**BC856 SERIES**
**BC857 SERIES**
**BC858 SERIES**

**SURFACE MOUNT SILICON PNP TRANSISTOR**




**SOT-23 CASE**

Central Semiconductor Corp.

www.centralsemi.com

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR BC856, BC857 and BC858 Series devices are silicon PNP transistors manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for general purpose switching and amplifier applications.

**MARKING CODE: SEE MARKING CODE TABLE ON FOLLOWING PAGE**

Note: Reverse Lead Codes Available, Add “R” to the end of the Part # and Marking Code.

| **MAXIMUM RATINGS:** ($T_A$=25°C) | **SYMBOL** | **BC858** | **BC857** | **BC856** | **UNITS** |
|---|---|---|---|---|---|
| Collector-Base Voltage | $V_{CBO}$ | 30 | 50 | 80 | V |
| Collector-Emitter Voltage | $V_{CEO}$ | 30 | 45 | 65 | V |
| Emitter-Base Voltage | $V_{EBO}$ | | 5.0 | | V |
| Continuous Collector Current | $I_C$ | | 100 | | mA |
| Peak Collector Current | $I_{CM}$ | | 200 | | mA |
| Peak Base Current | $I_{BM}$ | | 200 | | mA |
| Power Dissipation | $P_D$ | | 330 | | mW |
| Operating and Storage Junction Temperature | $T_J$, $T_{stg}$ | | -55 to +150 | | °C |
| Thermal Resistance | $\Theta_{JA}$ | | 375 | | °C/W |

**ELECTRICAL CHARACTERISTICS:** ($T_A$=25°C unless otherwise noted)

| **SYMBOL** | **TEST CONDITIONS** | **MIN** | **TYP** | **MAX** | **UNITS** |
|---|---|---|---|---|---|
| $I_{CBO}$ | $V_{CB}$=30V | | | 15 | nA |
| $I_{CBO}$ | $V_{CB}$=30V, $T_A$=150°C | | | 4.0 | µA |
| $I_{EBO}$ | $V_{EB}$=5.0V | | | 100 | nA |
| $BV_{CBO}$ | $I_C$=10µA (BC856) | 80 | | | V |
| $BV_{CBO}$ | $I_C$=10µA (BC857) | 50 | | | V |
| $BV_{CBO}$ | $I_C$=10µA (BC858) | 30 | | | V |
| $BV_{CEO}$ | $I_C$=10mA (BC856) | 65 | | | V |
| $BV_{CEO}$ | $I_C$=10mA (BC857) | 45 | | | V |
| $BV_{CEO}$ | $I_C$=10mA (BC858) | 30 | | | V |
| $BV_{EBO}$ | $I_E$=1.0µA | 5.0 | | | V |
| $V_{CE(SAT)}$ | $I_C$=10mA, $I_B$=0.5mA | | | 0.30 | V |
| $V_{CE(SAT)}$ | $I_C$=100mA, $I_B$=5.0mA | | | 0.65 | V |
| $V_{BE(SAT)}$ | $I_C$=10mA, $I_B$=0.5mA | | 0.7 | | V |
| $V_{BE(SAT)}$ | $I_C$=100mA, $I_B$=5.0mA | | 0.9 | | V |
| $V_{BE(ON)}$ | $V_{CE}$=5.0V, $I_C$=2.0mA | 0.6 | | 0.75 | V |
| $V_{BE(ON)}$ | $V_{CE}$=5.0V, $I_C$=10mA | | | 0.82 | V |
| $f_T$ | $V_{CE}$=5.0V, $I_C$=10mA, f=100MHz | 100 | 200 | | MHz |
| $C_{cb}$ | $V_{CB}$=10V, $I_E$=0, f=1.0MHz | | | 4.5 | pF |

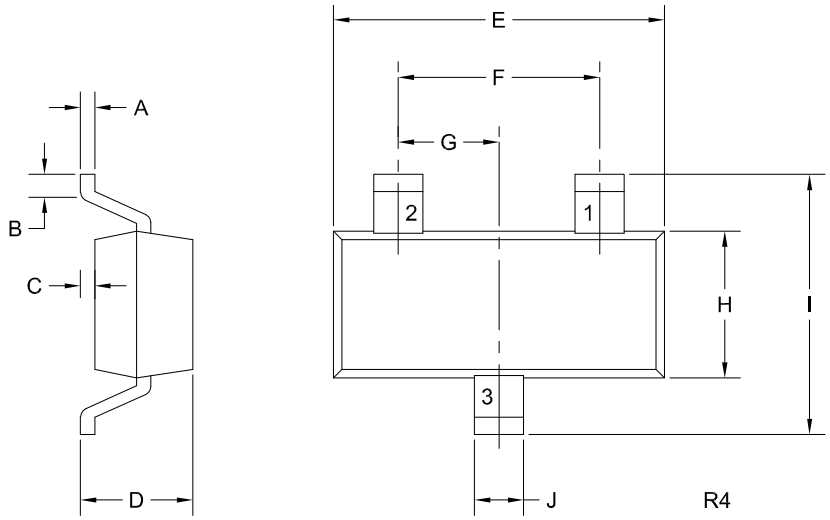
| | | **BC856A BC857A BC858A** | | **BC856B BC857B BC858B** | | **BC857C BC858C** | |
|---|---|---|---|---|---|---|---|
| | | **MIN** | **MAX** | **MIN** | **MAX** | **MIN** | **MAX** |
| $h_{FE}$ | $V_{CE}$=5.0V, $I_C$=2.0mA | 110 | 220 | 220 | 475 | 420 | 800 |

R3 (22-December 2020)

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**PNP TRANSISTOR**

## SOT-23 CASE - MECHANICAL OUTLINE




**LEAD CODE:**

| **STANDARD** | ***REVERSE** |
|---|---|
| 1) Base | 1) Emitter |
| 2) Emitter | 2) Base |
| 3) Collector | 3) Collector |

| DEVICE | MARKING CODE |
|---|---|
| BC856A | 3A |
| BC856B | 3B |
| BC857A | 3E |
| BC857B | 3F |
| BC857C | 3G |
| BC858A | 3J |
| BC858B | 3K |
| BC858C | 3L |

* Reverse Lead Codes Available, Add “R” to the end of the Part # and Marking Code.

| **DIMENSIONS** | | | | |
|---|---|---|---|---|
| | INCHES | | MILLIMETERS | |
| SYMBOL | MIN | MAX | MIN | MAX |
| A | 0.003 | 0.007 | 0.08 | 0.18 |
| B | 0.006 | - | 0.15 | - |
| C | - | 0.005 | - | 0.13 |
| D | 0.035 | 0.044 | 0.89 | 1.12 |
| E | 0.110 | 0.120 | 2.80 | 3.05 |
| F | 0.075 | | 1.90 | |
| G | 0.037 | | 0.95 | |
| H | 0.047 | 0.055 | 1.19 | 1.40 |
| I | 0.083 | 0.104 | 2.10 | 2.64 |
| J | 0.014 | 0.020 | 0.35 | 0.50 |

SOT-23 (REV: R4)

R3 (22-December 2020)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES

### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

### CONTACT US

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