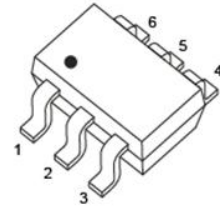


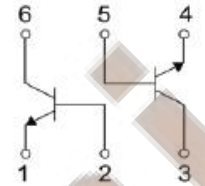
## General Characteristics

| VCEO | IC    | VCE(sat) | fT     | Tjmax |
|------|-------|----------|--------|-------|
| 25V  | 800mA | 0.5V     | 100MHz | 150℃  |



## Features

- SOT363 Package
- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 3
- High temperature soldering guaranteed 260℃/10seconds  
at terminals



## Package Marking and Ordering Information

| Product ID | Package | Marking | Qty(PCS) |
|------------|---------|---------|----------|
| SS8050DW   | SOT-363 | .Y1     | 3000     |

## Maximum Ratings & Thermal Characteristics (Ratings at 25℃ ambient temperature unless otherwise specified.)

| Parameters                                  | Symbol | Value    | Unit |
|---------------------------------------------|--------|----------|------|
| Collector-Base Voltage                      | VCBO   | 40       | V    |
| Collector-Emitter Voltage                   | VCEO   | 25       | V    |
| Emitter -Base Voltage                       | VEBO   | 5        | V    |
| Collector Current-Continuous                | IC     | 800      | mA   |
| Collector Power Dissipation                 | PC     | 250      | mW   |
| Junction Temperature                        | Tj     | 150      | ℃    |
| Storage Temperature                         | Tstg   | -55-+150 | ℃    |
| Thermal resistance From junction to ambient | R θ JA | 500      | ℃/W  |

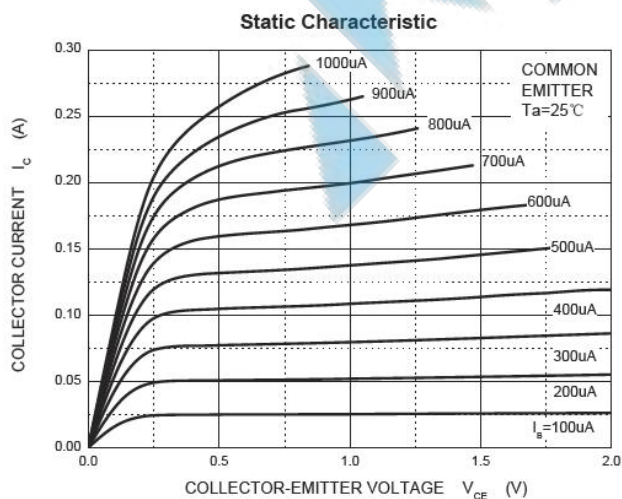
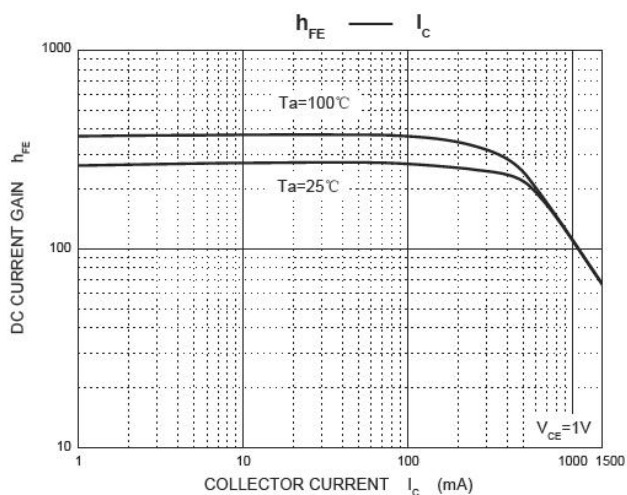
### Electrical Characteristics (Ratings at 25°C ambient temperature unless otherwise specified).

