

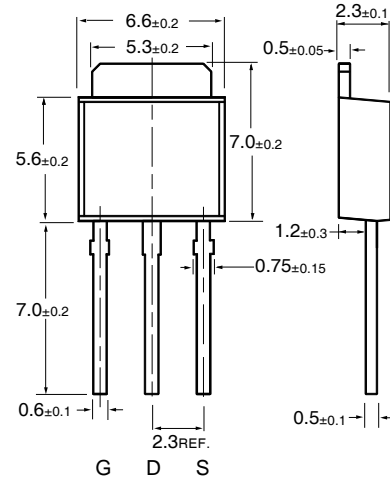
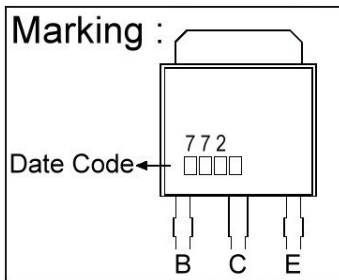
RoHS Compliant Product

A suffix of "-C" specifies halogen & lead-free

TO-251

## Description

The 2SB772L is designed for using in output stage of 10W amplifier, voltage regulator, DC-DC converter and relay driver.



Dimensions in millimeters

## MAXIMUM RATINGS\* ( $T_{amb}=25^{\circ}\text{C}$ , unless otherwise specified)

| Symbol         | Parameter                        | Value    | Units              |
|----------------|----------------------------------|----------|--------------------|
| $V_{CBO}$      | Collector-Base Voltage           | -40      | V                  |
| $V_{CEO}$      | Collector-Emitter Voltage        | -30      | V                  |
| $V_{EBO}$      | Emitter-Base Voltage             | -5       | V                  |
| $I_C$          | Collector Current (DC)           | -3       | A                  |
|                | Collector Current (Pulse)        | -7       |                    |
| $I_B$          | Base Current                     | -0.6     | A                  |
| $P_D$          | Total Power Dissipation          | 10       | W                  |
| $T_J, T_{stg}$ | Junction and Storage Temperature | -55~+150 | $^{\circ}\text{C}$ |

## ELECTRICAL CHARACTERISTICS $T_{amb}=25^{\circ}\text{C}$ unless otherwise specified

| Parameter                           | Symbol          | Min | Typ. | Max  | Unit          | Test Conditions   |
|-------------------------------------|-----------------|-----|------|------|---------------|---|
| Collector-Base Breakdown Voltage    | $BV_{CBO}$      | -40 | -    | -    | V             | $I_C=-100\mu\text{A}, I_E=0$                            |
| Collector-Emitter Breakdown Voltage | $BV_{CEO}$      | -30 | -    | -    | V             | $I_C=-1\text{mA}, I_B=0$                                |
| Emitter-Base Breakdown Voltage      | $BV_{EBO}$      | -5  | -    | -    | V             | $I_E=-10\mu\text{A}, I_C=0$                             |
| Collector-Base Cutoff Current       | $I_{CES}$       | -   | -    | -1   | $\mu\text{A}$ | $V_{CB}=-30\text{V}, I_E=0$                             |
| Emitter-Base Cutoff Current         | $I_{EBO}$       | -   | -    | -1   | $\mu\text{A}$ | $V_{EB}=-3\text{V}, I_C=0$                              |
| Collector Saturation Voltage        | * $V_{CE(sat)}$ | -   | -0.3 | -0.5 | V             | $I_C=-2\text{A}, I_B=-0.2\text{A}$                      |
| Base Saturation Voltage             | * $V_{BE(sat)}$ | -   | -1   | -2   | V             | $I_C=-2\text{A}, I_B=-0.2\text{A}$                      |
| DC Current Gain                     | * $h_{FE1}$     | 30  | -    | -    |               | $V_{CE}=-2\text{V}, I_C=-20\text{mA}$                   |
|                                     | * $h_{FE2}$     | 100 | -    | 500  |               | $V_{CE}=-2\text{V}, I_C=-20\text{mA}$                   |
| Gain-Bandwidth Product              | fT              | -   | 80   | -    | MHz           | $V_{CE}=-5\text{V}, I_C=-0.1\text{mA}, f=100\text{MHz}$ |
| Output Capacitance                  | $C_{ob}$        | -   | 55   | -    | pF            | $V_{CB}=-10\text{V}, f=1\text{MHz}, I_E=0$              |

\*Pulse test: Pulse width  $\leq 380\mu\text{s}$ , Duty Cycle  $\leq 2\%$

## Classification of $h_{FE}$

| Rank  | Q       | R       | S       |
|-------|---------|---------|---------|
| Range | 100~200 | 160~320 | 250~500 |

**Typical Characteristics**

