

## Features

- Fast Switching and Low Forward Voltage Drop
- Ultra-Small Surface Mount Package
- PN Junction Guard Ring for Transient and ESD Protection
- Available in Lead Free Version
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free. "Green" Device (Note 1)
- Moisture Sensitivity Level 1
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

## Maximum Ratings

- Operating Junction Temperature Range: -65°C to +150°C
- Storage Temperature Range: -65°C to +150°C
- Thermal Resistance: 625°C/W Junction to Ambient

| MCC Part Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum DC Blocking Voltage |
|-----------------|----------------|----------------------------------------|-----------------------------|
| BAT54ADW        | KL6            | 30V                                    | 30V                         |
| BAT54CDW        | KL7            | 30V                                    | 30V                         |
| BAT54SDW        | KL8            | 30V                                    | 30V                         |
| BAT54BRW        | KLB            | 30V                                    | 30V                         |
| BAT54TW         | KLA            | 30V                                    | 30V                         |

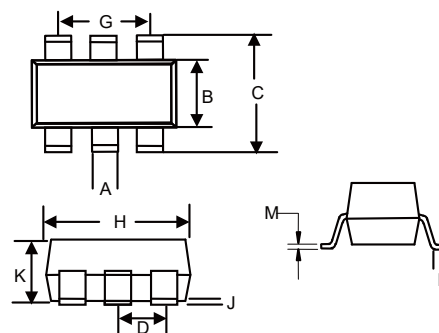
## Electrical Characteristics @ 25°C Unless Otherwise Specified

|                                                         |             |                                            |                                                                                                                    |
|---------------------------------------------------------|-------------|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Average Forward Current                                 | $I_{F(AV)}$ | 200mA                                      | $T_A = 25^\circ\text{C}$                                                                                           |
| Peak Forward Surge Current                              | $I_{FSM}$   | 600mA                                      | $t < 1\text{s}$                                                                                                    |
| Repetitive Peak Forward Current                         | $I_{FRM}$   | 300mA                                      |                                                                                                                    |
| Power Dissipation                                       | $P_d$       | 200mW                                      | $T_A = 25^\circ\text{C}$                                                                                           |
| Maximum Forward Voltage                                 | $V_F$       | 240mV<br>320mV<br>400mV<br>500mV<br>1000mV | $I_F = 0.1\text{mA}$<br>$I_F = 1.0\text{mA}$<br>$I_F = 10\text{mA}$<br>$I_F = 30\text{mA}$<br>$I_F = 100\text{mA}$ |
| Maximum DC Reverse Current At Rated DC Blocking Voltage | $I_R$       | 2.0μA                                      | $V_R = 25\text{V}$                                                                                                 |
| Maximum Reverse Breakdown Voltage                       | $V_{(BR)}$  | >30V                                       |                                                                                                                    |
| Maximum Junction Capacitance                            | $C_J$       | 10pF                                       | Measured at 1.0MHz, $V_R = 1.0\text{V}$                                                                            |
| Maximum Reverse Recovery Time                           | $t_{rr}$    | 5.0ns                                      | $I_F = I_R = 10\text{mA}$ ,<br>$I_{rr} = 0.1 \times I_R$ , $R_L = 100\Omega$                                       |

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

# 200mW, 30Volt Schottky Barrier Diode

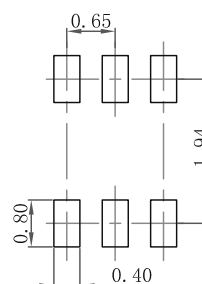
## SOT-363



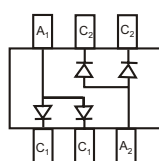
## DIMENSIONS

| DIM | INCHES |       | MM           |      | NOTE |
|-----|--------|-------|--------------|------|------|
|     | MIN    | MAX   | MIN          | MAX  |      |
| A   | 0.006  | 0.014 | 0.15         | 0.35 |      |
| B   | 0.045  | 0.053 | 1.15         | 1.35 |      |
| C   | 0.079  | 0.096 | 2.00         | 2.45 |      |
| D   | 0.026  |       | 0.65 Nominal |      |      |
| G   | 0.047  | 0.055 | 1.20         | 1.40 |      |
| H   | 0.071  | 0.087 | 1.80         | 2.20 |      |
| J   | -----  | 0.004 | -----        | 0.10 |      |
| K   | 0.031  | 0.043 | 0.80         | 1.10 |      |
| L   | 0.010  | 0.018 | 0.26         | 0.46 |      |
| M   | 0.003  | 0.006 | 0.08         | 0.15 |      |

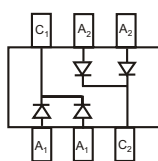
## Suggested Solder Pad Layout



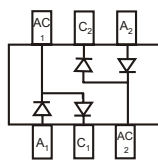
# Internal Structure:



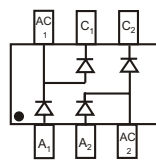
BAT54ADW\*



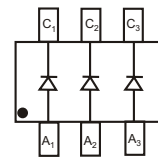
BAT54CDW\*



BAT54SDW\*



BAT54BRW



BAT54TW

\*Symmetrical configuration, no orientation indicator.

