

## Features

- Low Forward Voltage Drop
- Fast Switching
- Small Surface Mount Package
- PN Junction Guard Ring for Transient and ESD Protection
- Available in Lead Free Version



SOT-363 top view

| BAT54ADW    | BAT54BRW    | BAT54CDW    | BAT54SDW    | BAT54TW     | BAT54DW     | BAT54JW     |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|             |             |             |             |             |             |             |
| Marking:KL6 | Marking:KLB | Marking:KL7 | Marking:KL8 | Marking:KLA | Marking:KLD | Marking:KLC |
|             |             |             |             |             |             |             |



Halogen-Free

## MAXIMUM RATINGS ( Ta=25°C unless otherwise noted )

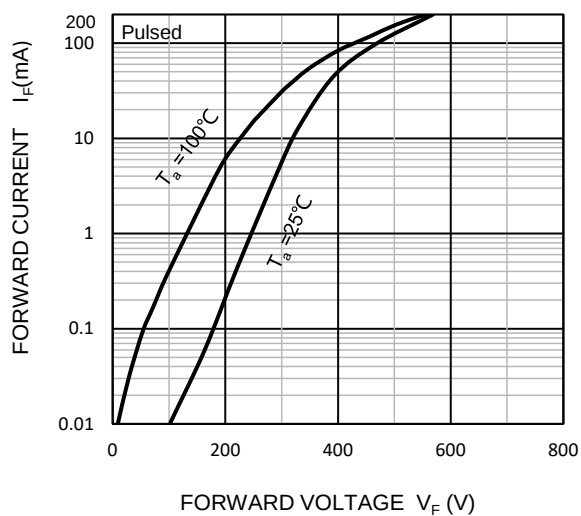
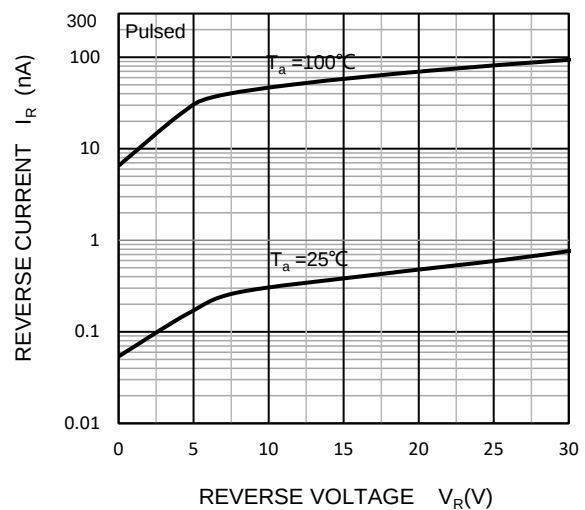
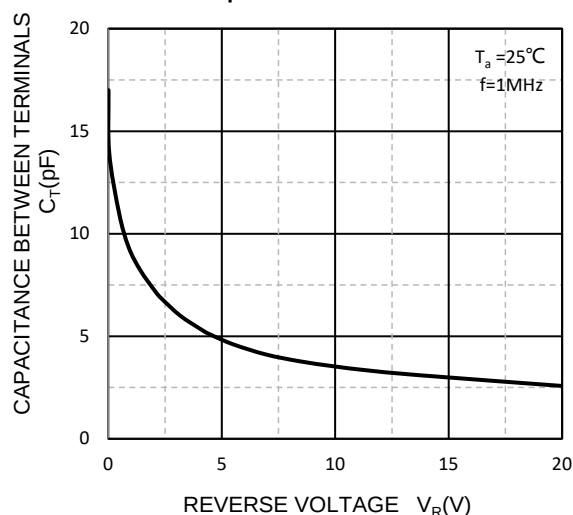
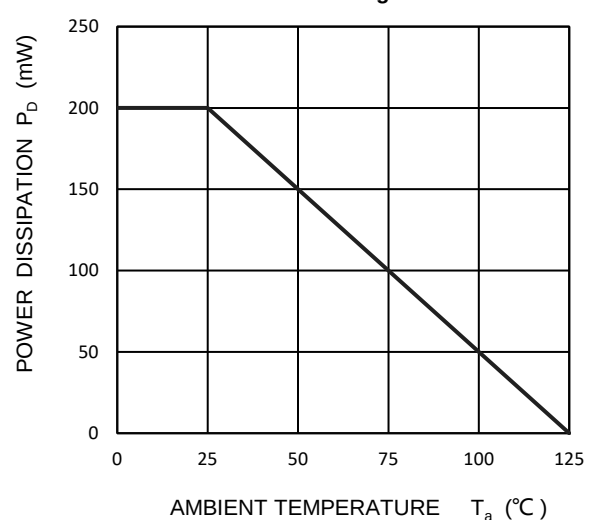
| Symbol          | Parameter                                          | Value      | Unit |
|-----------------|----------------------------------------------------|------------|------|
| $V_R$           | Reverse Voltage                                    | 30         | V    |
| $V_{RRM}$       | Working Peak Reverse Voltage                       |            |      |
| $V_{RWM}$       | DC Blocking Voltage                                |            |      |
| $I_O$           | Average Rectified Output Current                   | 200        | mA   |
| $I_{FRM}$       | Repetitive Peak Forward Current                    | 300        | mA   |
| $I_{FSM}$       | Non-Repetitive Peak Forward Surge Current @t=8.3ms | 600        |      |
| $P_D$           | Power Dissipation                                  | 200        | mW   |
| $R_{\theta JA}$ | Thermal Resistance Junction to Ambient             | 500        | °C/W |
| $T_J$           | Operating Junction Temperature Range               | -40 ~ +125 | °C   |
| $T_{STG}$       | Operating and Storage Temperature Range            | -55~ +150  | °C   |

