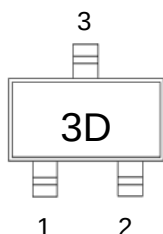


## Features

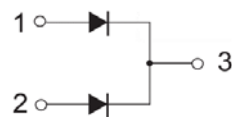
- Extra small power mold type
- Low  $V_F$
- High reliability



Marking and pin assignment



SOT-323 top view



Schematic diagram



Halogen-Free

## Maximum Ratings( $T_a=25^{\circ}\text{C}$ unless otherwise noted)

| Symbol          | Parameter                                                    | Limit      | Unit                 |
|-----------------|--------------------------------------------------------------|------------|----------------------|
| $V_{RM}$        | Peak Reverse Voltage                                         | 40         | V                    |
| $V_R$           | DC reverse voltage                                           | 40         | V                    |
| $I_o$           | Average forward current                                      | 30         | mA                   |
| $I_{FSM}$       | Non-repetitive Peak Forward Surge Current @ $t=8.3\text{ms}$ | 200        | mA                   |
| $P_D$           | Power Dissipation                                            | 200        | mW                   |
| $R_{\theta JA}$ | Thermal Resistance from Junction to Ambient                  | 500        | $^{\circ}\text{C/W}$ |
| $T_J$           | Operating Junction Temperature Range                         | -40 ~ +125 | $^{\circ}\text{C}$   |
| $T_{STG}$       | Storage Temperature Range                                    | -55~ +150  | $^{\circ}\text{C}$   |

## ELECTRICAL CHARACTERISTICS( $T_a=25^{\circ}\text{C}$ unless otherwise specified)

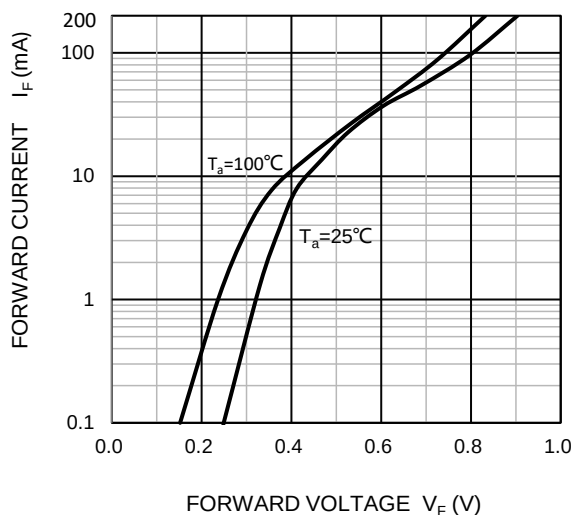
| Symbol | Parameter                       | Condition                      | Min | Typ | Max  | Unit          |
|--------|---------------------------------|--------------------------------|-----|-----|------|---------------|
| $I_R$  | Reverse voltage leakage current | $V_R=10\text{V}$               | --  | --  | 1    | $\mu\text{A}$ |
| $V_F$  | Forward voltage                 | $I_F=1\text{mA}$               | --  | --  | 0.37 | V             |
| $C_T$  | Capacitance between terminals   | $V_R=1\text{V}, f=1\text{MHz}$ | --  | 2   | --   | pF            |

## Ordering Information (Example)

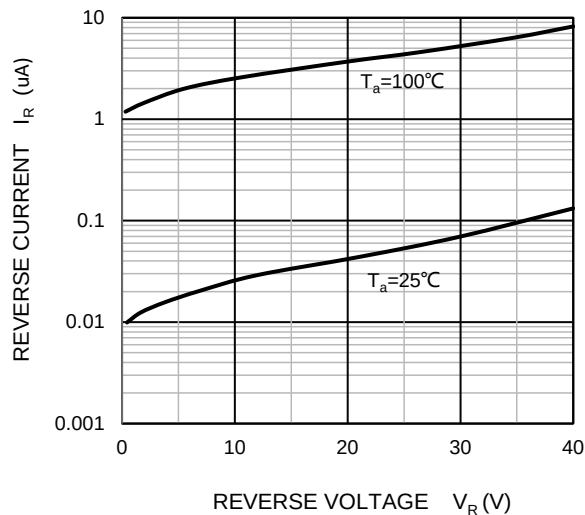
| Type   | Package | Marking | Minimum Package(pcs) | Inner Box Quantity(pcs) | Outer Carton Quantity(pcs) | Delivery Mode |
|--------|---------|---------|----------------------|-------------------------|----------------------------|---------------|
| RB715F | SOT-323 | 3D      | 3,000                | 45,000                  | 180,000                    | 7" reel       |

