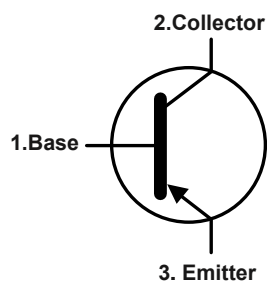


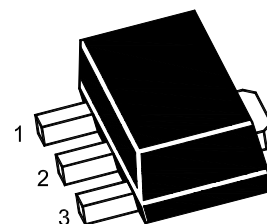
Features

- High voltage
- High current application

Equivalent Circuit



SOT-89



1.Base 2.Collector 3. Emitter

Marking Code :

2SA1661SQ-O : DX

2SA1661SQ-Y : DY

Absolute Maximum Ratings

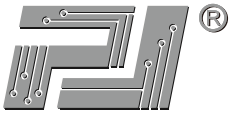
Ratings at 25°C ambient temperature unless otherwise specified.

| Parameter | Symbol | Value | Unit |
|---------------------------|------------|-------------|------|
| Collector Base Voltage | $-V_{CBO}$ | 120 | V |
| Collector Emitter Voltage | $-V_{CEO}$ | 120 | V |
| Emitter Base Voltage | $-V_{EBO}$ | 5 | V |
| Collector Current | $-I_C$ | 0.8 | A |
| Maximum Power Dissipation | P_D | 0.5 | W |
| Junction Temperature | T_J | 150 | °C |
| Storage Temperature Range | T_{STG} | -55 to +150 | °C |