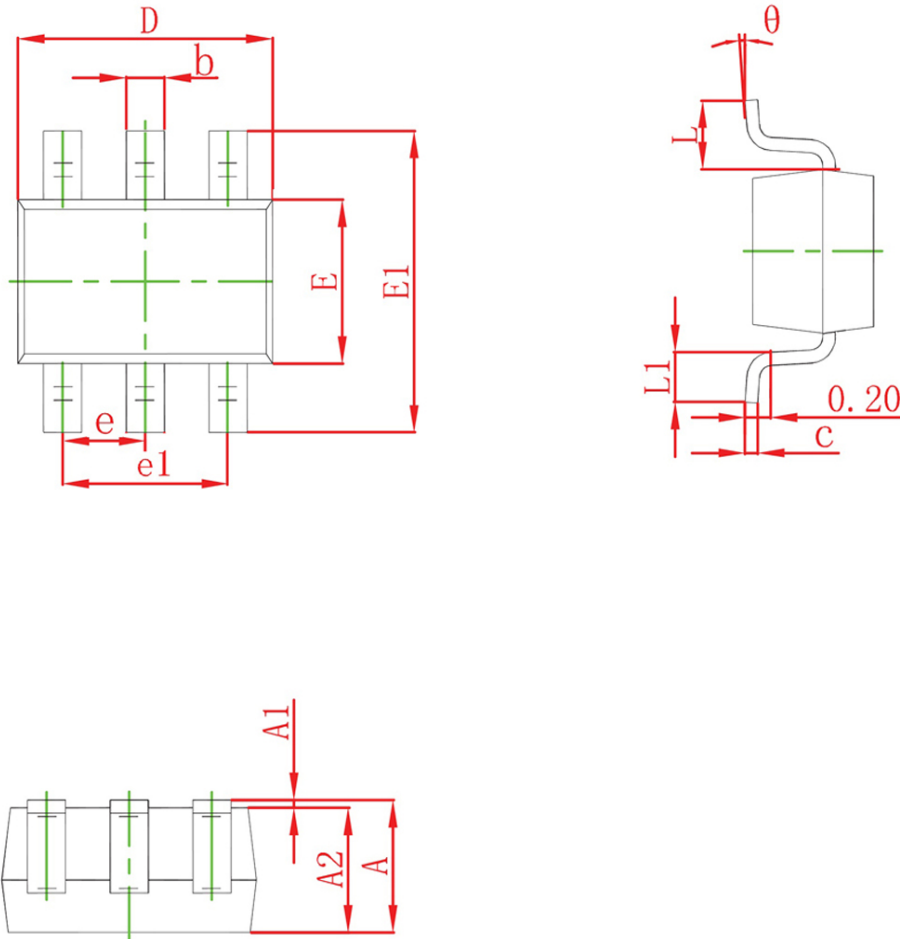
## ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

