

## Silicon NPN Power Transistors

2SD2155

## DESCRIPTION

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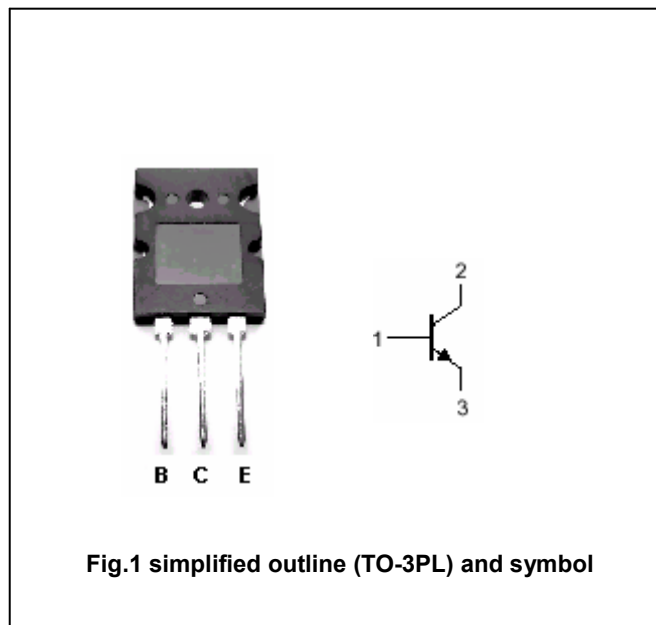
- With TO-3PL package
- Complement to type 2SB1429

## APPLICATIONS

- Power amplifier applications
- Recommend for 100W high fidelity audio frequency amplifier output stage

## PINNING

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

Absolute maximum ratings( $T_a=25^\circ\text{C}$ )

| SYMBOL    | PARAMETER                   | CONDITIONS             | VALUE   | UNIT             |
|-----------|-----------------------------|------------------------|---------|------------------|
| $V_{CBO}$ | Collector-base voltage      | Open emitter           | 180     | V                |
| $V_{CEO}$ | Collector-emitter voltage   | Open base              | 180     | V                |
| $V_{EBO}$ | Emitter-base voltage        | Open collector         | 5       | V                |
| $I_C$     | Collector current           |                        | 15      | A                |
| $I_B$     | Base current                |                        | 1.5     | A                |
| $P_C$     | Collector power dissipation | $T_C=25^\circ\text{C}$ | 150     | W                |
| $T_j$     | Junction temperature        |                        | 150     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage temperature         |                        | -55~150 | $^\circ\text{C}$ |

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## CHARACTERISTICS

Tj=25°C unless otherwise specified

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| SYMBOL        | PARAMETER                            | CONDITIONS                    | MIN | TYP. | MAX | UNIT    |
|---------------|--------------------------------------|-------------------------------|-----|------|-----|---------|
| $V_{(BR)CEO}$ | Collector-emitter breakdown voltage  | $I_C=50mA ; I_B=0$            | 180 |      |     | V       |
| $V_{CEsat}$   | Collector-emitter saturation voltage | $I_C=8A ; I_B=0.8A$           |     |      | 2.0 | V       |
| $V_{BE}$      | Base-emitter voltage                 | $I_C=6A ; V_{CE}=5V$          |     |      | 1.5 | V       |
| $I_{CBO}$     | Collector cut-off current            | $V_{CB}=180V ; I_E=0$         |     |      | 5   | $\mu A$ |
| $I_{EBO}$     | Emitter cut-off current              | $V_{EB}=5V ; I_C=0$           |     |      | 5   | $\mu A$ |
| $h_{FE-1}$    | DC current gain                      | $I_C=1A ; V_{CE}=5V$          | 55  |      | 160 |         |
| $h_{FE-2}$    | DC current gain                      | $I_C=6A ; V_{CE}=5V$          | 30  |      |     |         |
| $f_T$         | Transition frequency                 | $I_C=1A ; V_{CE}=5V$          |     | 10   |     | MHz     |
| $C_{OB}$      | Collector output capacitance         | $I_C=0 ; f=1MHz ; V_{CB}=10V$ |     | 160  |     | pF      |