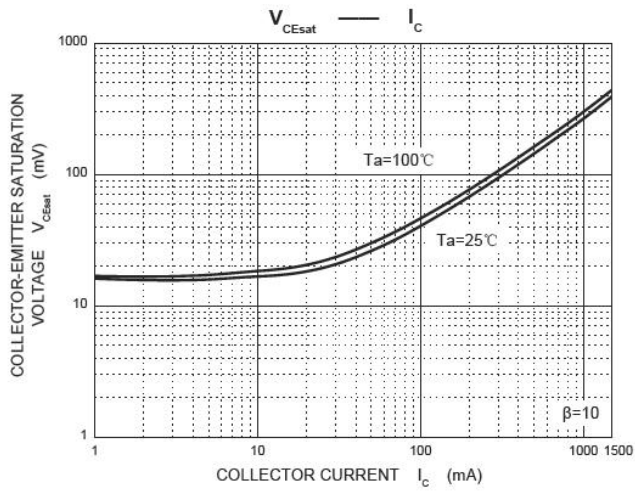
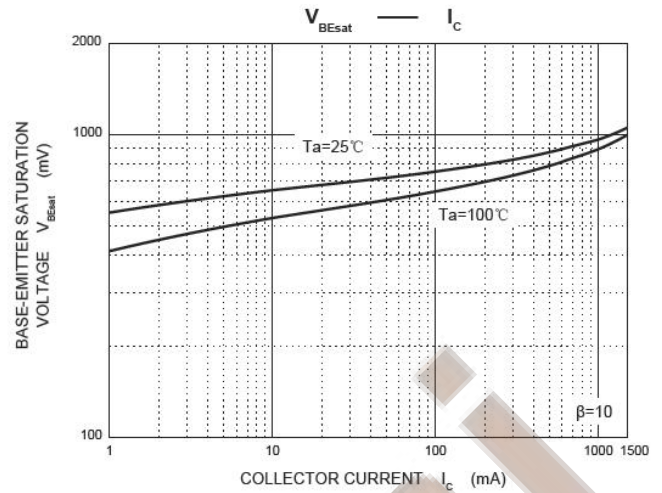
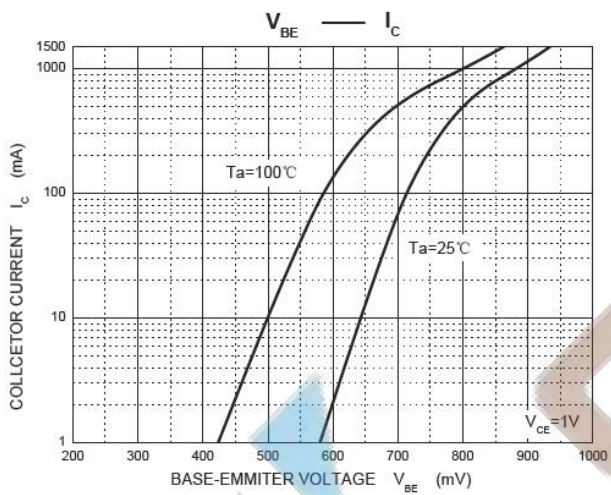
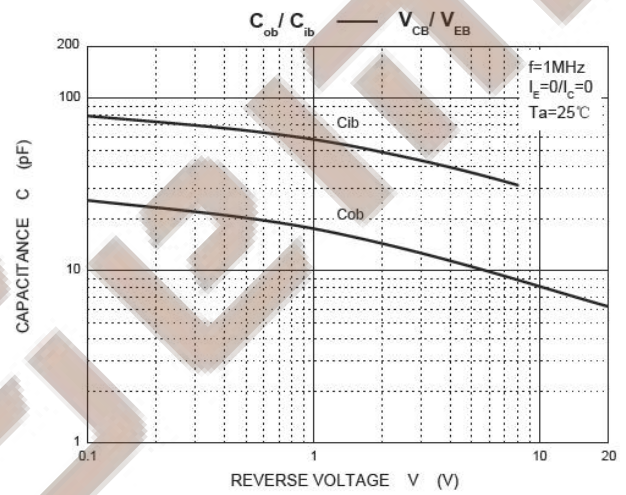
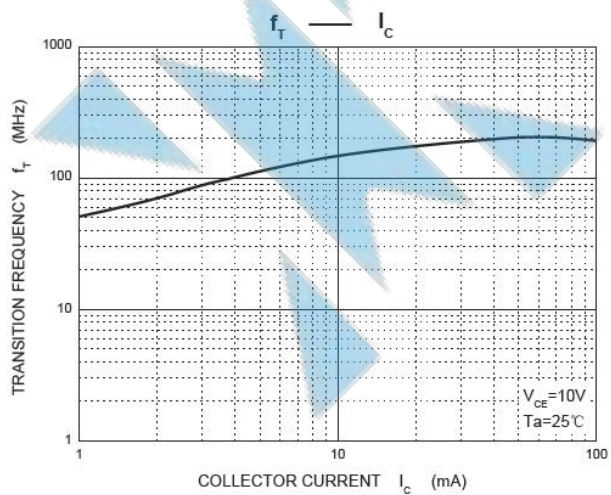
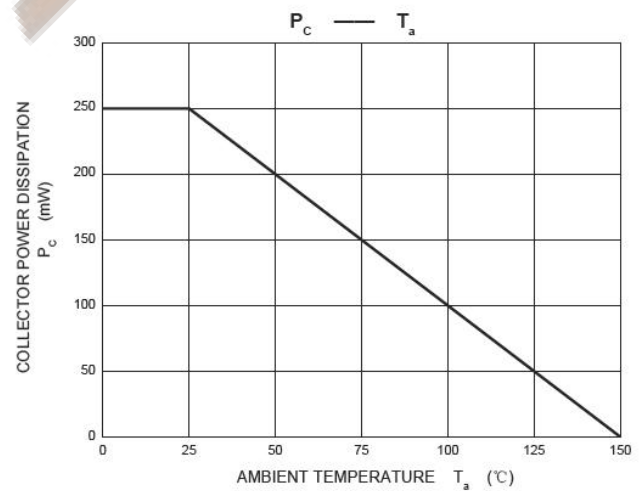
| Parameter                            | Symbols  | Test Condition            | Limits |      | Unit |
|--------------------------------------|----------|---------------------------|--------|------|------|
|                                      |          |                           | Min    | Max  |      |
| Collector-base breakdown voltage     | V(BR)CBO | IC=100uA, IE=0            | 40     |      | V    |
| Collector-emitter breakdown voltage  | V(BR)CEO | IC=0.1mA, IB=0            | 25     |      | V    |
| Emitter-base breakdown voltage       | V(BR)EBO | IE=100uA, IC=0            | 5      |      | V    |
| Collector cut-off current            | ICBO     | VCB=40V, IE=0             |        | 100  | nA   |
| Collector cut-off current            | ICEO     | VCE=20V, IB=0             |        | 100  | nA   |
| Emitter cut-off current              | IEBO     | VEB=5V, IC=0              |        | 100  | nA   |
| DC current gain                      | hFE(1)   | VCE=1V, IC=100mA          | 120    | 400  |      |
|                                      | hFE(2)   | VCE=1V, IC=800mA          | 40     |      |      |
| Collector-emitter saturation voltage | VCE(sat) | IC=800mA, IB=80mA         |        | 0.50 | V    |
| Base - emitter saturation voltage    | VBE(sat) | IC=800mA, IB=80mA         |        | 1.20 | V    |
| Transition frequency                 | fT       | VCE=10V, IC=50mA, f=30MHz | 100    |      | MHz  |
| Collector output capacitance         | Cob      | VCB=10V, IE=0, f=1MHz     |        | 15   | pF   |