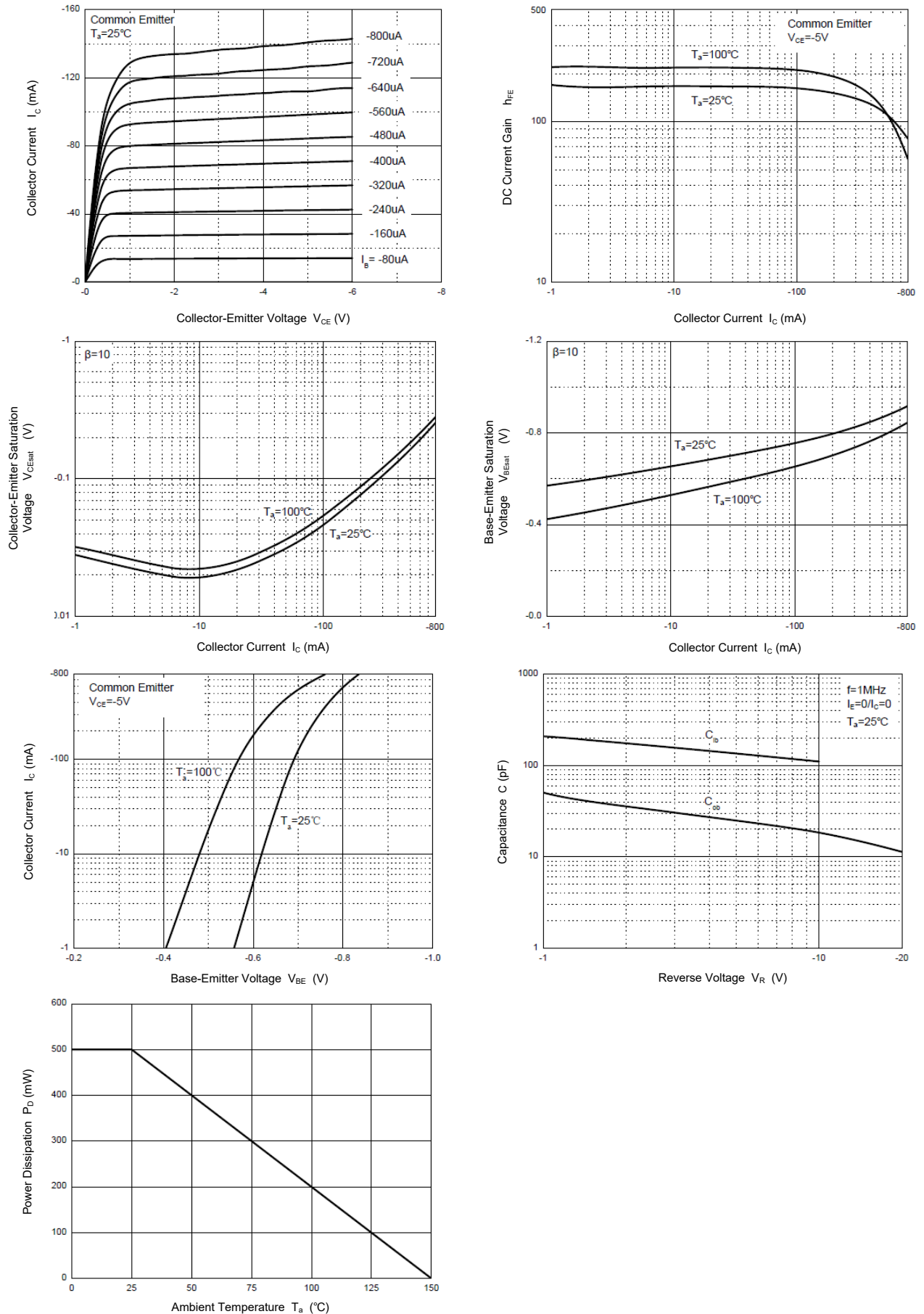


Electrical Characteristics (T_A=25°C)

| Parameter | Symbol | Min. | Typ. | Max. | Unit |
|--|-----------------------|------|------|------|------|
| DC Current Gain at V _{CE} = -5 V, I _C = -100 mA | O Y | 80 | -- | 160 | -- |
| Current Gain Group | | 120 | -- | 240 | -- |
| Collector Base Cutoff Current at V _{CB} = -120V | -I _{CB0} | -- | -- | 100 | nA |
| Emitter Base Cutoff Current at V _{EB} = -5 V | -I _{EBO} | -- | -- | 100 | nA |
| Collector Base Breakdown Voltage at I _C = -1 mA | -V _{(BR)CBO} | 120 | -- | -- | V |
| Collector Emitter Breakdown Voltage at I _C = -10 mA | -V _{(BR)CEO} | 120 | -- | -- | V |
| Emitter Base Breakdown Voltage at I _E = -1 mA | -V _{(BR)EBO} | 5 | -- | -- | V |
| Collector Emitter Saturation Voltage at I _C = -500 mA, I _B = -50 mA | -V _{CE(sat)} | -- | -- | 1 | V |
| Collector Emitter On Voltage at V _{CE} = -5 V, I _C = -500 mA | -V _{CE(on)} | -- | -- | 1 | V |
| Transition Frequency at V _{CE} = -5 V, I _C = -200 mA | F _T | -- | 120 | -- | MHz |
| Output Capacitance at V _{CB} = -10 V, I _E = 0, f = 1 MHz | C _{ob} | -- | -- | 30 | pF |