◆  $h_{FE-1}$  classifications

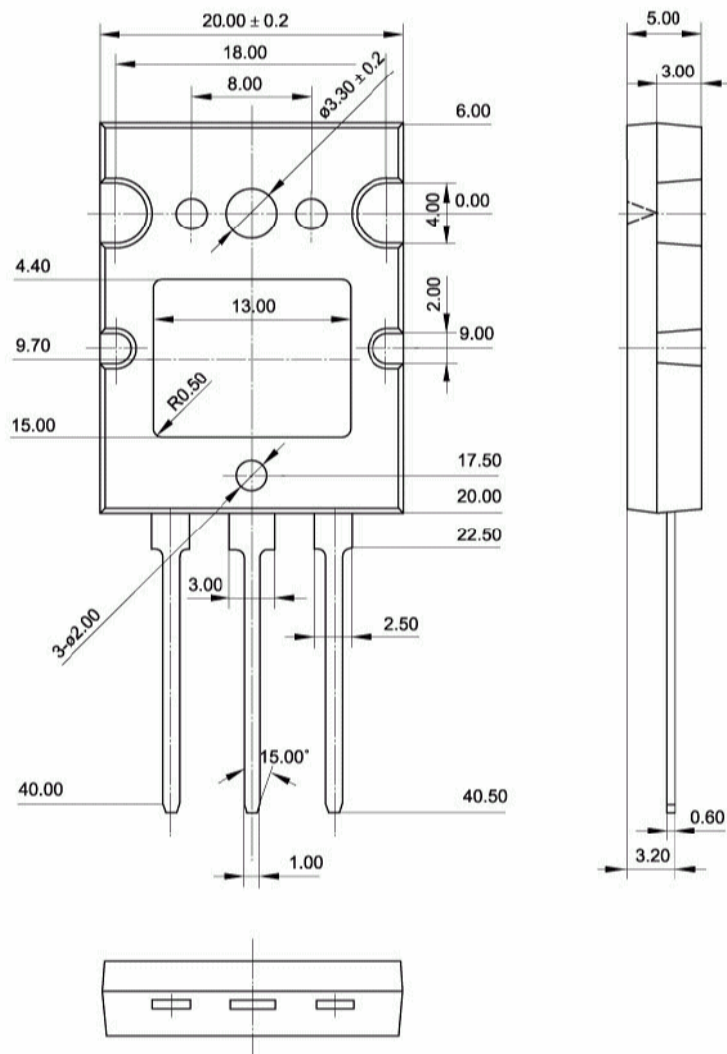
| R      | O      |
|--------|--------|
| 55-110 | 80-160 |

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## PACKAGE OUTLINE

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Fig.2 Outline dimensions (unindicated tolerance:  $\pm 0.50$  mm)

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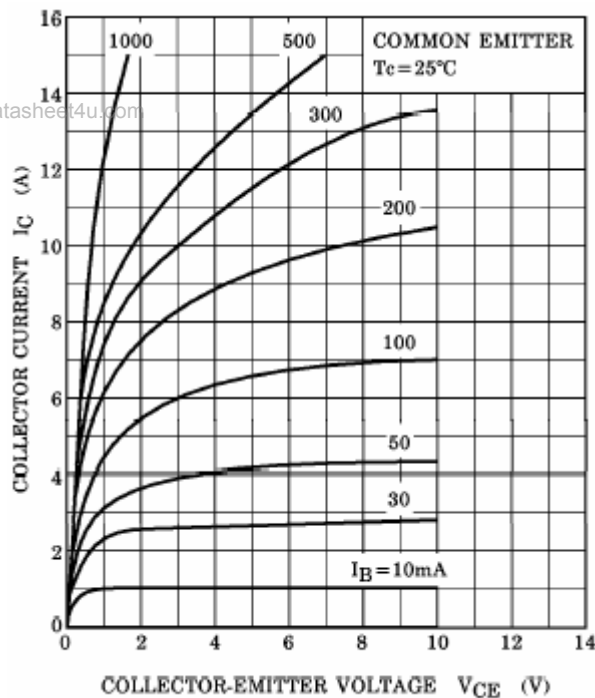