### CLASSIFICATION OF hFE(1)

| RANK  | L       | H       | J       |
|-------|---------|---------|---------|
| RANGE | 120-200 | 200-350 | 300-400 |

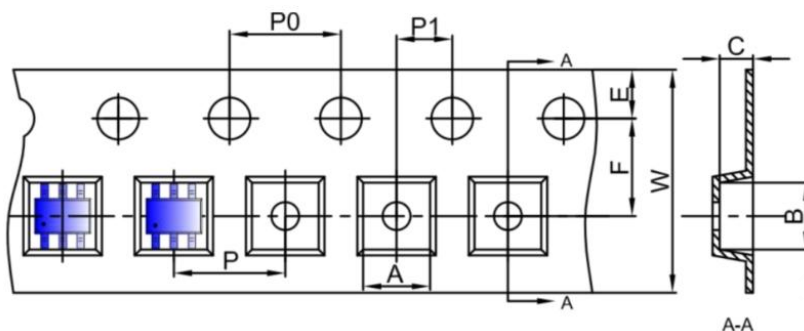
### Typical characteristics





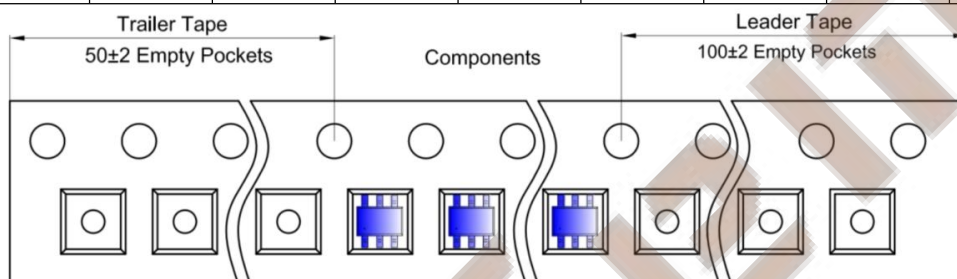
## Package Information

### Carrier Dimension(mm)

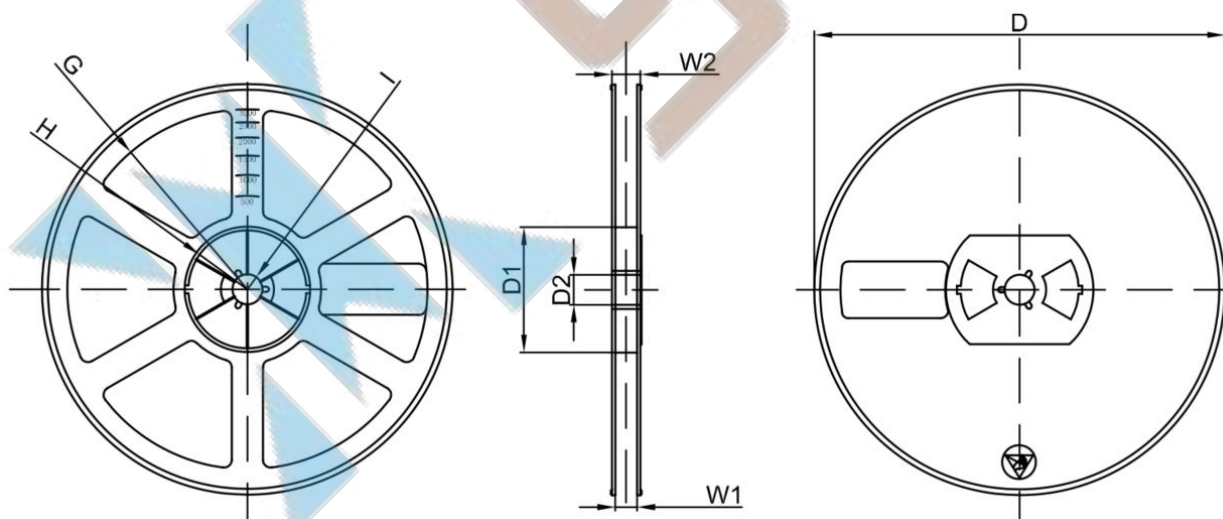


Dimensions are in millimeter

| Pkg Type | A    | B    | C    | d     | E    | F    | P0   | P    | P1   | W    |
|----------|------|------|------|-------|------|------|------|------|------|------|
| SOT-363  | 2.25 | 2.55 | 1.20 | Ø1.50 | 1.75 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 |