| Symbol     | Parameter                     | Condition                                 | Min | Typ | Max  | Unit    |
|------------|-------------------------------|-------------------------------------------|-----|-----|------|---------|
| $V_{(BR)}$ | Reverse voltage               | $I_R=100\mu A$                            | 30  | --  | --   | V       |
| $I_R$      | Reverse current               | $V_R=25V$                                 | --  | --  | 2    | $\mu A$ |
| $V_F$      | Forward voltage               | $I_F=1mA$                                 | --  | --  | 320  | V       |
|            |                               | $I_F=10mA$                                | --  | --  | 400  | V       |
|            |                               | $I_F=30mA$                                | --  | --  | 500  | V       |
|            |                               | $I_F=100mA$                               | --  | --  | 1000 | V       |
| $C_T$      | Capacitance between terminals | $V_R=1V, f=1MHz$                          | --  | --  | 10   | pF      |
| $t_{rr}$   | Reverse recovery time         | $I_F=I_R=10mA, I_R=0.1I_R, R_L=100\Omega$ | --  | --  | 5    | ns      |

**Ordering Information (Example)**

| Type     | Package | Marking | Minimum Package(pcs) | Inner Box Quantity(pcs) | Outer Carton Quantity(pcs) | Delivery Mode |
|----------|---------|---------|----------------------|-------------------------|----------------------------|---------------|
| BAT54ADW | SOT-363 | KL6     | 3,000                | 45,000                  | 180,000                    | 7"reel        |
| BAT54BRW | SOT-363 | KLB     | 3,000                | 45,000                  | 180,000                    | 7"reel        |
| BAT54CDW | SOT-363 | KL7     | 3,000                | 45,000                  | 180,000                    | 7"reel        |
| BAT54SDW | SOT-363 | KL8     | 3,000                | 45,000                  | 180,000                    | 7"reel        |
| BAT54TW  | SOT-363 | KLA     | 3,000                | 45,000                  | 180,000                    | 7"reel        |
| BAT54DW  | SOT-363 | KLD     | 3,000                | 45,000                  | 180,000                    | 7"reel        |
| BAT54JW  | SOT-363 | KLC     | 3,000                | 45,000                  | 180,000                    | 7"reel        |

**Typical Operating Characteristics**
**Forward Characteristics**

**Reverse Characteristics**

**Capacitance Characteristics**

**Power Derating Curve**


**SOT-363 Package information**


| Symbol | Dimensions in Millimeters(mm) |       | Dimensions In Inches |       |
|--------|-------------------------------|-------|----------------------|-------|
|        | Min                           | Max   | Min                  | Max   |
| A      | 0.900                         | 1.100 | 0.035                | 0.043 |
| A1     | 0.000                         | 0.100 | 0.000                | 0.004 |
| A2     | 0.900                         | 1.000 | 0.035                | 0.039 |
| b      | 0.150                         | 0.350 | 0.006                | 0.014 |
| c      | 0.100                         | 0.150 | 0.004                | 0.006 |
| D      | 2.000                         | 2.200 | 0.079                | 0.087 |
| E      | 1.150                         | 1.350 | 0.045                | 0.053 |
| E1     | 2.150                         | 2.400 | 0.085                | 0.094 |
| e      | 0.650TYP                      |       | 0.026TYP             |       |
| e1     | 1.200                         | 1.400 | 0.047                | 0.055 |
| L      | 0.525REF                      |       | 0.021REF             |       |
| L1     | 0.260                         | 0.460 | 0.010                | 0.018 |
| θ      | 0°                            | 8°    | 0°                   | 8°    |