

# TBF870 TBF872

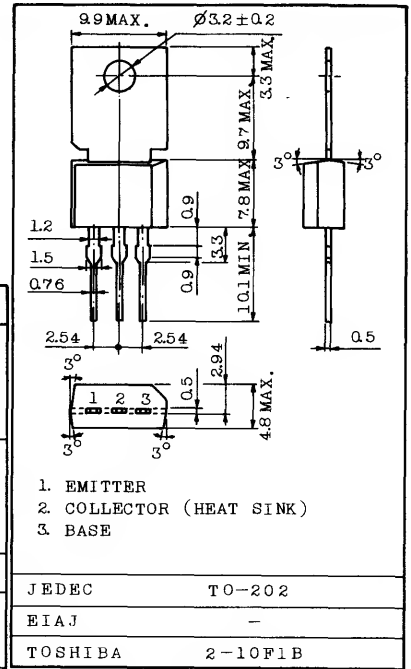
Unit in mm

HIGH VOLTAGE SWITCHING AND AMPLIFIER APPLICATIONS.  
COLOR TV CHROMA OUTPUT APPLICATIONS.

. NPN Complements are TBF869 and TBF871.

MAXIMUM RATINGS (Ta=25°C)

| CHARACTERISTIC                                     |        | SYMBOL           | RATING                        | UNIT |
|--|--------|------------------|-------------------------------|------|
| Collector-Base Voltage                             | TBF870 | V <sub>CBO</sub> | -250                          | V    |
|  | TBF872 |                  | -300                          |      |
| Collector-Emitter Voltage                          | TBF870 | V <sub>CEO</sub> | -250                          | V    |
|  | TBF872 |                  | -300                          |      |
| Emitter-Base Voltage                               |        | V <sub>EB0</sub> | -5                            | V    |
| Collector Current                                  | DC     | I <sub>C</sub>   | -50                           | mA   |
|  | Peak   | I <sub>CP</sub>  | -100                          |      |
| Total Power Dissipation                            |        | P <sub>tot</sub> | 1.6                           | W    |
|  |        |                  | 5.0<br>(T <sub>c</sub> =25°C) |      |
| Base Current                                       |        | I <sub>B</sub>   | -20                           | mA   |
| Junction Temperature                               |        | T <sub>j</sub>   | 150                           | °C   |
| Storage Temperature Range                          |        | T <sub>stg</sub> | -65 ~ 150                     | °C   |
| Solder Temperature, 1.5mm from Case for 10 Seconds |        | -                | 350                           | °C   |



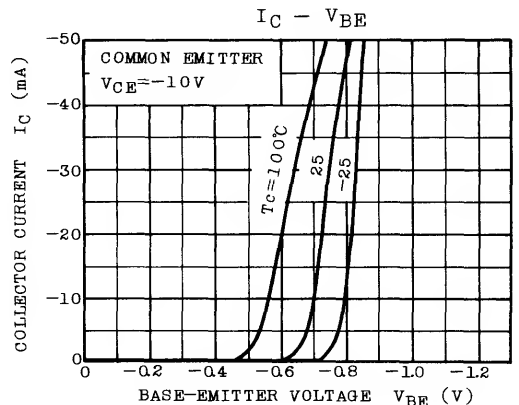
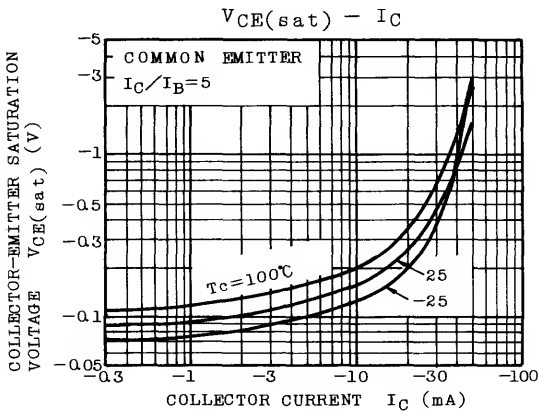
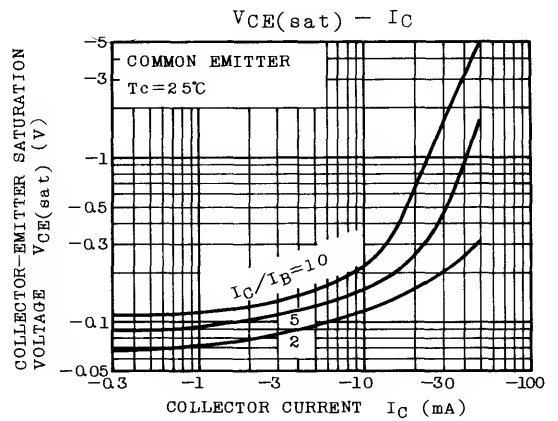
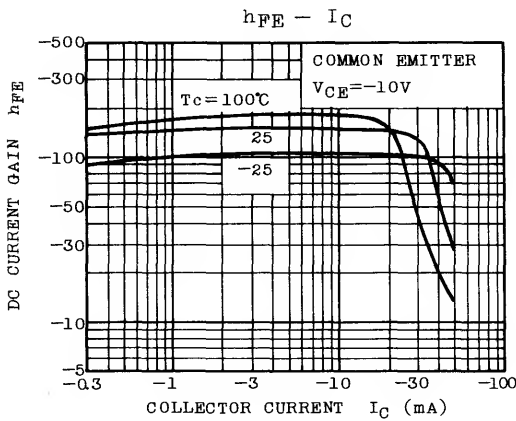
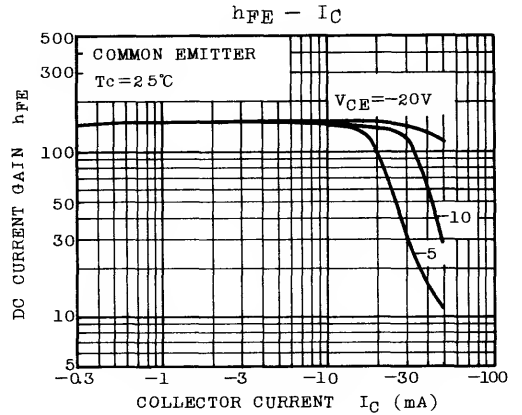
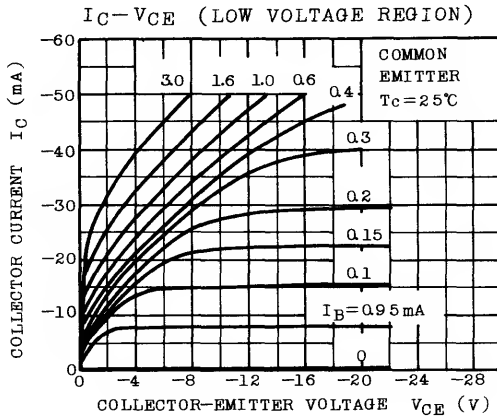
THERMAL CHARACTERISTICS

