## PNP Transistor



## Features

-Epoxy meets UL-94 V-0 flammability rating

- Moisture Sensitivity Level 1
- High Conductance
- Surface Mount Package Ideally Suited for Automatic Insertion


## Mechanical Data

- Package: SOT-323

Molding compound meets UL 94 V-0 flammability rating,
RoHS-compliant, halogen-free

- Terminals: Tin plated leads, solderable per

J-STD-002 and JESD22-B102

- Marking:
$B C 856 A W=3 A ; B C 856 B W=3 B ;$
BC857AW=3E;BC857BW=3F;BC857CW=3G;
$B C 858 A W=3 J ; B C 858 B W=3 K ; B C 858 C W=3 L$

Maximum Ratings ( $\mathrm{Ta}=25^{\circ} \mathrm{C}$ unless otherwise noted)

| Symbol | Parameter | Value | Unit |
| :---: | :---: | :---: | :---: |
| BVcbo | Collector-Base Voltage  <br>  BC856AW, BC856BW <br>  BC857AW, BCB57BW, BC857CW <br>  BC858AW, BC858BW, BC858CW | $\begin{aligned} & -80 \\ & -50 \\ & -30 \end{aligned}$ | V |
| BVceo | Collector-Emitter Voltage  <br>  BC856AW, BC856BW <br>  BC857AW, BC857BW, BC857CW <br>  BC858AW, BC858BW, BC858CW | $\begin{aligned} & -65 \\ & -45 \\ & -30 \end{aligned}$ | V |
| BVebo | Emitter-Base Voltage | -6 | V |
| IC | Collector Current -Continuous | -0.1 | A |
| PC | Collector Power Dissipation | 200 | mW |
| Reja | Thermal Resistance From Junction To Ambient | 625 | ${ }^{\circ} \mathrm{C} / \mathrm{W}$ |
| Tj | Junction Temperature | 150 | ${ }^{\circ} \mathrm{C}$ |
| Tstg | Storage Temperature | $-55 \sim+150$ | ${ }^{\circ} \mathrm{C}$ |

- Electrical Characteristics ( $\mathrm{Ta}=25^{\circ} \mathrm{C}$ unless otherwise noted)

\begin{tabular}{|c|c|c|c|c|c|}
\hline Parameter \& Symbol \& Test conditions \& Min \& Max \& Unit <br>
\hline Collector-base breakdown voltage
BC856
BC857
BC858 \& BVCBO \& $I C=-10 \mu \mathrm{~A}, \mathrm{IE}=0$ \& $$
\begin{aligned}
& -80 \\
& -50 \\
& -30
\end{aligned}
$$ \& \& V <br>
\hline Collector-emitter breakdown
voltage

BC856
BC857

BC858 \& BVCEO \& $I C=-10 \mathrm{~mA}, \mathrm{IB}=0$ \& $$
\begin{aligned}
& -65 \\
& -45 \\
& -30
\end{aligned}
$$ \& \& V <br>

\hline Emitter-base breakdown voltage \& BVEBO \& $I E=-1 \mu \mathrm{~A}, \mathrm{IC}=0$ \& -5 \& \& V <br>
\hline Collector cut-off current \& ICBO \& $\mathrm{VCB}=-30 \mathrm{~V}, \mathrm{IE}=0$ \& \& -0.1 \& $\mu \mathrm{A}$ <br>
\hline Emitter cut-off current \& IEBO \& VEB=-5 V , IC=0 \& \& -0.1 \& $\mu \mathrm{A}$ <br>

\hline | DC current gain |
| :--- |
| BC856AW,BC857AW,BC858AW |
| BC856BW,BC857BW,BC858BW |
| BC857CW,BC858CW | \& hFE \& VCE $=-5 \mathrm{~V}, \mathrm{IC}=-2 \mathrm{~mA}$ \& \[

$$
\begin{aligned}
& 125 \\
& 220 \\
& 420
\end{aligned}
$$

\] \& \[

$$
\begin{aligned}
& 250 \\
& 475 \\
& 800
\end{aligned}
$$
\] \& <br>

\hline Collector-emitter saturation voltage \& VCE(sat) \& $I C=-100 \mathrm{~mA}, \mathrm{IB}=-5 \mathrm{~mA}$ \& \& -0.65 \& V <br>
\hline Base-emitter saturation voltage \& VBE(sat) \& $I C=-100 \mathrm{~mA}, \mathrm{IB}=-5 \mathrm{~mA}$ \& \& -1.1 \& V <br>

\hline Transition frequency \& fT \& $$
\begin{gathered}
\text { VCE }=-5 \mathrm{~V}, \mathrm{IC}=-10 \mathrm{~mA} \\
\mathrm{f}=100 \mathrm{MHz}
\end{gathered}
$$ \& 100 \& \& MHz <br>

\hline Collector output capacitance \& Cob \& $\mathrm{VCB}=-10 \mathrm{~V}, \mathrm{f}=1 \mathrm{MHz}$ \& \& 4.5 \& pF <br>
\hline
\end{tabular}

## - Ordering Information (Example)

| PREFERED P/N | PACKING <br> CODE | UNIT WEIGHT(g) | MINIMUM <br> PACKAGE(pcs) | INNER BOX <br> QUANTITY(pcs) | OUTER CARTON <br> QUANTITY(pcs) | DELIVERY MODE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BC856AW THRU <br> BC858CW | F2 | Approximate 0.005 | 3000 | 30000 | 120000 | 7 " reel |

## Characteristics(Typical)




■ SOT-323 Package Outline Dimensions


| DIMENSIONS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| DIM | INCHES |  | MM |  |  |
|  | MIN | MAX | MIN | MAX | NOTE |
|  | .071 | .087 | 1.80 | 2.20 |  |
| B | .045 | .053 | 1.15 | 1.35 |  |
| C | .083 | .096 | 2.10 | 2.45 |  |
| D | .026 Nominal | 0.65 Nominal |  |  |  |
| E | .047 | .055 | 1.20 | 1.40 |  |
| F | .012 | .016 | .30 | .40 |  |
| G | .000 | .004 | .000 | .100 |  |
| H | .035 | .039 | .90 | 1.00 |  |
| J | .004 | .010 | .100 | .250 |  |
| K | .006 | .016 | .15 | .40 |  |

■ SOT-323 Suggested Pad Layout


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