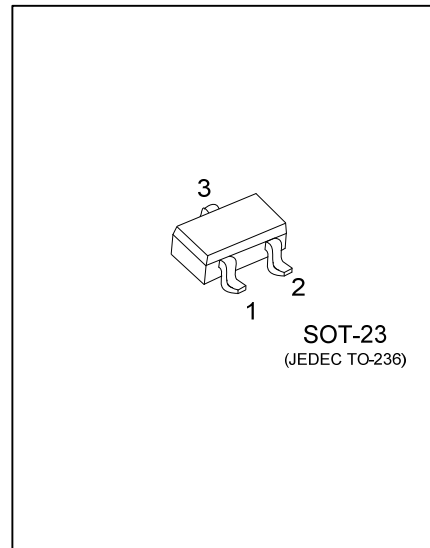
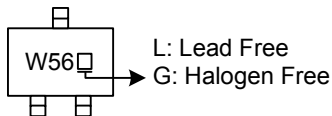
#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
BAW56L-AE3-R	BAW56G-AE3-R	SOT-23	K1	K2	A1A2	Tape Reel

Note: Pin Assignment: A: Anode K: Cathode

<p>BAW56G-AE3-R</p> <ul style="list-style-type: none"> <li>(1) Packing Type</li> <li>(2) Package Type</li> <li>(3) Green Package</li> </ul>	<ul style="list-style-type: none"> <li>(1) R: Tape Reel</li> <li>(2) AE3: SOT-23</li> <li>(3) G: Halogen Free and Lead Free, L: Lead Free</li> </ul>
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#### 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
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 (Note 2)	$I_{FM}$	300	mA
Average Rectified Output Current	$I_O$	150	mA
Non-Repetitive Peak Forward Surge Current	$t=1.0\mu\text{s}$	2.0	A
	$t=1.0\text{s}$	1.0	
Power Dissipation (Note 2)	$P_D$	350	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
Junction to Ambient (Note 2)	$\theta_{JA}$	357	$^\circ\text{C/W}$

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage	$V_{BR(R)}$	$I_R = 2.5\mu\text{A}$	75			V
Forward Voltage (Note 1, 3)	$V_F$	$I_F = 1.0\text{mA}$			0.715	V
		$I_F = 10\text{mA}$			0.855	V
		$I_F = 50\text{mA}$			1.0	V
		$I_F = 150\text{mA}$			1.25	V
Peak Reverse Current (Note 1)	$I_R$	$V_R = 75\text{V}$			2.5	$\mu\text{A}$
		$V_R = 75\text{V}, T_J = 150^\circ\text{C}$			50	$\mu\text{A}$
		$V_R = 25\text{V}, T_J = 150^\circ\text{C}$			30	$\mu\text{A}$
		$V_R = 20\text{V}$			25	nA
Junction Capacitance	$C_J$	$V_R = 0, f = 1.0\text{MHz}$			2.0	pF
Reverse Recovery Time	$t_{rr}$	$I_F = I_R = 10\text{mA}, I_{RR} = 0.1 \times I_R, R_L = 100\Omega$			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:  $300\mu\text{s}$ , Duty Cycle  $\leq 2\%$ .

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