

## TO-92 Plastic-Encapsulate Transistors

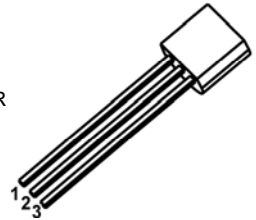
### 2SC2551 TRANSISTOR (NPN)

#### FEATURES

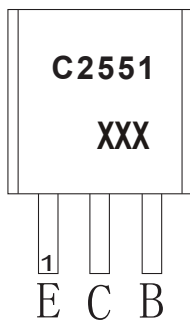
- High voltage
- Low saturation voltage
- Small collector output capacitance
- Complementary to 2SA1091

#### TO-92

1. EMITTER
2. COLLECTOR
3. BASE

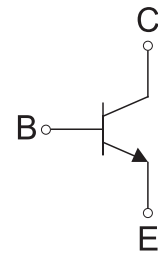


#### MARKING



C2551=Device code  
XXX=Code  
GXX=Green molding compound device  
CXX=Normal molding compound device

#### Equivalent Circuit



#### ORDERING INFORMATION

| Part Number | Package | Packing Method | Pack Quantity |
|-------------|---------|----------------|---------------|
| 2SC2551     | TO-92   | Bulk           | 1000pcs/Bag   |
| 2SC2551-TA  | TO-92   | Tape           | 2000pcs/Box   |

#### MAXIMUM RATINGS (T<sub>A</sub>=25°C unless otherwise noted)

| Symbol                            | Parameter                                        | Value   | Unit |
|-----------------------------------|--------------------------------------------------|---------|------|
| V <sub>CBO</sub>                  | Collector-Base Voltage                           | 300     | V    |
| V <sub>CEO</sub>                  | Collector-Emitter Voltage                        | 300     | V    |
| V <sub>EBO</sub>                  | Emitter-Base Voltage                             | 6       | V    |
| I <sub>C</sub>                    | Collector Current -Continuous                    | 100     | mA   |
| P <sub>C</sub>                    | Collector power dissipation                      | 400     | mW   |
| T <sub>J</sub> , T <sub>stg</sub> | Operation Junction and Storage Temperature Range | -55-150 | °C   |

## ELECTRICAL CHARACTERISTICS

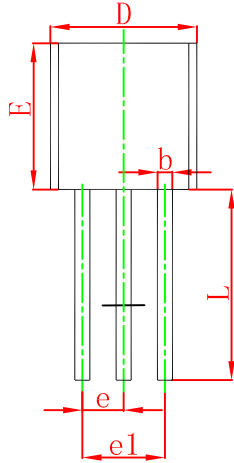
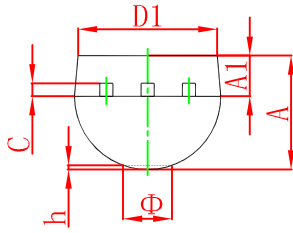
$T_a=25\text{ }^{\circ}\text{C}$  unless otherwise specified

| Parameter                            | Symbol        | Test conditions                                 | Min | Typ | Max | Unit          |
|--------------------------------------|---------------|-------------------------------------------------|-----|-----|-----|---------------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | $I_C=100\mu\text{A}$ , $I_E=0$                  | 300 |     |     | V             |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C=1\text{mA}$ , $I_B=0$                      | 300 |     |     | V             |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E=100\mu\text{A}$ , $I_C=0$                  | 6   |     |     | V             |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB}=300\text{V}$ , $I_E=0$                  |     |     | 0.1 | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB}=6\text{V}$ , $I_C=0$                    |     |     | 0.1 | $\mu\text{A}$ |
| DC current gain                      | $h_{FE(1)}$   | $V_{CE}=10\text{V}$ , $I_C=20\text{mA}$         | 30  |     | 150 |               |
|                                      | $h_{FE(2)}$   | $V_{CE}=10\text{V}$ , $I_C=1\text{mA}$          | 20  |     |     |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=20\text{mA}$ , $I_B=2\text{mA}$            |     |     | 0.5 | V             |
| Base-emitter saturation voltage      | $V_{BE(sat)}$ | $I_C=20\text{mA}$ , $I_B=2\text{mA}$            |     |     | 1.2 | V             |
| Transition frequency                 | $f_T$         | $V_{CE}=10\text{V}$ , $I_C=20\text{mA}$         |     | 80  |     | MHz           |
| Collector output capacitance         | $C_{ob}$      | $V_{CB}=20\text{V}$ , $I_E=0$ , $f=1\text{MHz}$ |     |     | 4   | pF            |

### CLASSIFICATION OF $h_{FE(1)}$

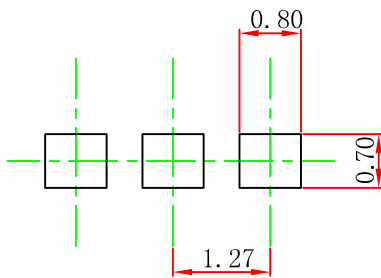
|       |       |        |
|-------|-------|--------|
| Rank  | R     | O      |
| Range | 30-90 | 50-150 |

## TO-92 Package Outline Dimensions



| Symbol | Dimensions In Millimeters |        | Dimensions In Inches |       |
|--------|---------------------------|--------|----------------------|-------|
|        | Min                       | Max    | Min                  | Max   |
| A      | 3.300                     | 3.700  | 0.130                | 0.146 |
| A1     | 1.100                     | 1.400  | 0.043                | 0.055 |
| b      | 0.380                     | 0.550  | 0.015                | 0.022 |
| c      | 0.360                     | 0.510  | 0.014                | 0.020 |
| D      | 4.300                     | 4.700  | 0.169                | 0.185 |
| D1     | 3.430                     |        | 0.135                |       |
| E      | 4.300                     | 4.700  | 0.169                | 0.185 |
| e      | 1.270 TYP                 |        | 0.050 TYP            |       |
| e1     | 2.440                     | 2.640  | 0.096                | 0.104 |
| L      | 14.100                    | 14.500 | 0.555                | 0.571 |
| Φ      |                           | 1.600  |                      | 0.063 |
| h      | 0.000                     | 0.380  | 0.000                | 0.015 |