### Reel Dimension(mm)



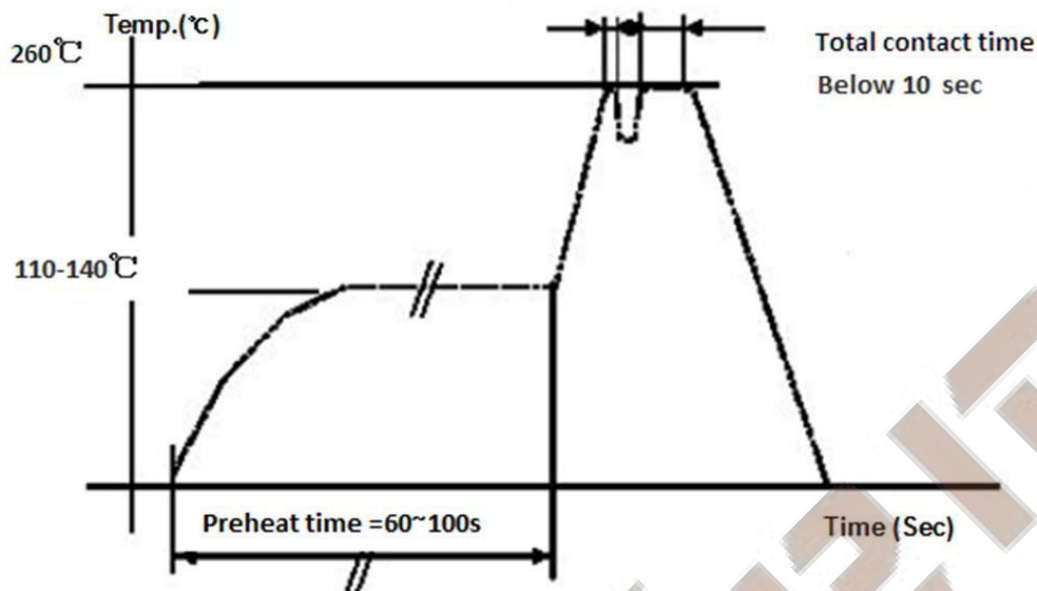
| Reel Option | D       | D1    | D2    | G      | H      | I     | W1   | W2    |
|-------------|---------|-------|-------|--------|--------|-------|------|-------|
| 7" Dia      | Φ178.00 | 54.40 | 13.00 | R78.00 | R25.60 | R6.50 | 9.50 | 12.30 |
| Tolerance   | ±2      | ±1    | ±1    | ±1     | ±1     | ±1    | ±1   | ±1    |

## Package Specifications

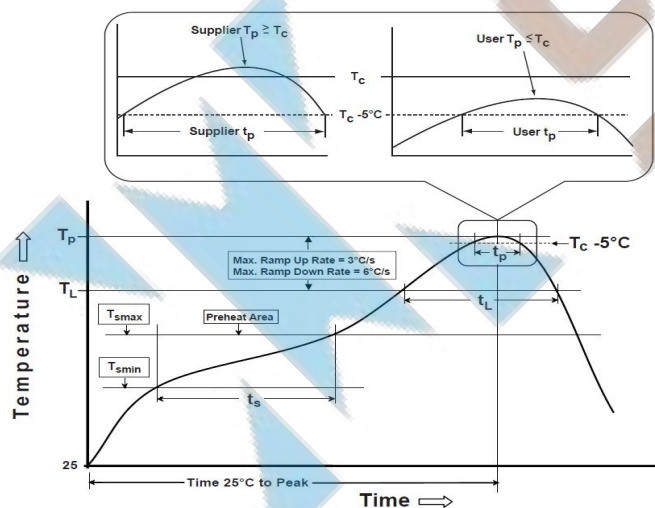
| Package | Reel Size | Reel DIA.<br>(mm) | Q'TY/Reel<br>(Kpcs) | Box Size<br>(mm) | QTY/Box<br>(Kpcs) | Carton Size<br>(mm) | Q'TY/Carton<br>(Kpcs) |
|---------|-----------|-------------------|---------------------|------------------|-------------------|---------------------|-----------------------|
| SOT363  | 7'        | 178               | 3                   | 210*208*203      | 45                | 440*400*230         | 180                   |

