

# SILICON TRANSISTORS

## 2SC1505, 2SC1506, 2SC1507

### NPN SILICON TRIPLE DIFFUSED TRANSISTORS

### COLOR TV CHROMA AND SOUND OUTPUT AMPLIFIERS

#### DESCRIPTION

The 2SC1505, 2SC1506 and 2SC1507 are high voltage triple diffused silicon transistors. These transistors are designed for use in line-operated color TV chroma output circuits and sound output circuits.

Three types of different lead configuration are prepared for designer's convenience.

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#### FEATURES

- Suitable for chroma output circuits and sound output circuits ( $P_0 = 1.5W$ ) in line-operated color TV receivers.
- High voltage, high  $f_T$  and low  $C_{ob}$ .
- Three types of different lead configuration available.
  - 2SC1505 . . . . . Standard type
  - 2SC1506 . . . . . TO-66 replacement
  - 2SC1507 . . . . . Upright mounting

#### ABSOLUTE MAXIMUM RATINGS ( $T_a = 25^\circ C$ )

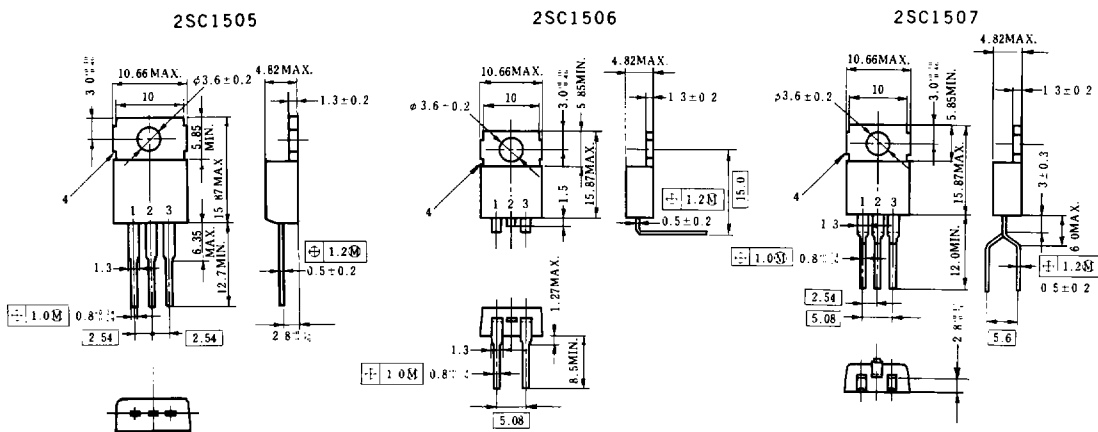
|                              |                          |             |            |
|------------------------------|--------------------------|-------------|------------|
| Collector to Base Voltage    | $V_{CBO}$                | 300         | V          |
| Collector to Emitter Voltage | $V_{CEO}$                | 300         | V          |
| Emitter to Base Voltage      | $V_{EB0}$                | 7.0         | V          |
| Collector Current            | $I_C$                    | 200         | mA         |
| Total Power Dissipation      | $P_T (T_c = 25^\circ C)$ | 15          | W          |
| Total Power Dissipation      | $P_T (T_a = 25^\circ C)$ | 1.2         | W          |
| Junction Temperature         | $T_j$                    | 150         | $^\circ C$ |
| Storage Temperature          | $T_{stg}$                | -55 to +150 | $^\circ C$ |

#### ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ C$ )

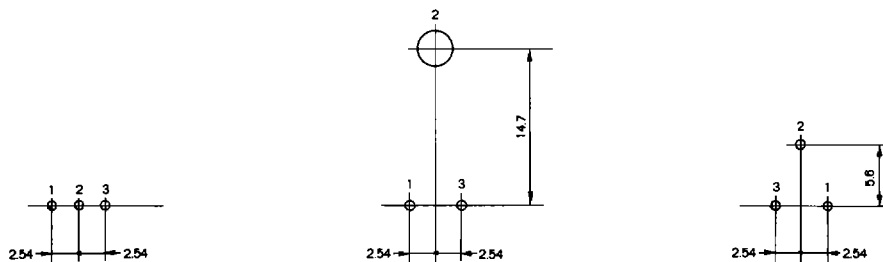
| CHARACTERISTIC                | SYMBOL        | MIN. | TYP. | MAX. | UNIT | TEST CONDITIONS                     |
|-------------------------------|---------------|------|------|------|------|-------------------------------------|
| Collector Cutoff Current      | $I_{CBO}$     |      |      | 100  | nA   | $V_{CB} = 200V, I_E = 0$            |
| Emitter Cutoff Current        | $I_{EBO}$     |      |      | 100  | nA   | $V_{EB} = 5.0V, I_C = 0$            |
| DC Current Gain               | $h_{FE}$      | 40   | 80   | 200  |      | $V_{CE} = 10V, I_C = 10mA$ *        |
| Collector Saturation Voltage  | $V_{CE(sat)}$ |      |      | 2.0  | V    | $I_C = 50mA, I_B = 5.0mA$ *         |
| Gain Bandwidth Product        | $f_T$         | 50   | 80   |      | MHz  | $V_{CE} = 30V, I_E = -10mA$         |
| Collector to Base Capacitance | $C_{ob}$      |      |      | 4.5  | pF   | $V_{CB} = 50V, I_E = 0, f = 1.0MHz$ |

