# BAT54JW

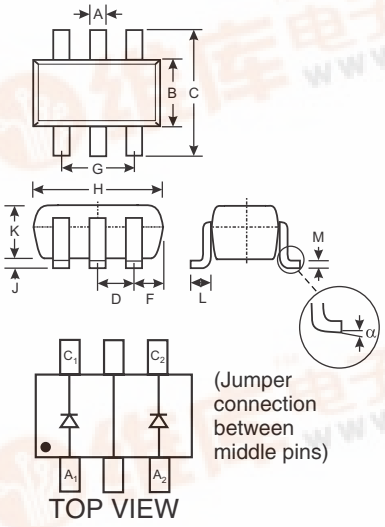
## SURFACE MOUNT SCHOTTKY BARRIER DIODE ARRAY

## Features

- Low Forward Voltage Drop
- Fast Switching
- Ultra-Small Surface Mount Package
- PN Junction Guard Ring for Transient and ESD Protection
- **Lead Free/RoHS Compliant (Note 3)**

## Mechanical Data

- Case: SOT-363
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Orientation: See Diagram
- Weight: 0.006 grams (approx.)
- Marking: KLC (See Page 2)




| SOT-363 | | |
|---|---|---|
| **Dim** | **Min** | **Max** |
| **A** | 0.10 | 0.30 |
| **B** | 1.15 | 1.35 |
| **C** | 2.00 | 2.20 |
| **D** | 0.65 Nominal | |
| **F** | 0.30 | 0.40 |
| **H** | 1.80 | 2.20 |
| **J** | — | 0.10 |
| **K** | 0.90 | 1.00 |
| **L** | 0.25 | 0.40 |
| **M** | 0.10 | 0.25 |
| α | 0° | 8° |
| **All Dimensions in mm** | | |

## Maximum Ratings @ $T_A$ = 25°C unless otherwise specified

| Characteristic | Symbol | Value | Unit |
|---|---|---|---|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 30 | V |
| Forward Continuous Current (Note 1) | $I_F$ | 200 | mA |
| Repetitive Peak Forward Current (Note 1) | $I_{FRM}$ | 300 | mA |
| Forward Surge Current (Note 1) @ t < 1.0s | $I_{FSM}$ | 600 | mA |
| Power Dissipation (Note 1) | $P_d$ | 200 | mW |
| Thermal Resistance, Junction to Ambient Air (Note 1) | $R_{\theta JA}$ | 625 | °C/W |
| Operating and Storage Temperature Range | $T_j$, $T_{STG}$ | -65 to +125 | °C |

## Electrical Characteristics @ $T_A$ = 25°C unless otherwise specified

| Characteristic | Symbol | Min | Typ | Max | Unit | Test Condition |
|---|---|---|---|---|---|---|
| Reverse Breakdown Voltage (Note 2) | $V_{(BR)R}$ | 30 | — | — | V | $I_R$ = 100μA |
| Forward Voltage | $V_F$ | — | — | 240<br>320<br>400<br>500<br>1000 | mV | $I_F$ = 0.1mA<br>$I_F$ = 1mA<br>$I_F$ = 10mA<br>$I_F$ = 30mA<br>$I_F$ = 100mA |
| Reverse Leakage Current (Note 2) | $I_R$ | — | — | 2.0 | μA | $V_R$ = 25V |
| Total Capacitance | $C_T$ | — | — | 10 | pF | $V_R$ = 1.0V, f = 1.0MHz |
| Reverse Recovery Time | $t_{rr}$ | — | — | 5.0 | ns | $I_F$ = 10mA through $I_R$ = 10mA to $I_R$ = 1.0mA, $R_L$ = 100Ω |

Notes:
1. Device mounted on FR-4 PC board with recommended pad layout, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
2. Short duration test pulse used to minimize self-heating effect.
3. No purposefully added lead.