## Typical Operating Characteristics

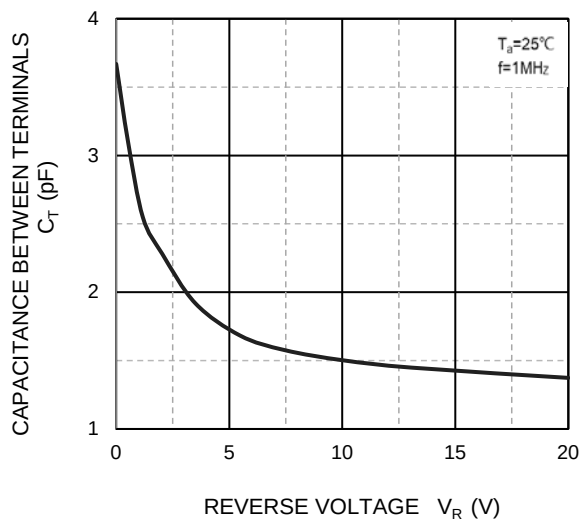
Forward Characteristics



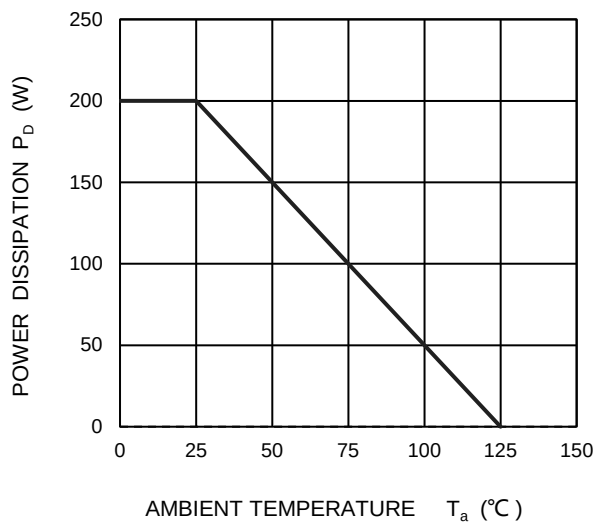
Reverse Characteristics



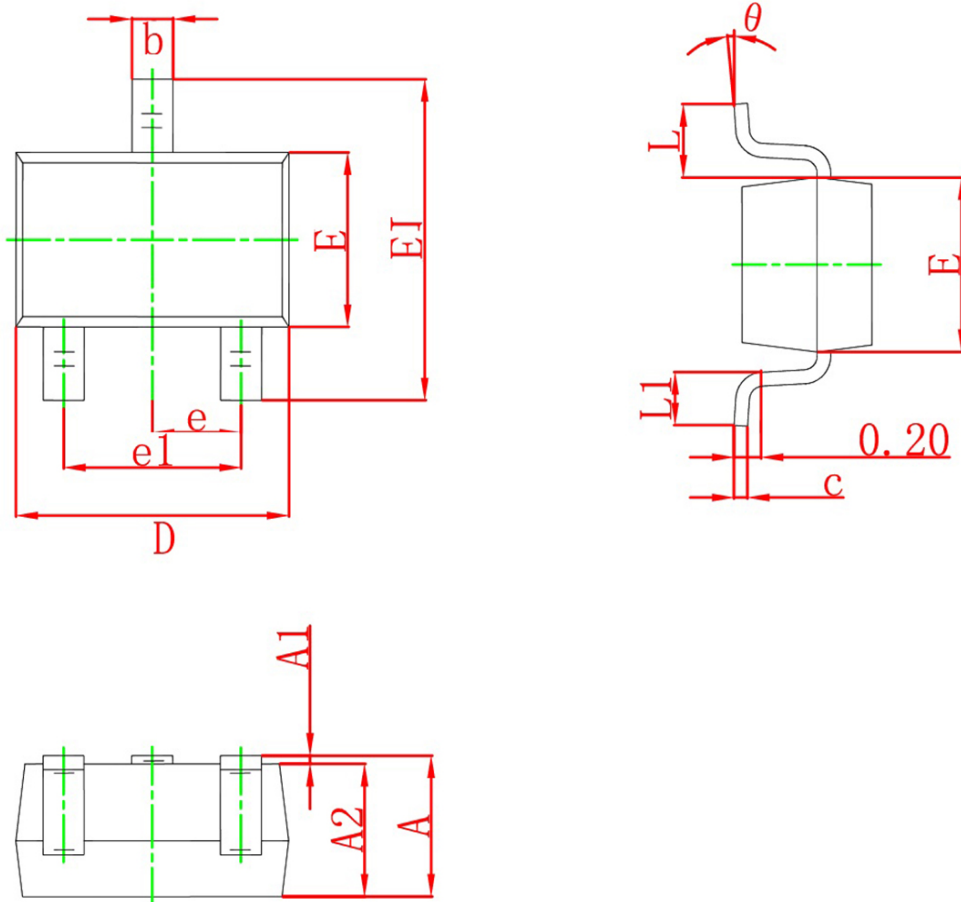
Capacitance Characteristics



Power Derating Curve



SOT-323 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        | 0.200                         | 0.400 | 0.008                | 0.016 |
| c        | 0.080                         | 0.150 | 0.003                | 0.006 |
| D        | 2.000                         | 2.200 | 0.079                | 0.087 |
| E        | 1.150                         | 1.350 | 0.045                | 0.053 |
| E1       | 2.150                         | 2.450 | 0.085                | 0.096 |
| 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 |
| $\theta$ | 0°                            | 8°    | 0°                   | 8°    |