\* Pulse test  $PW \leq 350\mu s$ , duty cycle  $\leq 2.0\%$   
 $h_{FE}$  classification: M: 40-80 L: 60-120 K: 100-200

## PACKAGE DIMENSIONS (Unit:mm)



## MOUNTING HOLE LAYOUT DIMENSIONS



## LEAD CONNECTION

1. Base EIAJ : SC-46
2. Collector(Fin) JEDEC: TO-220AB
3. Emitter IEC : -
4. Fin

As the clearance between collector and Base, Emitter is narrow, care should be taken at high voltage use.

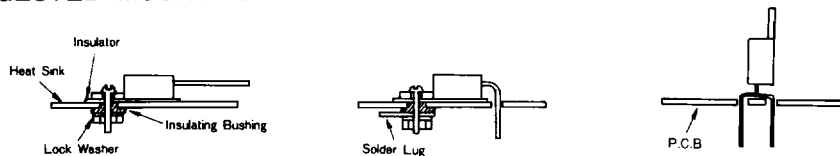
1. Base EIAJ : SC-45
2. - JEDEC: TO-220AA
3. Emitter IEC : -
4. Collector(Fin)

As the collector lead is cut, solder lug is used instead of it.

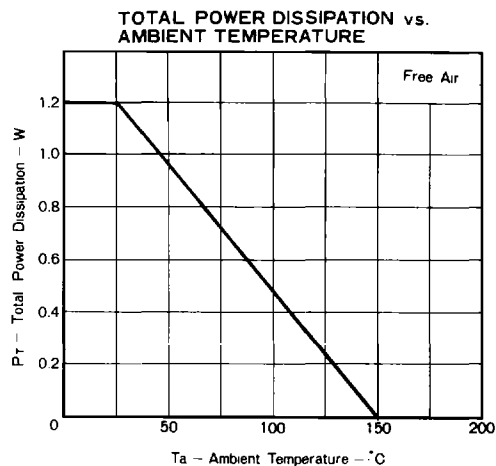
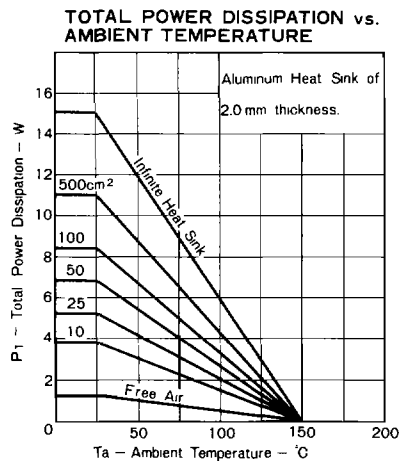
1. Base EIAJ : -
2. Collector(Fin) JEDEC : -
3. Emitter IEC : -
4. Fin

Convenient in case of free-air use.

## SUGGESTED MOUNTING METHODS

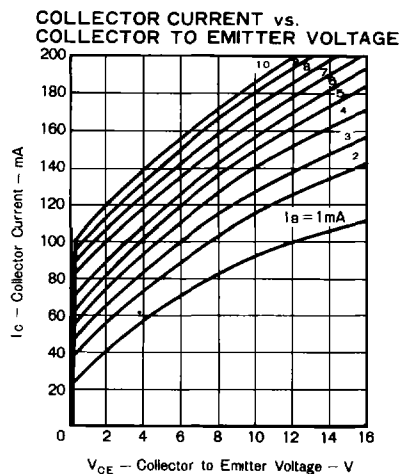
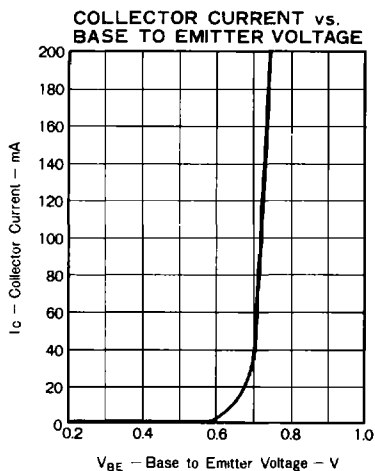


