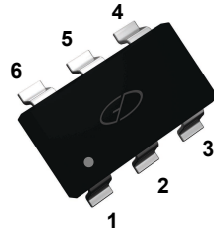
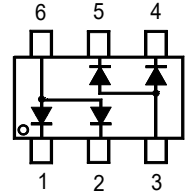


**Features**

- Small package
- Low forward voltage
- Fast reverse recovery time
- Small total capacitance
- Halogen and antimony free, RoHS compliant



SOT-363



Schematic Diagram

**Absolute Maximum Ratings** ( $T_A=25^{\circ}\text{C}$  unless otherwise specified)

| Parameter  | Symbol              | Value       | Unit                        |
|--|---------------------|-------------|-----------------------------|
| Peak Repetitive Reverse Voltage                          | $V_{RRM}$           | 90          | V                           |
| Continuous Reverse Voltage                               | $V_R$               | 90          | V                           |
| Forward Current (DC)                                     | $I_F$               | 250         | mA                          |
| Repetitive Peak Forward Current                          | $I_{FRM}$           | 500         | mA                          |
| Non-repetitive Peak Forward Surge Current                | at $t=1\text{s}$    | 0.5         | A                           |
|  | at $t=1\text{ms}$   | 1           |                             |
|  | at $t=1\mu\text{s}$ | 4           |                             |
| Power Dissipation  | $P_{tot}$           | 350         | mW                          |
| Thermal Resistance from Junction to Ambient <sup>1</sup> | $R_{\theta JA}$     | 357         | $^{\circ}\text{C}/\text{W}$ |
| Junction Temperature                                     | $T_J$               | 150         | $^{\circ}\text{C}$          |
| Storage Temperature Range                                | $T_{stg}$           | -65 to +150 | $^{\circ}\text{C}$          |

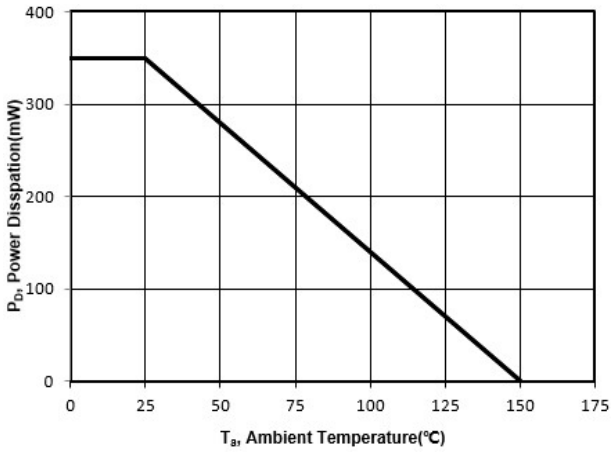
Note

1. Device mounted on FR-4 substrate PC board, with minimum recommended pad layout.

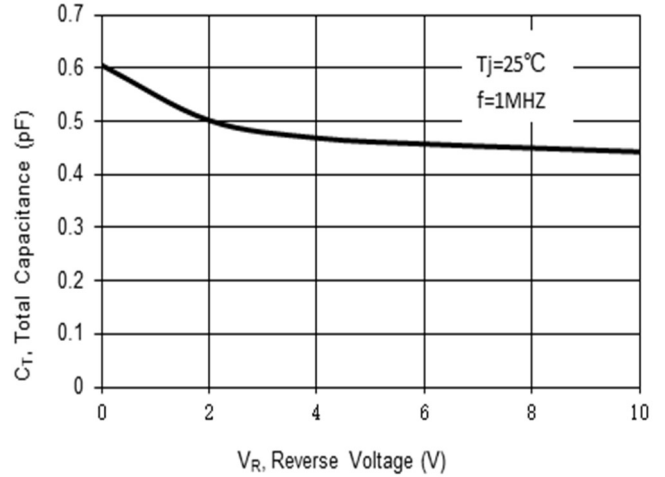
**Electrical Characteristics** ( $T_A=25^{\circ}\text{C}$  unless otherwise specified)

| Parameter                 | Symbol       | Conditions  | Min. | Max. | Unit          |
|---------------------------|--------------|---|------|------|---------------|
| Reverse Breakdown Voltage | $V_R/V_{BR}$ | $I_R=100\mu\text{A}$  | 90   | -    | V             |
| Forward Voltage           | $V_F$        | $I_F=1\text{mA}$  | -    | 715  | mV            |
|                           |              | $I_F=10\text{mA}$   | -    | 855  | mV            |
|                           |              | $I_F=50\text{mA}$   | -    | 1    | V             |
|                           |              | $I_F=150\text{mA}$  | -    | 1.25 | V             |
| Reverse Current           | $I_R$        | $V_R=25\text{V}$  | -    | 30   | nA            |
|                           |              | $V_R=75\text{V}$  | -    | 1    | $\mu\text{A}$ |
|                           |              | $V_R=25\text{V}, T_J=150^{\circ}\text{C}$                                   | -    | 30   | $\mu\text{A}$ |
|                           |              | $V_R=75\text{V}, T_J=150^{\circ}\text{C}$                                   | -    | 50   | $\mu\text{A}$ |
| Diode Capacitance         | $C_d$        | $V_R=0\text{V}, f=1\text{MHz}$  | -    | 2    | pF            |
| Reverse Recovery Time     | $t_{rr}$     | $I_F=10\text{mA}, I_{rr}=0.1 \times I_R,$<br>$V_R=6\text{V}, R_L=100\Omega$ | -    | 4    | ns            |