## Curve Characteristics

Fig. 1 - Typical Instantaneous Forward Characteristics

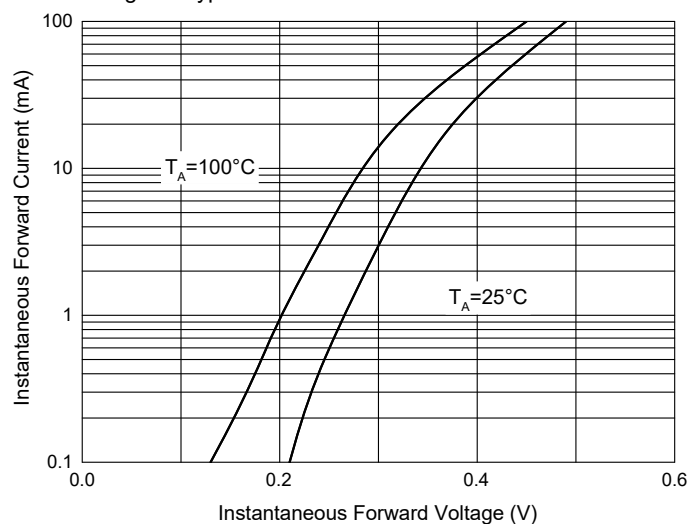


Fig. 2 - Typical Reverse Leakage Characteristics

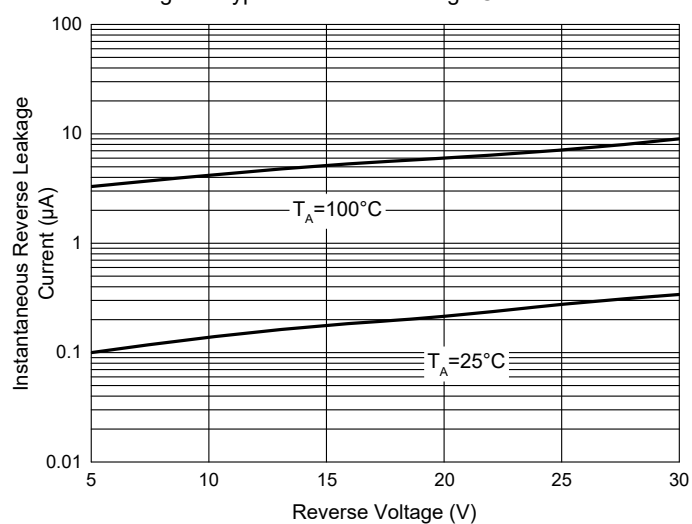
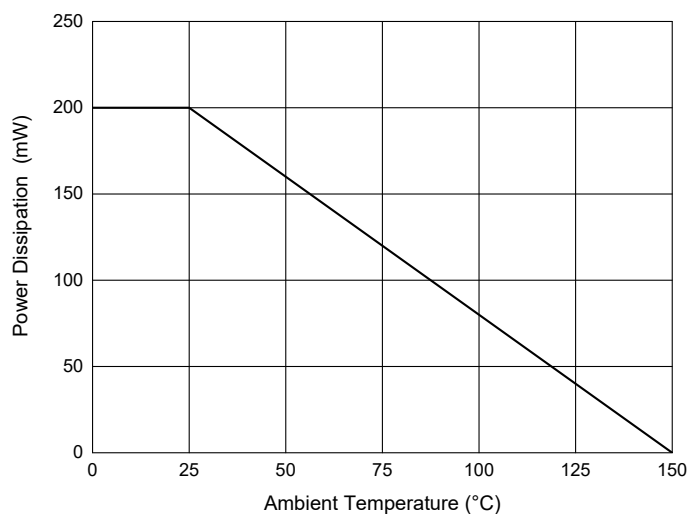


Fig. 3 - Power Derating Curve



## Ordering Information

| Device         | Packing               |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel: 3Kpcs/Reel |

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