## TO-92 Suggested Pad Layout



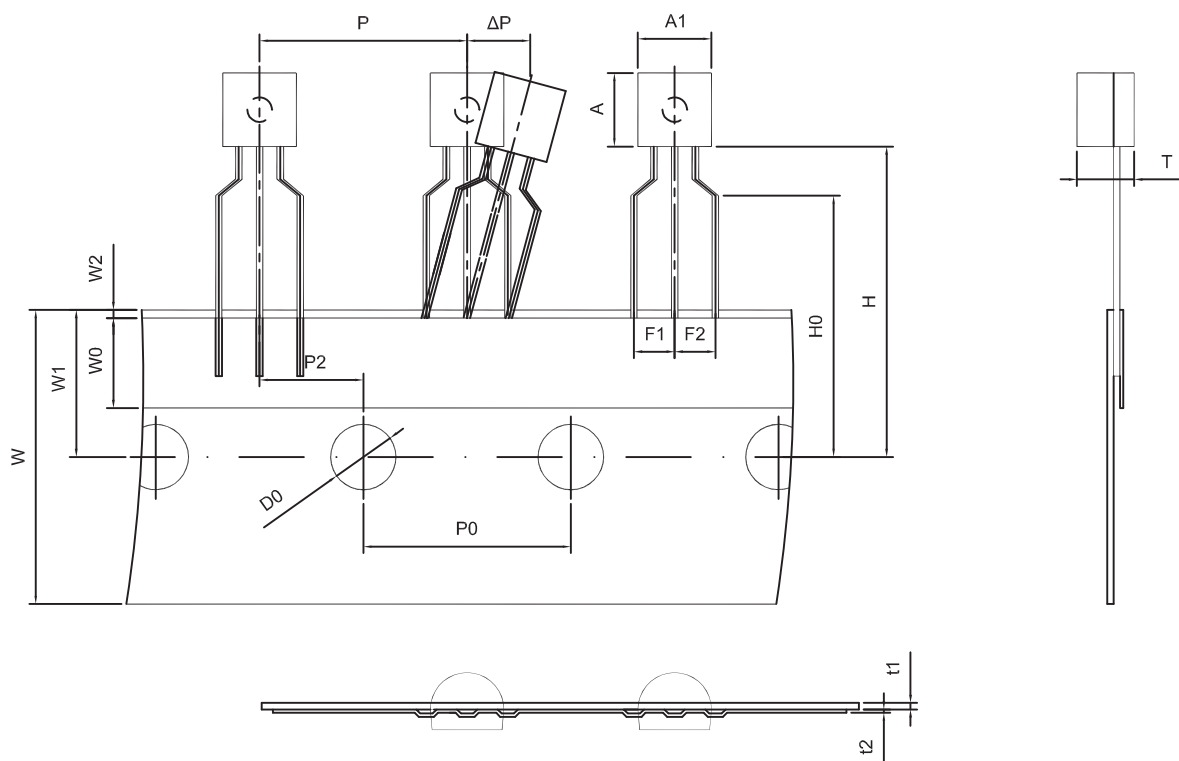
### Note:

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

### NOTICE

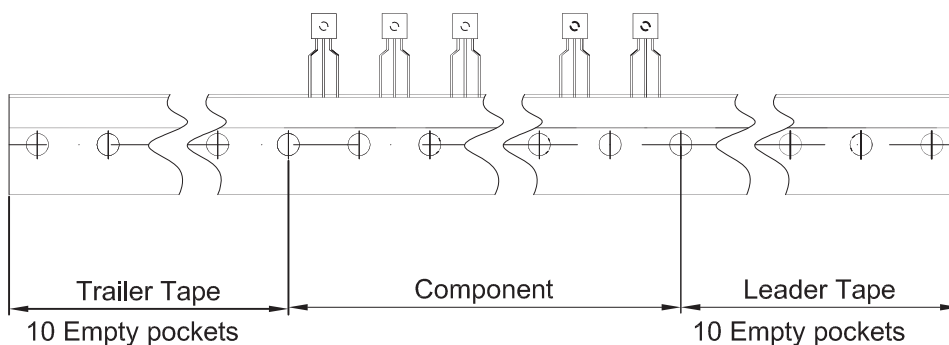
JSCJ reserves the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSCJ does not assume any liability arising out of the application or use of any product described herein.

# TO-92 PACKAGE TAPEING DIMENSION



Dimiensions are in millimeter

| A1  | A   | T        | P    | P0   | P2   | F1  | F2  | W    |
|-----|-----|----------|------|------|------|-----|-----|------|
| 4.5 | 4.5 | 3.5      | 12.7 | 12.7 | 6.35 | 2.5 | 2.5 | 18.0 |
| W0  | W1  | W2       | H    | H0   | D0   | t1  | t2  | ΔP   |
| 6.0 | 9.0 | 1.0 MAX. | 19.0 | 16.0 | 4.0  | 0.4 | 0.2 | 0    |



| Package | Box      | Box Size(mm) | Carton     | Carton Size(mm) |
|---------|----------|--------------|------------|-----------------|
| TO-92   | 2000 pcs | 333×162×43   | 20,000 pcs | 350×340×250     |