



Micro Commercial Components

Micro Commercial Components  
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# 2SC1959-O 2SC1959-Y 2SC1959-GR

## Features

- Audio frequency low power amplifier applications, driver stage amplifier applications, switching applications
- Excellent  $h_{FE}$  Linearity:  $h_{FE(2)} = 25(\text{Min.})$ ;  $V_{CE} = 6.0\text{V}$ ,  $I_C = 400\text{mA}$
- 1 Watt Amplifier applications
- Complementary to 2SA562TM.
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking: C1959
- Lead Free Finish/Rohs Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Halogen free available upon request by adding suffix "-HF"

## Maximum Ratings

| Symbol    | Rating                           | Rating      | Unit               |
|-----------|----------------------------------|-------------|--------------------|
| $V_{CEO}$ | Collector-Emitter Voltage        | 30          | V                  |
| $V_{CBO}$ | Collector-Base Breakdown Voltage | 35          | V                  |
| $V_{EBO}$ | Emitter-Base Voltage             | 5.0         | V                  |
| $I_C$     | Collector Current                | 500         | mA                 |
| $I_B$     | Base Current                     | 100         | mA                 |
| $P_C$     | Collector Power Dissipation      | 500         | mW                 |
| $T_J$     | Operating Junction Temperature   | -55 to +150 | $^{\circ}\text{C}$ |
| $T_{STG}$ | Storage Temperature              | -55 to +150 | $^{\circ}\text{C}$ |

## Electrical Characteristics @ 25°C Unless Otherwise Specified

| Symbol | Parameter | Min | Typ | Max | Units |
|--------|-----------|-----|-----|-----|-------|
|--------|-----------|-----|-----|-----|-------|

### OFF CHARACTERISTICS

|           |                                                                          |     |     |     |                 |
|-----------|--------------------------------------------------------------------------|-----|-----|-----|-----------------|
| $I_{CBO}$ | Collector-Base Cutoff Current<br>( $V_{CB} = 35\text{Vdc}$ , $I_E = 0$ ) | --- | --- | 0.1 | $\mu\text{Adc}$ |
| $I_{EBO}$ | Emitter-Base Cutoff Current<br>( $V_{EB} = 5.0\text{Vdc}$ , $I_C = 0$ )  | --- | --- | 0.1 | $\mu\text{Adc}$ |

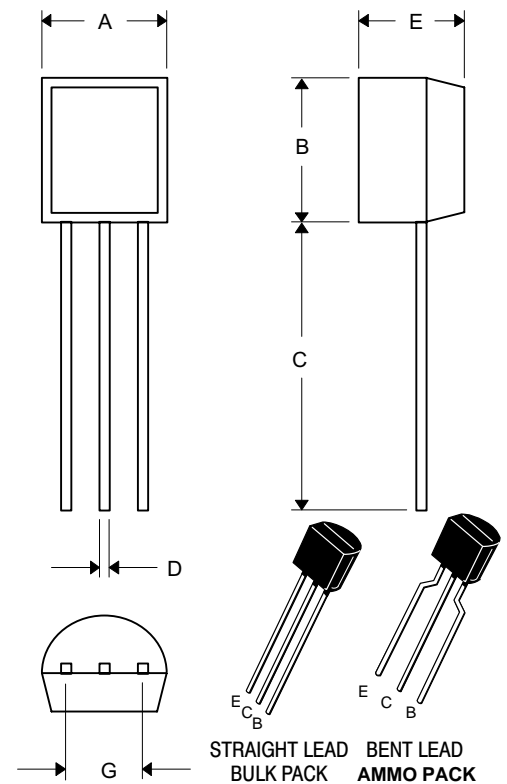
### ON CHARACTERISTICS

|               |                                                                                                |     |     |      |     |
|---------------|------------------------------------------------------------------------------------------------|-----|-----|------|-----|
| $h_{FE-1}$    | DC Current Gain*<br>( $I_C = 100\text{mAdc}$ , $V_{CE} = 1.0\text{Vdc}$ )                      | 70  | --- | 400  | --- |
| $h_{FE-2}$    | DC Current Gain*<br>( $I_C = 400\text{mAdc}$ , $V_{CE} = 6.0\text{Vdc}$ )                      | 25  | --- | ---  | --- |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage<br>( $I_C = 100\text{mAdc}$ , $I_B = 10\text{mAdc}$ )     | --- | 0.1 | 0.25 | Vdc |
| $V_{BE}$      | Base-Emitter Voltage<br>( $I_C = 100\text{mAdc}$ , $V_{CE} = 1.0\text{Vdc}$ )                  | --- | 0.8 | 1.0  | Vdc |
| $f_T$         | Transition Frequency<br>( $V_{CE} = 6.0\text{Vdc}$ , $I_C = 20\text{mAdc}$ )                   | 200 | 300 | ---  | MHz |
| $C_{OBO}$     | Collector Output Capacitance<br>( $V_{CB} = 6.0\text{Vdc}$ , $I_C = 0$ , $f = 1.0\text{MHz}$ ) | --- | 7.0 | ---  | pF  |

Note:  $h_{FE(1)}$  Classification O: 70~140, Y: 120~240, GR: 200~400  
 $h_{FE(2)}$  Classification O: 25 (Min.), Y: 40 (Min.)