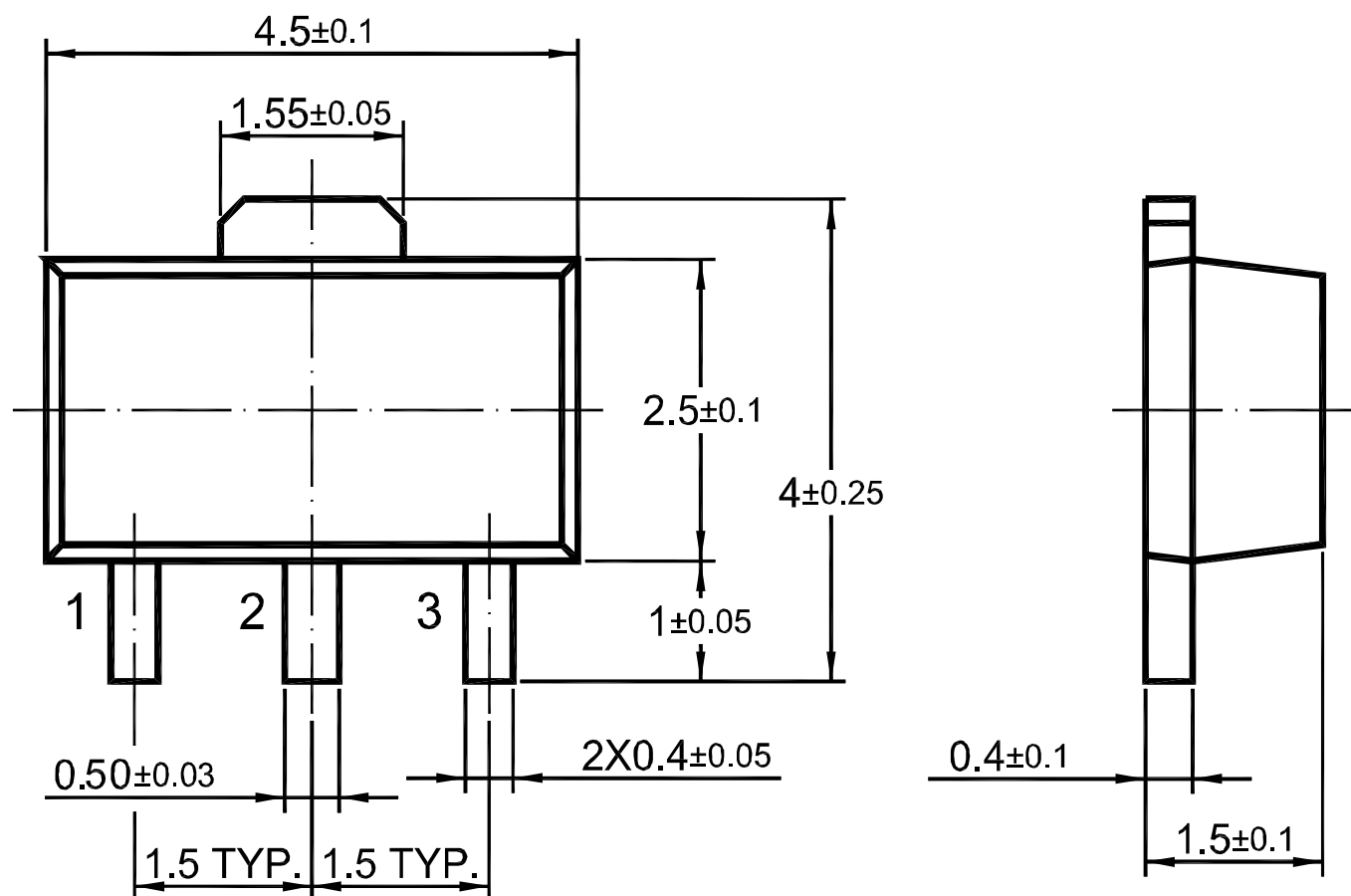
Typical Characteristic Curves



Package Outline

SOT-89

Dimensions in mm

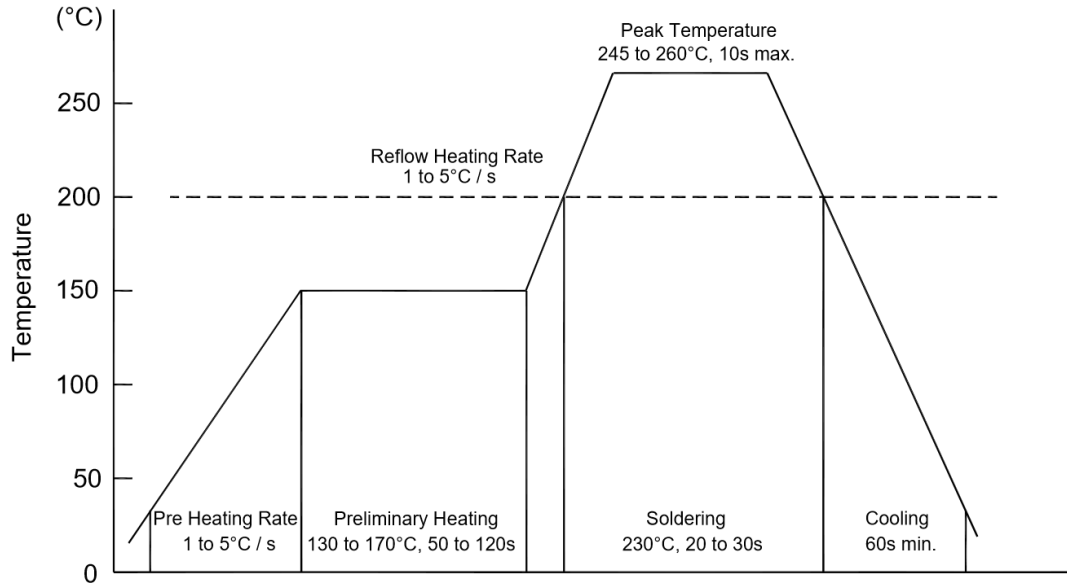


Ordering Information

| Device | Package | Shipping |
|-----------|---------|------------------------|
| 2SA1661SQ | SOT-89 | 1,000PCS/Reel&7inches |
| | | 3,000PCS/Reel&13inches |

Conditions of Soldering and Storage