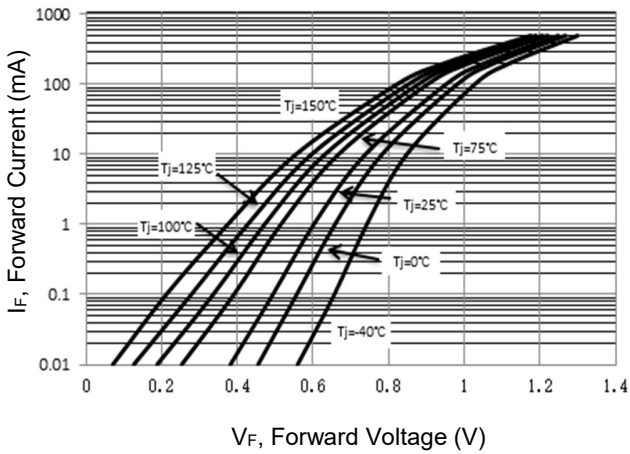
**Typical Characteristics Curves**



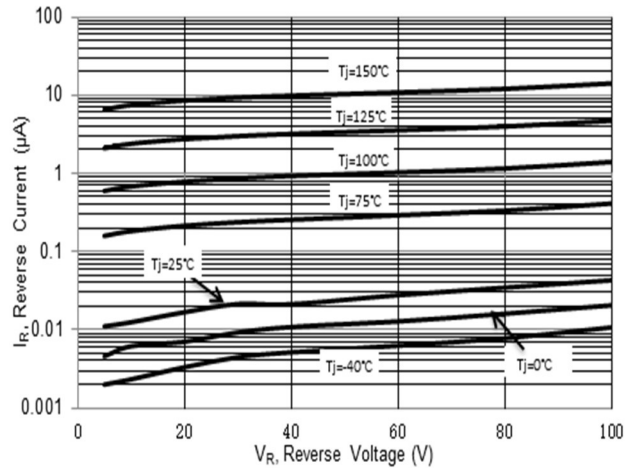
**Figure 1. Power Derating Curve**



**Figure 2. Capacitance Characteristics**

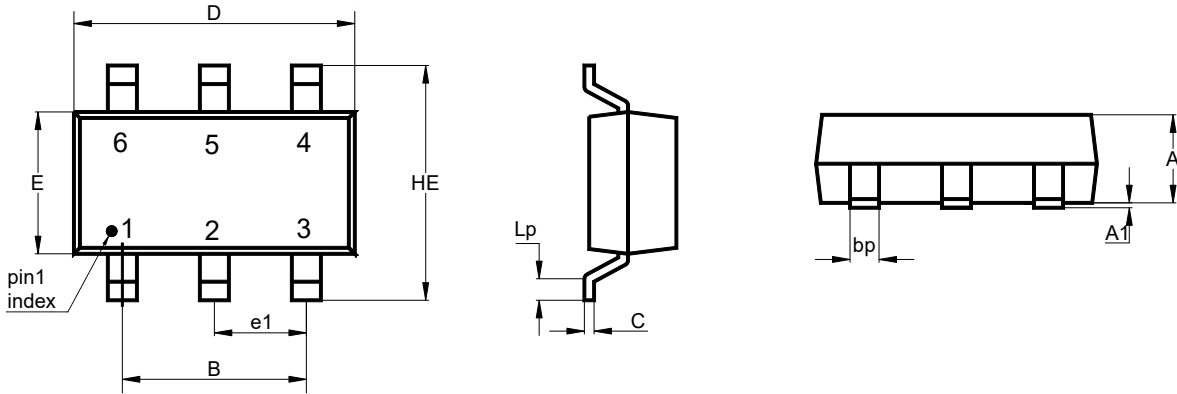


**Figure 3. Forward Characteristics**



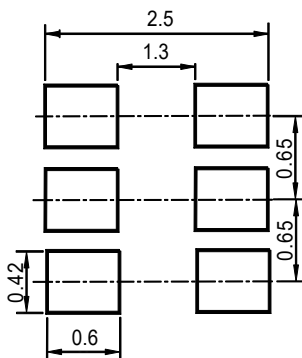
**Figure 4. Reverse Characteristics**

**Package Outline Dimensions (SOT-363)**



| Symbol | Dimensions in Millimeters |      | Dimensions in Inches |       |
|--------|---------------------------|------|----------------------|-------|
|        | Min                       | Max  | Min                  | Max   |
| A      | 0.90                      | 1.00 | 0.035                | 0.039 |
| A1     | 0.00                      | 0.10 | 0.000                | 0.004 |
| B      | 1.3 Typ                   |      | 0.051 Typ            |       |
| C      | 0.10                      | 0.25 | 0.004                | 0.010 |
| D      | 1.80                      | 2.20 | 0.071                | 0.087 |
| E      | 1.15                      | 1.35 | 0.045                | 0.053 |
| e1     | 0.65 Typ                  |      | 0.026 Typ            |       |
| HE     | 2.00                      | 2.20 | 0.079                | 0.087 |
| Lp     | 0.15                      | 0.40 | 0.006                | 0.016 |
| bp     | 0.10                      | 0.30 | 0.004                | 0.012 |

**Recommended Pad Layout**



Unit: mm

**Order Information**

| Device    | Package | Marking | Carrier     | Quantity        | HSF Status     |
|-----------|---------|---------|-------------|-----------------|----------------|
| GSBAW56DW | SOT-363 | A1      | Tape & Reel | 3,000pcs / Reel | RoHS Compliant |