Fig.3 Static Characteristic

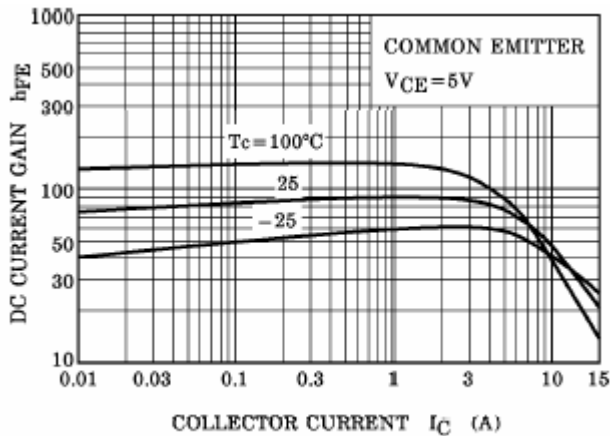


Fig.5 DC current Gain

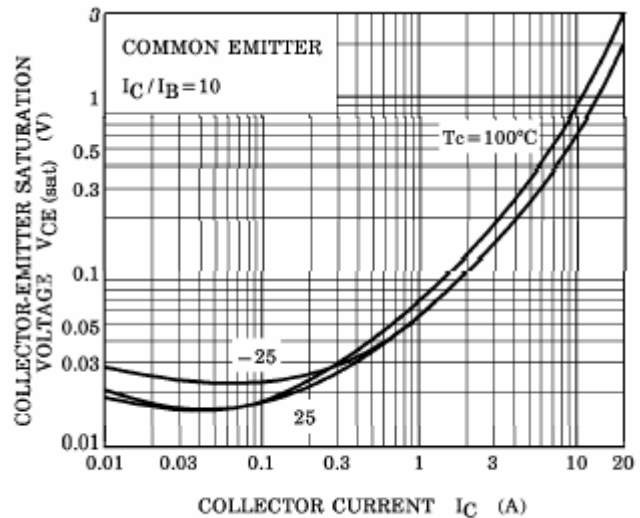


Fig.4 Collector-Emitter Saturation Voltage

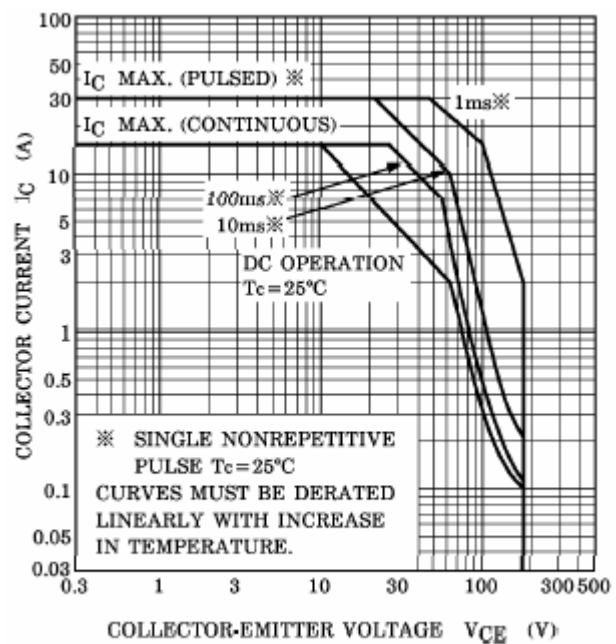


Fig.6 Safe Operating Area