◆ Recommended condition of reflow soldering



Recommended peak temperature is over 245 °C. If peak temperature is below 245 °C, you may adjust the following parameters:

- Time length of peak temperature (longer)
- Time length of soldering (longer)
- Thickness of solder paste (thicker)

◆ Conditions of hand soldering

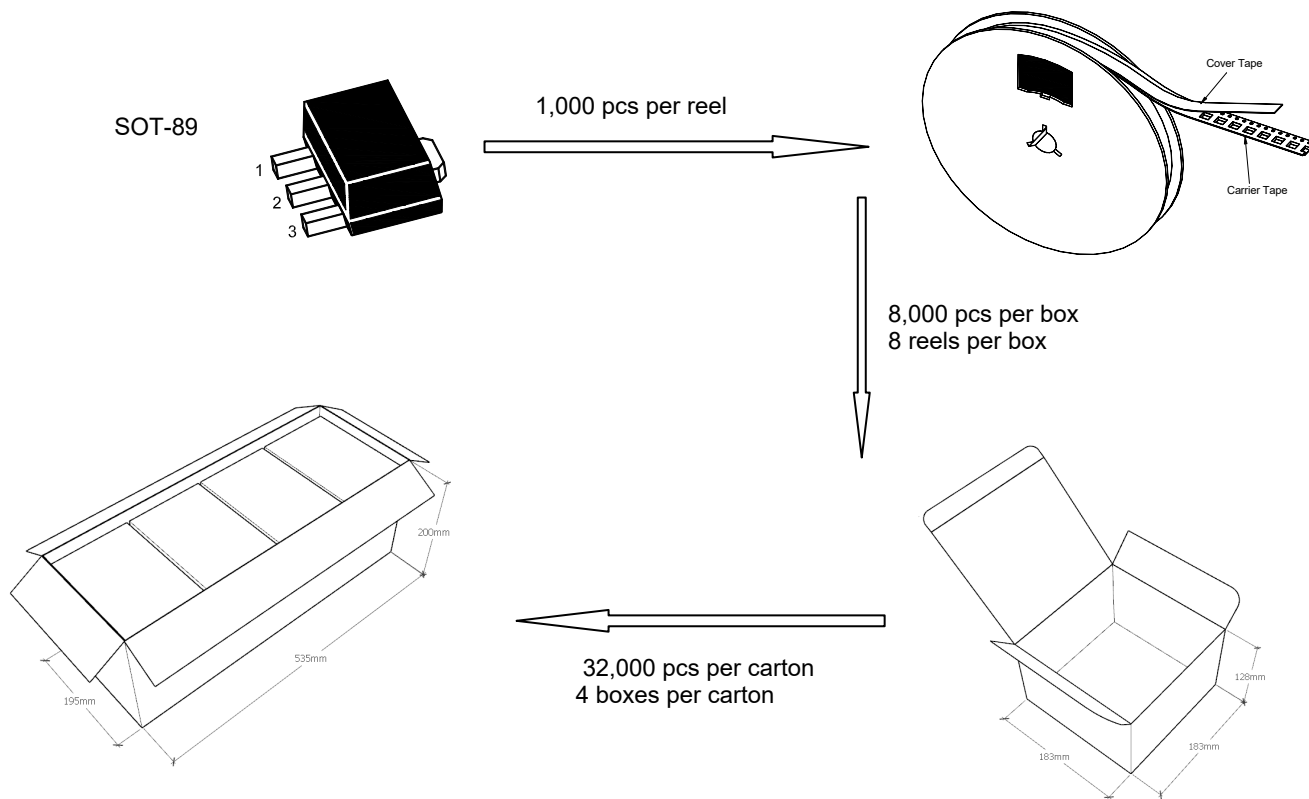
- Temperature: 370 °C
- Time: 3s max.
- Times: one time

