



**THE DATASHEET OF  
2SA1980-Y-AP**





Micro Commercial Components



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**2SA1980-O**  
**2SA1980-Y**  
**2SA1980-G**  
**2SA1980-L**

## PNP Silicon Transistors

### Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Low Collector Saturation Voltage:  $V_{CE(sat)}=0.3V(\text{Max.})$
- Low Output Capacitance:  $C_{ob}=4.0pF(\text{Typ.})$
- Complementary Pair With 2SC5343
- Halogen free available upon request by adding suffix "-HF"
- Marking : A1980
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

### Maximum Ratings

| Symbol    | Rating                      | Rating      | Unit        |
|-----------|-----------------------------|-------------|-------------|
| $V_{CEO}$ | Collector-Emitter Voltage   | 50          | V           |
| $V_{CBO}$ | Collector-Base Voltage      | 50          | V           |
| $V_{EBO}$ | Emitter-Base Voltage        | 5.0         | V           |
| $I_C$     | Collector Current           | 150         | mA          |
| $P_C$     | Collector power dissipation | 625         | mW          |
| $T_J$     | Junction Temperature        | 150         | $^{\circ}C$ |
| $T_{STG}$ | Storage Temperature         | -55 to +150 | $^{\circ}C$ |

### Electrical Characteristics @ 25°C Unless Otherwise Specified

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

#### OFF CHARACTERISTICS

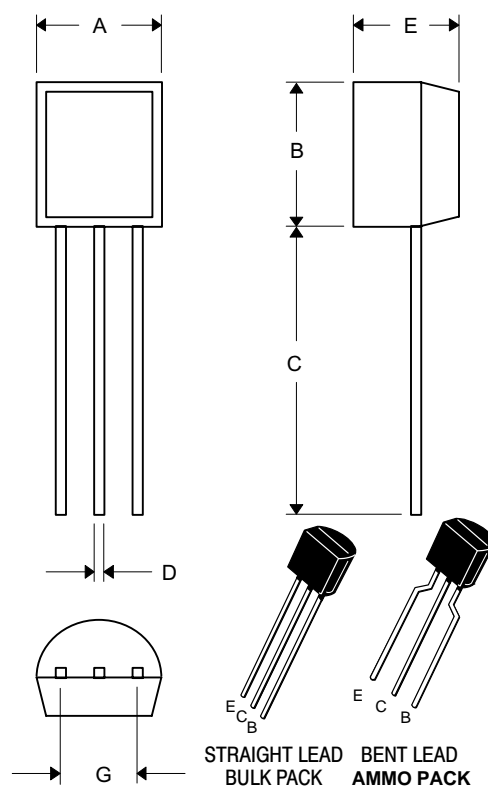
|               |  |     |     |     |              |
|---------------|--|-----|-----|-----|--------------|
| $V_{(BR)CBO}$ | Collector-Base Breakdown Voltage<br>( $I_C=100\mu A_{dc}, I_B=0$ ) | 50  | --- | --- | Vdc          |
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage<br>( $I_C=10mA_{dc}, I_B=0$ )  | 50  | --- | --- | Vdc          |
| $V_{(BR)EBO}$ | Emitter-Base Breakdown Voltage<br>( $I_E=10\mu A_{dc}, I_C=0$ )    | 5.0 | --- | --- | Vdc          |
| $I_{CBO}$     | Collector-Base Cutoff Current<br>( $V_{CB}=50V_{dc}, I_E=0$ )      | --- | --- | 0.1 | $\mu A_{dc}$ |
| $I_{EBO}$     | Emitter-Base Cutoff Current<br>( $V_{EB}=5.0V_{dc}, I_C=0$ )       | --- | --- | 0.1 | $\mu A_{dc}$ |

#### ON CHARACTERISTICS

|               |   |     |     |     |     |
|---------------|---|-----|-----|-----|-----|
| $h_{FE}$      | Forward Current Transfer ratio*<br>( $I_C=2.0A_{dc}, V_{CE}=6.0V_{dc}$ )        | 70  | --- | 700 | --- |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage<br>( $I_C=100mA_{dc}, I_B=10mA_{dc}$ )     | --- | --- | 0.3 | Vdc |
| $f_T$         | Transition Frequency<br>( $V_{CE}=10V_{dc}, I_C=1.0mA_{dc}$ )                   | 80  | --- | --- | MHz |
| $C_{ob}$      | Collector Output Capacitance<br>( $V_{CB}=10V_{dc}, I_E=0, f=1.0MHz$ )          | --- | 4.0 | 7.0 | pF  |
| NF            | Noise Figure<br>( $V_{CE}=6.0V_{dc}, I_C=0.1mA_{dc}, f=1.0KHz, R_g=10K\Omega$ ) | --- | --- | 10  | dB  |

\*  $h_{FE}$  rank / O: 70-140, Y:120-240, G:200-400, L:300-700

### 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.

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### Ordering Information :

| Device         | Packing                     |
|----------------|-----------------------------|
| Part Number-AP | Ammo Packing: 20Kpcs/Carton |
| Part Number-BP | Bulk: 100Kpcs/Carton        |

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

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