

BC856 SERIES  
BC857 SERIES  
BC858 SERIES

SURFACE MOUNT  
PNP SILICON TRANSISTOR



SOT-23 CASE



www.centrasemi.com

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR BC856, BC857 and BC858 Series types are PNP Silicon 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<sub>A</sub>=25°C)

Collector-Base Voltage  
Collector-Emitter Voltage  
Emitter-Base Voltage  
Continuous Collector Current  
Peak Collector Current  
Peak Base Current  
Power Dissipation  
Operating and Storage Junction Temperature  
Thermal Resistance

| SYMBOL                            | BC858 | BC857       | BC856 | UNITS |
|-----------------------------------|-------|-------------|-------|-------|
| V <sub>CBO</sub>                  | 30    | 50          | 80    | V     |
| V <sub>CEO</sub>                  | 30    | 45          | 65    | V     |
| V <sub>EBO</sub>                  |       | 5.0         |       | V     |
| I <sub>C</sub>                    |       | 100         |       | mA    |
| I <sub>CM</sub>                   |       | 200         |       | mA    |
| I <sub>BM</sub>                   |       | 200         |       | mA    |
| P <sub>D</sub>                    |       | 350         |       | mW    |
| T <sub>J</sub> , T <sub>stg</sub> |       | -65 to +150 |       | °C    |
| θ <sub>JA</sub>                   |       | 357         |       | °C/W  |

**ELECTRICAL CHARACTERISTICS:** (T<sub>A</sub>=25°C unless otherwise noted)

| SYMBOL               | TEST CONDITIONS   | MIN | MAX  | UNITS |
|----------------------|---|-----|------|-------|
| I <sub>CBO</sub>     | V <sub>CB</sub> =30V  |     | 15   | nA    |
| I <sub>CBO</sub>     | V <sub>CB</sub> =30V, T <sub>A</sub> =150°C   |     | 4.0  | μA    |
| I <sub>EBO</sub>     | V <sub>EB</sub> =5.0V   |     | 100  | nA    |
| BV <sub>CBO</sub>    | I <sub>C</sub> =10μA (BC858)  | 30  |      | V     |
| BV <sub>CBO</sub>    | I <sub>C</sub> =10μA (BC857)  | 50  |      | V     |
| BV <sub>CBO</sub>    | I <sub>C</sub> =10μA (BC856)  | 80  |      | V     |
| BV <sub>CEO</sub>    | I <sub>C</sub> =10mA (BC858)  | 30  |      | V     |
| BV <sub>CEO</sub>    | I <sub>C</sub> =10mA (BC857)  | 45  |      | V     |
| BV <sub>CEO</sub>    | I <sub>C</sub> =10mA (BC856)  | 65  |      | V     |
| BV <sub>EBO</sub>    | I <sub>E</sub> =10μA  | 5.0 |      | V     |
| V <sub>CE(SAT)</sub> | I <sub>C</sub> =10mA, I <sub>B</sub> =0.5mA   |     | 0.30 | V     |
| V <sub>CE(SAT)</sub> | I <sub>C</sub> =100mA, I <sub>B</sub> =5.0mA  |     | 0.65 | V     |
| V <sub>BE(ON)</sub>  | I <sub>C</sub> =2.0mA, V <sub>CE</sub> =5.0V  | 0.6 | 0.75 | V     |
| V <sub>BE(ON)</sub>  | I <sub>C</sub> =10mA, V <sub>CE</sub> =5.0V   |     | 0.82 | V     |
| f <sub>T</sub>       | V <sub>CE</sub> =5.0V, I <sub>C</sub> =10mA, f=100MHz                                   | 100 |      | MHz   |
| NF                   | V <sub>CE</sub> =5.0V, I <sub>C</sub> =200μA, R <sub>S</sub> =2.0KΩ, f=1.0KHz, BW=200Hz |     | 10   | dB    |

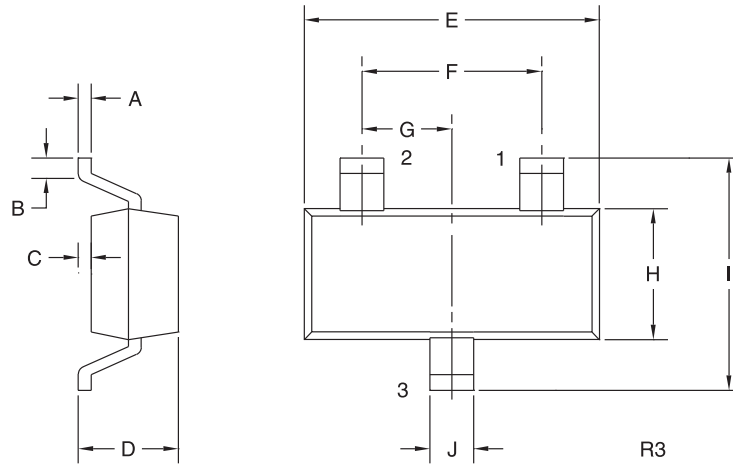
|                 |  | <u>BC856A</u> |     | <u>BC856B</u> |     | <u>BC857C</u> |     |
|-----------------|--|---------------|-----|---------------|-----|---------------|-----|
|                 |  | <u>BC857A</u> |     | <u>BC857B</u> |     | <u>BC858C</u> |     |
|                 |  | <u>BC858A</u> |     | <u>BC858B</u> |     |               |     |
|                 |  | MIN           | MAX | MIN           | MAX | MIN           | MAX |
| h <sub>FE</sub> | V <sub>CE</sub> =5.0V, I <sub>C</sub> =2.0mA | 125           | 250 | 220           | 475 | 420           | 800 |

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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           |

| SYMBOL | INCHES |       | MILLIMETERS |      |
|--------|--------|-------|-------------|------|
|        | 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  | 0.043 | 0.89        | 1.09 |
| 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  | 0.098 | 2.10        | 2.49 |
| J      | 0.014  | 0.020 | 0.35        | 0.50 |

SOT-23 (REV: R3)

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

R2 (20-November 2009)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### 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

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### DESIGNER SUPPORT/SERVICES

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

- Free quick ship samples (2<sup>nd</sup> 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

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### 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).

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### CONTACT US

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Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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