◆ Storage conditions

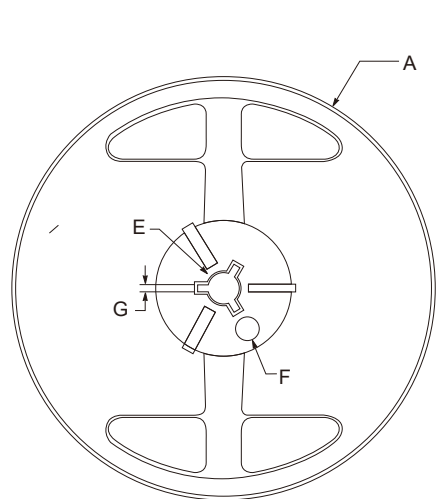
- **Temperature**
5 to 40 °C
- **Humidity**
30 to 80% RH
- **Recommended period**
One year after manufacturing

Package Specifications

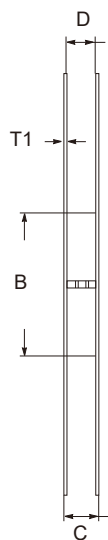
- The method of packaging (1,000PCS/Reel&7inches)



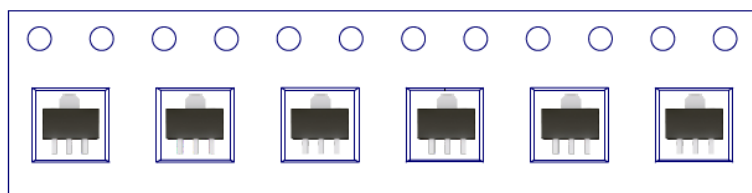
◆ Embossed tape and reel data



Reel (7")