## Power Silicon NPN Transistor

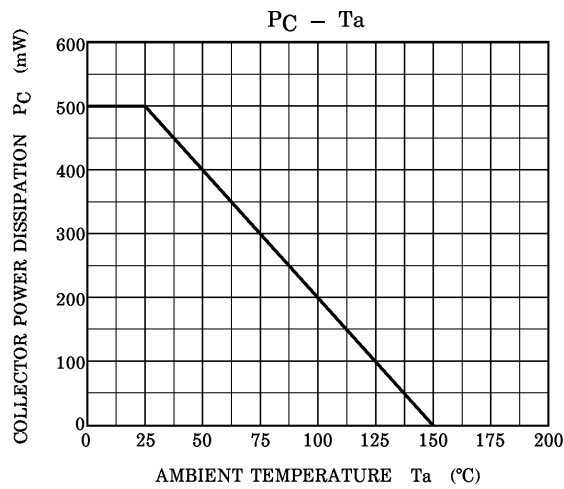
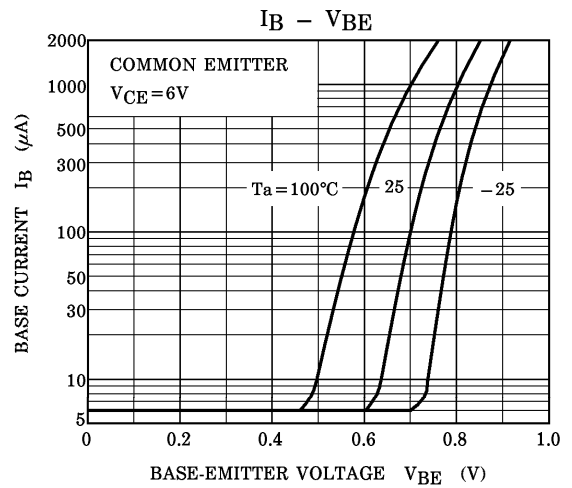
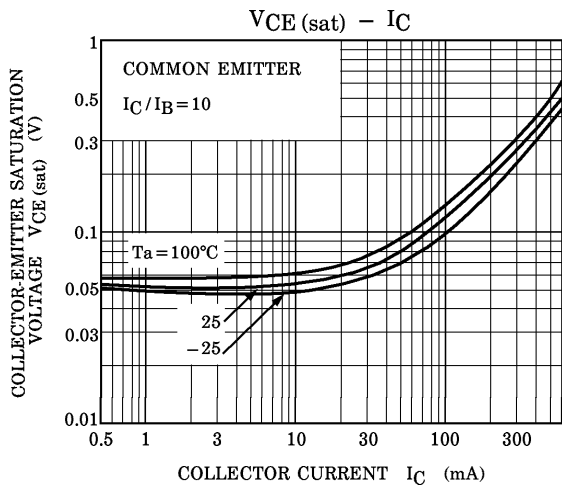
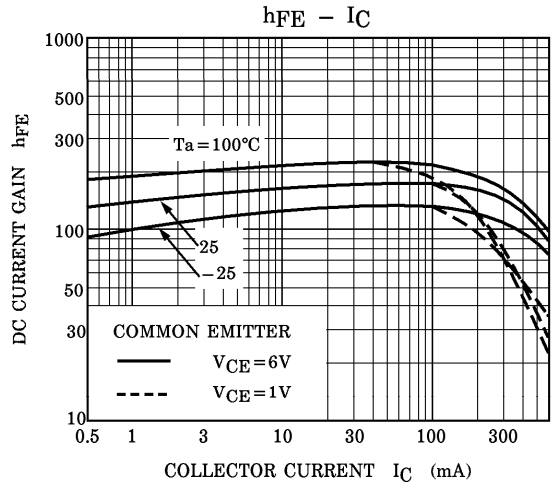
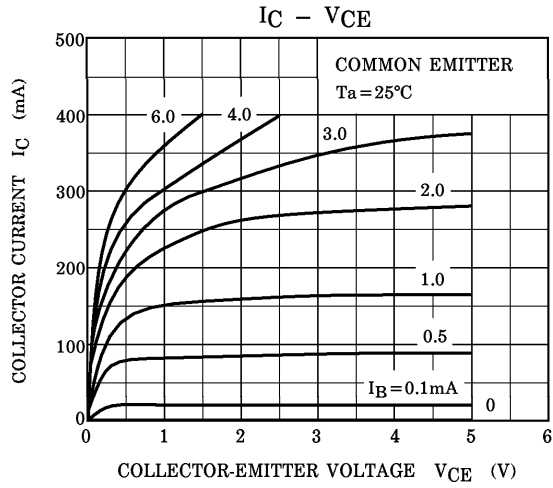
### TO-92



| DIM | DIMENSIONS |      |       |      | NOTE          |
|-----|------------|------|-------|------|---------------|
|     | INCHES     |      | MM    |      |               |
| A   | .175       | .185 | 4.45  | 4.70 |               |
| B   | .175       | .185 | 4.45  | 4.70 |               |
| C   | .500       | ---  | 12.70 | ---  |               |
| D   | .016       | .020 | 0.41  | 0.63 |               |
| E   | .135       | .145 | 3.43  | 3.68 |               |
| G   | .095       | .105 | 2.42  | 2.67 | Straight Lead |
|     | .173       | .220 | 4.40  | 5.60 | Bent Lead     |

\* For ammo packing detailed specification, click here to visit our website of product packaging for details.

# 2SC1959





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### Ordering Information :

| Device         | Packing                      |
|----------------|------------------------------|
| Part Number-AP | Ammo Packing: 2Kpcs/Ammo Box |
| Part Number-BP | Bulk: 100Kpcs/Carton         |

Note : Adding "-HF" suffix for halogen free, eg. Part Number-AP-HF

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