

Pb Free Plating Product

## 2N6102/2N6103



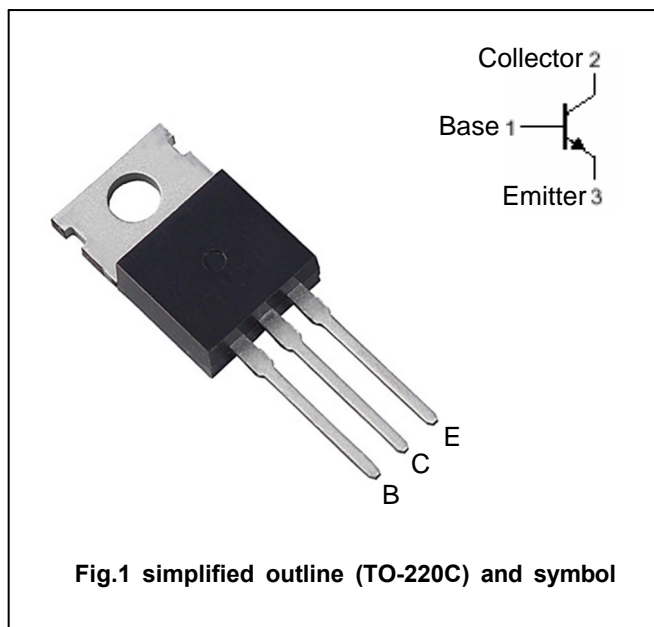
75Watt Silicon Epitaxial Planar PNP Power Transistors

**DESCRIPTION**

- With TO-220C package
- 2N6102 type with short pin/leg
- For use in general-purpose amplifier and switching applications

**PINNING**

| PIN | DESCRIPTION                          |
|-----|--------------------------------------|
| 1   | Base                                 |
| 2   | Collector;connected to mounting base |
| 3   | Emitter                              |

**Absolute maximum ratings(Ta=25°C)**

| SYMBOL    | PARAMETER                 | CONDITIONS                     | VALUE   | UNIT             |
|-----------|---------------------------|--------------------------------|---------|------------------|
| $V_{CBO}$ | Collector-base voltage    | Open emitter                   | 45      | V                |
| $V_{CEO}$ | Collector-emitter voltage | Open base                      | 45      | V                |
| $V_{EBO}$ | Emitter-base voltage      | Open collector                 | 8       | V                |
| $I_C$     | Collector current         |                                | 16      | A                |
| $P_T$     | Total power dissipation   | $T_C=25\text{ }^\circ\text{C}$ | 75      | W                |
| $T_j$     | Junction temperature      |                                | 150     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage temperature       |                                | -65~150 | $^\circ\text{C}$ |

**THERMAL CHARACTERISTICS**

| SYMBOL        | PARAMETER                                | MAX  | UNIT                      |
|---------------|--|------|---------------------------|
| $R_{th\ j-c}$ | Thermal resistance from junction to case | 1.67 | $^\circ\text{C}/\text{W}$ |

## ELECTRICAL CHARACTERISTICS

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

| SYMBOL          | PARAMETER                            | CONDITIONS   | MIN | TYP. | MAX        | UNIT |
|-----------------|--------------------------------------|--|-----|------|------------|------|
| $V_{CEO(SUS)}$  | Collector-emitter sustaining voltage | $I_C=0.1\text{A}; I_B=0$   | 45  |      |            | V    |
| $V_{CE(sat-1)}$ | Collector-emitter saturation voltage | $I_C=5\text{A}; I_B=0.5\text{A}$                                 |     |      | 1.3        | V    |
| $V_{CE(sat-2)}$ | Collector-emitter saturation voltage | $I_C=16\text{A}; I_B=3.2\text{A}$                                |     |      | 2.5        | V    |
| $V_{BE-1}$      | Base-emitter on voltage              | $I_C=5\text{A}; V_{CE}=4\text{V}$                                |     |      | 1.3        | V    |
| $V_{BE-2}$      | Base-emitter on voltage              | $I_C=16\text{A}; V_{CE}=4\text{V}$                               |     |      | 3.5        | V    |
| $I_{CBO}$       | Collector cut-off current            | $V_{CB}=\text{Rated } V_{CBO}; I_E=0$<br>$T_C=150^\circ\text{C}$ |     |      | 0.5<br>2.0 | mA   |
| $I_{EBO}$       | Emitter cut-off current              | $V_{EB}=8\text{V}; I_C=0$  |     |      | 1.0        | mA   |
| $h_{FE-1}$      | DC current gain                      | $I_C=8\text{A}; V_{CE}=4\text{V}$                                | 15  |      | 80         |      |
| $h_{FE-2}$      | DC current gain                      | $I_C=15\text{A}; V_{CE}=4\text{V}$                               | 5   |      |            |      |
| $f_T$           | Transition frequency                 | $I_C=0.5\text{A}; V_{CE}=4\text{V}$                              | 0.8 |      |            | MHz  |

## PACKAGE OUTLINE Unit:mm