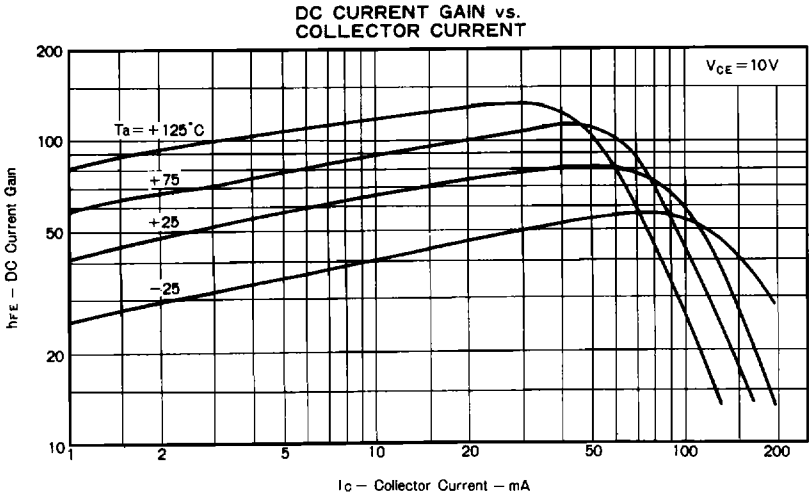
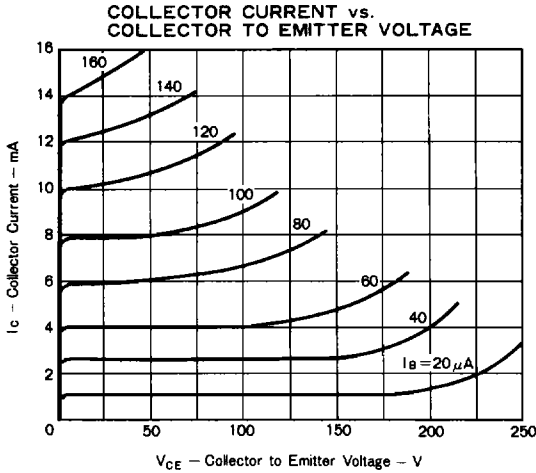
**POWER-TEMPERATURE DERATING CURVES**

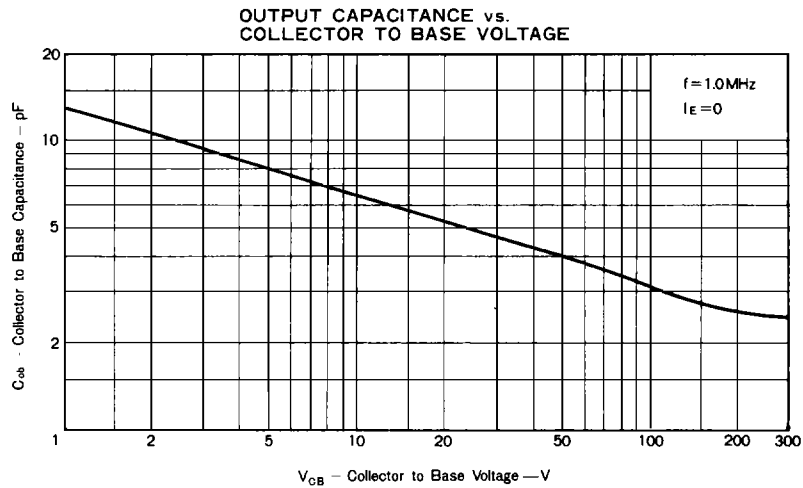
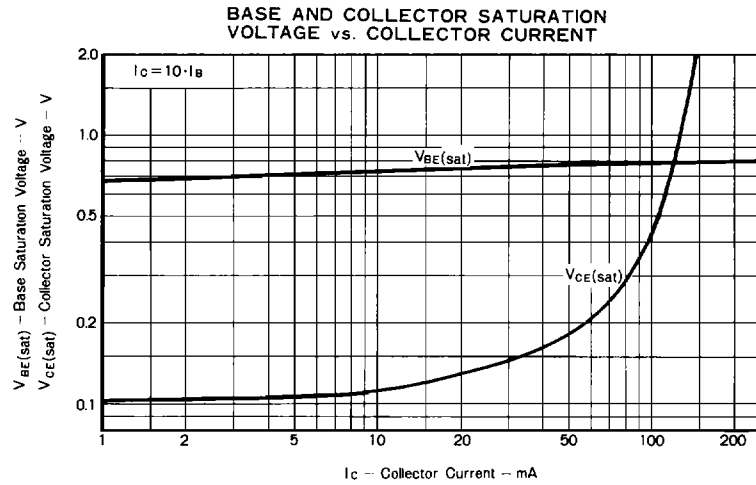


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**TYPICAL CHARACTERISTICS ( $T_a=25^{\circ}\text{C}$ )**







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