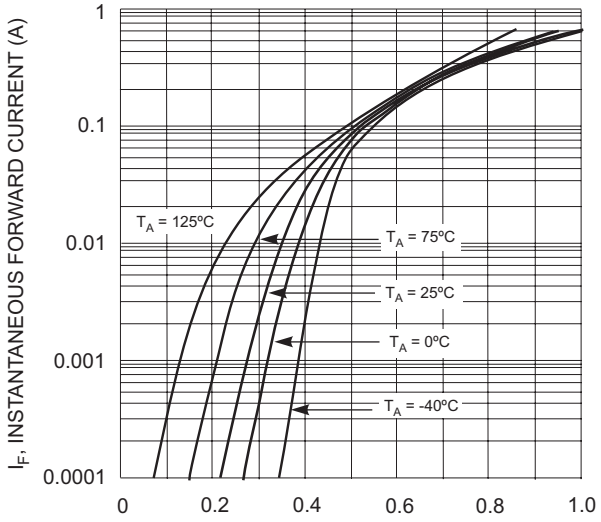



Fig. 1 Forward Characteristics

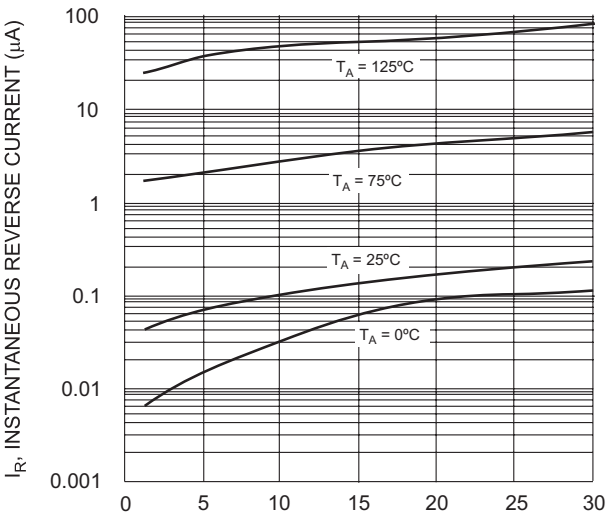



Fig. 2 Typical Reverse Characteristics

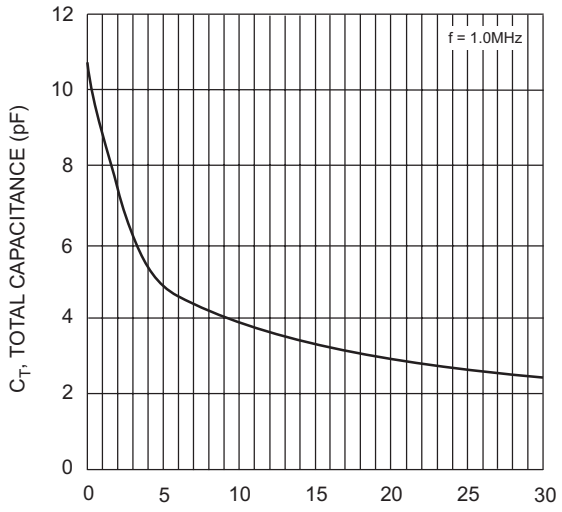



Fig. 3 Typical Capacitance vs. Reverse Voltage

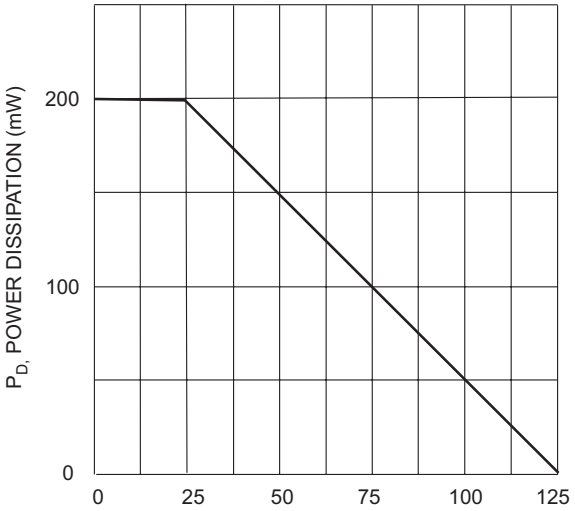


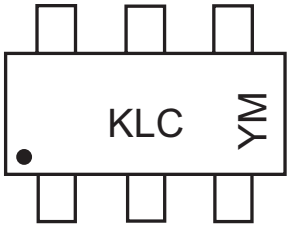

Fig. 4 Power Derating Curve

## Ordering Information (Note 4)

| Device | Packaging | Shipping |
|---|---|---|
| BAT54JW-7-F | SOT-363 | 3000/Tape & Reel |

Notes: 4. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

## Marking Information




KLC = Product Type Marking Code
YM = Date Code Marking
Y = Year ex: N = 2002
M = Month ex: 9 = September

Date Code Key

| Year | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Code | M | N | P | R | S | T | U | V | W | X | Y | Z |

| Month | Jan | Feb | March | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Code | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | O | N | D |

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