## Recommended Soldering Profile for Rectifier Diodes (Pb Free)

### a) Wave Soldering Profile



**b) Reflow Soldering Profile (Pb Free Application), refer to IPC/JEDEC J-STD-020**

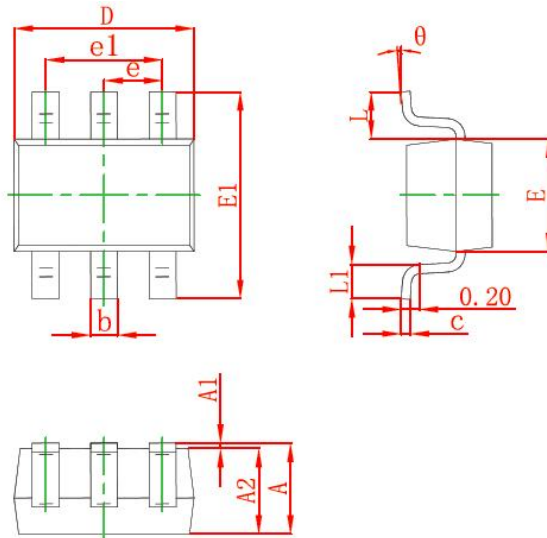


|                                                                                                                                                   |                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| Preheat/Soak Temperature Min<br>(T <sub>min</sub> ) Temperature Max (T <sub>max</sub> )<br>Time (ts) from (T <sub>min</sub> to T <sub>max</sub> ) | 50 °C<br>200 °C<br>60-120 seconds |
| Melting Point of Solder (Sn Ag Cu)                                                                                                                | 217°C                             |
| Ramp-up Rate to 217°C(Melting Point of Solder)                                                                                                    | 3°C/sec                           |
| Time at Temp.>217°C (Melting Point of Solder)                                                                                                     | 60~150 Sec                        |
| Peak Temperature                                                                                                                                  | 255±5°C                           |
| Time within 5°Cbelow Peak Temp.                                                                                                                   | 20~40 Sec                         |
| Cooling Rate                                                                                                                                      | 6°C/sec (max)                     |
| Time from 25°C to Peak Temp.                                                                                                                      | 8min (max)                        |

### c) Manual Soldering

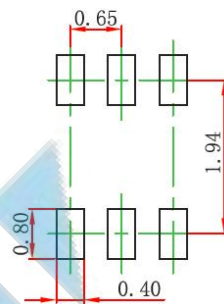
When using an electric soldering iron for manual soldering, it is recommended that the temperature does not exceed 300°C and the soldering time is less than 10 seconds.

## Package Mechanical Data



| Symbol   | Dimensions In Millimeters |       |
|----------|---------------------------|-------|
|          | Min                       | Max   |
| A        | 0.900                     | 1.100 |
| A1       | 0.000                     | 0.100 |
| A2       | 0.900                     | 1.000 |
| b        | 0.150                     | 0.350 |
| c        | 0.100                     | 0.150 |
| D        | 2.000                     | 2.200 |
| E        | 1.150                     | 1.350 |
| E1       | 2.150                     | 2.400 |
| e        | 0.650 TYP                 |       |
| e1       | 1.200                     | 1.400 |
| L        | 0.525 REF                 |       |
| L1       | 0.260                     | 0.460 |
| $\theta$ | 0°                        | 8°    |

## Suggested Pad Layout



Note:  
1. Controlling dimension; in millimeters.  
2. General tolerance:  $\pm 0.05\text{mm}$ .  
3. The pad layout is for reference purposes only.

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