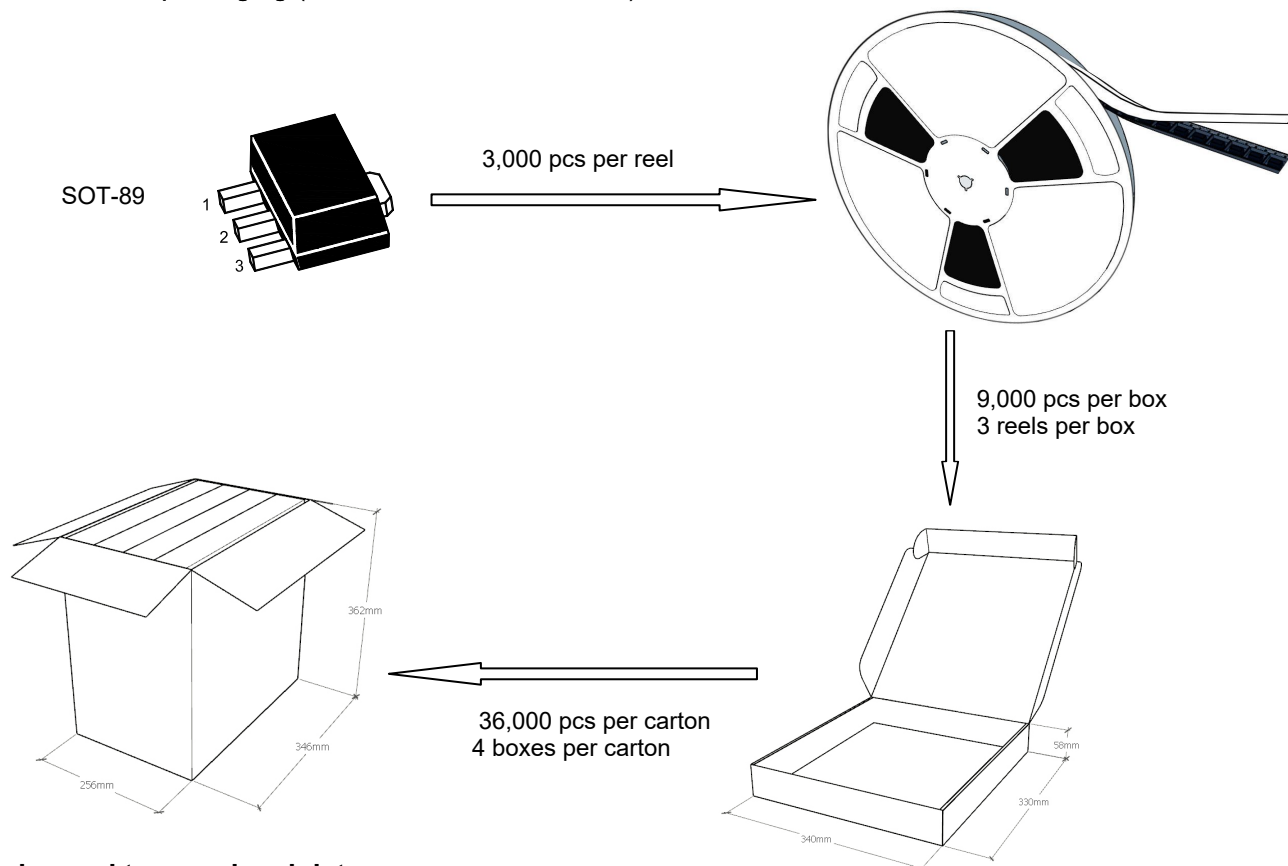


| symbol | Value(unit:mm) |
|--------|---------------------|
| A | $\Phi 179 \pm 1$ |
| B | 60.5 ± 0.2 |
| C | 15.3 ± 0.3 |
| D | 12.5~13.7 |
| E | $\Phi 13.5 \pm 0.2$ |
| F | $\Phi 10.0 \pm 0.2$ |
| G | 2.7 ± 0.2 |
| T1 | 1.0 ± 0.2 |

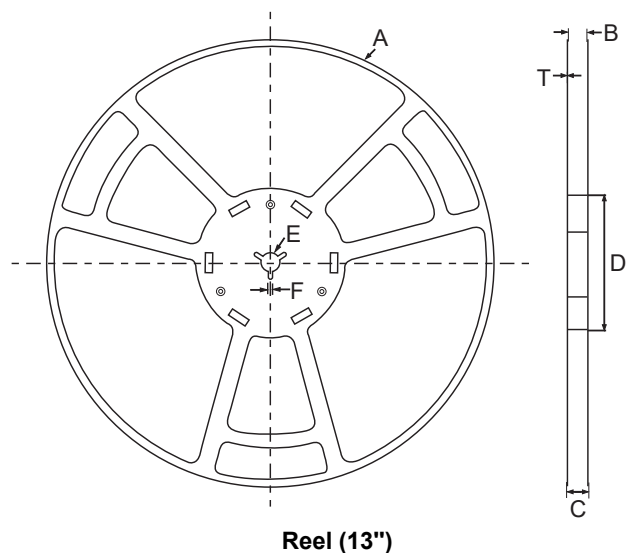


Package Specifications

- The method of packaging (3,000PCS/Reel&13inches)



◆ Embossed tape and reel data



| symbol | Value(unit:mm) |
|--------|---------------------|
| A | $\Phi 330 \pm 1$ |
| B | 12.7 ± 0.5 |
| C | 16.5 ± 0.3 |
| D | $\Phi 99.5 \pm 0.5$ |
| E | $\Phi 13.6 \pm 0.3$ |
| F | 2.8 ± 0.3 |
| T1 | 1.9 ± 0.2 |