| CHARACTERISTIC                        | SYMBOL           | RATING | UNIT |
|---------------------------------------|------------------|--------|------|
| Thermal Resistance (Junction-Ambient) | R <sub>θJA</sub> | 78.3   | °C/W |
| Thermal Resistance (Junction-Case)    | R <sub>θJC</sub> | 25     | °C/W |

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ELECTRICAL CHARACTERISTICS (Ta=25°C Unless otherwise specified)

| CHARACTERISTIC                             |        | SYMBOL                     | TEST CONDITION  | MIN. | TYP.  | MAX.  | UNIT |
|--|--------|----------------------------|---|------|-------|-------|------|
| Collector Cut-off Current                  | TBF870 | ICBO                       | V <sub>CB</sub> =-200V, I <sub>E</sub> =0                               | -    | -     | -0.1  | μA   |
|  | TBF872 | ICER                       | V <sub>CE</sub> =-250V, R <sub>BE</sub> =2.7kΩ                          | -    | -     | -0.05 |      |
| Emitter Cut-off Current                    |        | IEBO                       | VEB=-5V, IC=0   | -    | -     | -10   | μA   |
| Collector-Emitter Breakdown Voltage        | TBF870 | V(BR)CEO                   | IC=-1mA, IB=0   | -250 | -     | -     | V    |
|  | TBF872 | V(BR)CER                   | IC=-1μA, R <sub>BE</sub> =2.7kΩ   | -300 | -     | -     |      |
| High Temperature Collector Cut-off Current |        | ICER                       | V <sub>CE</sub> =-200V, R <sub>BE</sub> =2.7kΩ<br>T <sub>j</sub> =150°C | -    | -     | -10   | μA   |
| DC Current Gain                            |        | h <sub>FE</sub>            | V <sub>CE</sub> =-20V, IC=-25mA   | 50   | -     | -     |      |
| Collector-Emitter RF Saturation Voltage    |        | V <sub>CE(sat)</sub><br>RF | IC=-25mA, T <sub>j</sub> =150°C   | -    | -20   | -     | V    |
| Base-Emitter Voltage                       |        | V <sub>BE</sub>            | V <sub>CE</sub> =-20V, IC=-25mA   | -    | -0.75 | -     | V    |
| Transition Frequency                       |        | f <sub>T</sub>             | V <sub>CE</sub> =-10V, IC=-10mA   | 60   | 80    | -     | MHz  |
| Reverse Transfer Capacitance               |        | C <sub>re</sub>            | V <sub>CB</sub> =-30V, I <sub>E</sub> =0, f=1MHz                        | -    | 1.7   | 2.0   | pF   |



# TBF870 · TBF872

