

## Silicon NPN Power Transistors

2SD870

## DESCRIPTION

www.datasheet4u.com

- With TO-3 package
- Built-in damper diode
- High voltage ,high speed
- Low collector saturation voltage

## APPLICATIONS

- For color TV horizontal output applications

## PINNING(see fig.2)

| PIN | DESCRIPTION |
|-----|-------------|
| 1   | Base        |
| 2   | Emitter     |
| 3   | Collector   |

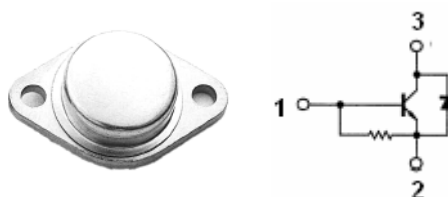


Fig.1 simplified outline (TO-3) and symbol

Absolute maximum ratings( $T_a = \square$ )

| SYMBOL    | PARAMETER                   | CONDITIONS        | VALUE   | UNIT      |
|-----------|-----------------------------|-------------------|---------|-----------|
| $V_{CBO}$ | Collector-base voltage      | Open emitter      | 1500    | V         |
| $V_{CEO}$ | Collector-collector voltage | Open base         | 600     | V         |
| $V_{EBO}$ | Emitter-base voltage        | Open collector    | 5       | V         |
| $I_C$     | Collector current           |                   | 5       | A         |
| $I_E$     | Emitter current             |                   | -5      | A         |
| $P_T$     | Total power dissipation     | $T_C = 25\square$ | 50      | W         |
| $T_j$     | Junction temperature        |                   | 150     | $\square$ |
| $T_{stg}$ | Storage temperature         |                   | -65~150 | $\square$ |

## Silicon NPN Power Transistors

## 2SD870

## CHARACTERISTICS

Tj=25°C unless otherwise specified

www.datasheet4u.com

| SYMBOL        | PARAMETER                            | CONDITIONS                                | MIN | TYP. | MAX | UNIT          |
|---------------|--------------------------------------|-------------------------------------------|-----|------|-----|---------------|
| $V_{(BR)EBO}$ | Emitter-base breakdown voltage       | $I_E=200\text{mA}; I_C=0$                 | 5   |      |     | V             |
| $V_{CEsat}$   | Collector-emitter saturation voltage | $I_C=4\text{A}; I_B=0.8\text{A}$          |     |      | 5.0 | V             |
| $V_{BEsat}$   | Base-emitter saturation voltage      | $I_C=4\text{A}; I_B=0.8\text{A}$          |     |      | 1.5 | V             |
| $I_{CBO}$     | Collector cut-off current            | $V_{CB}=500\text{V}; I_E=0$               |     |      | 10  | $\mu\text{A}$ |
| $h_{FE}$      | DC current gain                      | $I_C=1\text{A}; V_{CE}=5\text{V}$         | 8   |      |     |               |
| $V_F$         | Diode forward voltage                | $I_F=5\text{A}$                           |     |      | 2.0 | V             |
| $f_T$         | Transition frequency                 | $I_C=0.1\text{A}; V_{CE}=10\text{V}$      |     | 3    |     | MHz           |
| $C_{OB}$      | Collector output capacitance         | $I_E=0; V_{CB}=10\text{V}; f=1\text{MHz}$ |     | 165  |     | pF            |
| $t_f$         | Fall time                            | $I_C=4\text{A}; I_{B1end}=0.8\text{A}$    |     |      | 1.0 | $\mu\text{s}$ |

# 2SD870

www.data sheet4u.com

