



BC856-AU SERIES

PNP GENERAL PURPOSE TRANSISTORS

VOLTAGE 30/45/65 Volt **POWER** 330 mWatt

SOT-23

Unit : inch(mm)

FEATURES

- General Purpose Amplifier Applications
- Collector Current IC = -100mA
- Acquire quality system certificate : TS16949
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

MECHANICAL DATA

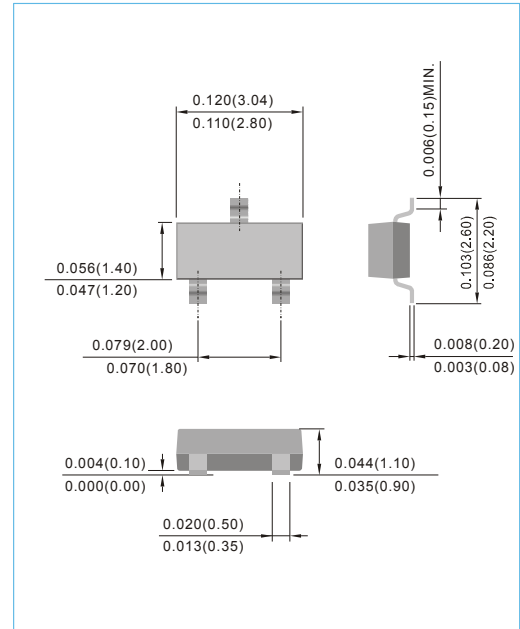
Case: SOT-23

Terminals: Solderable per MIL-STD-750, Method 2026

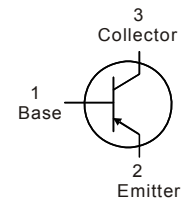
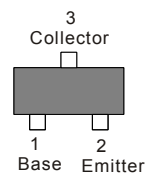
Approx. Weight: 0.0003 ounces, 0.008 grams

Marking:

| | | | |
|-----------------|---------------|---------------|---------------|
| Device Marking: | | | |
| BC856A-AU=56A | BC857A-AU=57A | BC858A-AU=58A | |
| BC856B-AU=56B | BC857B-AU=57B | BC858B-AU=58B | BC859B-AU=59B |
| | BC857C-AU=57C | BC858C-AU=58C | BC859C-AU=59C |



Top View



ABSOLUTE RATINGS

| Parameter | Symbol | BC856-AU | BC857-AU | BC858-AU | BC859-AU | Units |
|--|-----------------------------------|------------|----------|----------|----------|-------|
| Collector - Emitter Voltage | V _{CEO} | -65 | -45 | -30 | | V |
| Collector - Base Voltage | V _{CBO} | -80 | -50 | -30 | | V |
| Emitter - Base Voltage | V _{EBO} | -5 | | | | V |
| Collector Current - Continuous | I _C | -100 | | | | mA |
| Peak Collector Current | I _{CM} | -200 | | | | mA |
| Max Power Dissipation (Note1) | P _{TOT} | 330 | | | | mW |
| Typical Thermal Resistance, Junction to Ambient | R _{θJA} | 375 | | | | °C/W |
| Operating Junction and Storage Temperature Range | T _J , T _{STG} | -50 to 150 | | | | °C |

NOTES :

1. Transistor mounted on FR-4 board 8 cm².



BC856-AU SERIES

ELECTRICAL CHARACTERISTICS

| Parameter | Symbol | Test Condition | MIN. | TYP. | MAX. | Units |
|--|---------------|---|-------------------|-------------------|-------------------|---------------|
| Collector - Emitter Breakdown Voltage BC856A-AU,B-AU BC857A-AU,B-AU,C-AU BC858A-AU,B-AU,C-AU,BC859B-AU,C-AU | $V_{(BR)CEO}$ | $I_C=-10mA, I_B=0$ | -65 -45 -30 | - | - | V |
| Collector - Base Breakdown Voltage BC856A-AU,B-AU BC857A-AU,B-AU,C-AU BC858A-AU,B-AU,C-AU,BC859B-AU,C-AU | $V_{(BR)CBO}$ | $I_C=-10\mu A, I_E=0$ | -80 -50 -30 | - | - | V |
| Emitter - Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E=-1\mu A, I_C=0$ | -5 | - | - | V |
| Emitter-Base Cutoff Current | I_{EBO} | $V_{EB}=-5V$ | - | - | -100 | nA |
| Collector-Base Cutoff Current | I_{CBO} | $V_{CB}=-30V, I_E=0$ $V_{CB}=-30V, I_E=0, T_J=150^\circ C$ | - | - | -15 -4 | nA μA |
| DC Current Gain BC856A-AU,BC857A-AU,BC858A-AU BC856B-AU,BC857B-AU,BC858B-AU,BC859B-AU BC857C-AU,BC858C-AU,BC859C-AU | h_{FE} | $I_C=-10\mu A, V_{CE}=-5V$ | - | 90 150 270 | - | - |
| DC Current Gain BC856A-AU,BC857A-AU,BC858A-AU BC856B-AU,BC857B-AU,BC858B-AU,BC859B-AU BC857C-AU,BC858C-AU,BC859C-AU | h_{FE} | $I_C=-2mA, V_{CE}=-5V$ | 110 220 420 | 180 290 520 | 220 475 800 | - |
| Collector - Emitter Saturation Voltage | $V_{CE(SAT)}$ | $I_C=-10mA, I_B=-0.5mA$ $I_C=-100mA, I_B=-5mA$ | - | - | -0.3 -0.65 | V |
| Base - Emitter Saturation Voltage | $V_{BE(SAT)}$ | $I_C=-10mA, I_B=-0.5mA$ $I_C=-100mA, I_B=-5mA$ | - | -0.7 -0.9 | - | V |
| Base - Emitter On Voltage | $V_{BE(ON)}$ | $I_C=-2mA, V_{CE}=-5V$ $I_C=-10mA, V_{CE}=-5V$ | -0.6 - | - | -0.75 -0.82 | V |
| Collector - Base Capacitance | C_{CB} | $V_{CB}=-10V, I_E=0, f=1MHz$ | - | - | 4.5 | pF |
| Current-Gain-Bandwidth Product | F_T | $I_C=-10mA, V_{CE}=-5V, f=100MHz$ | - | 200 | - | MHz |



BC856-AU SERIES

ELECTRICAL CHARACTERISTICS CURVES

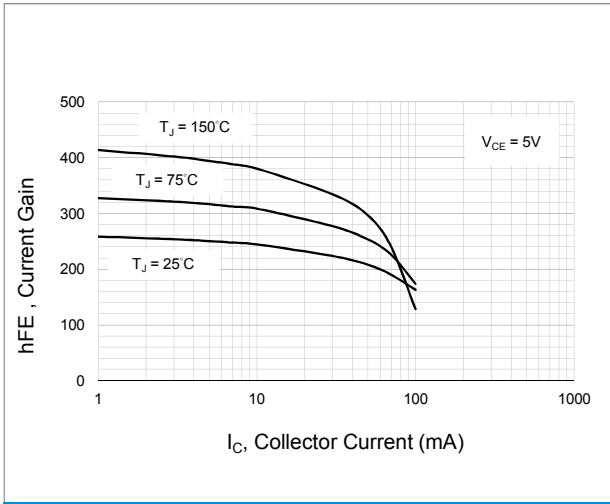


Fig.1- TYPICAL h_{FE} vs. Collector Current

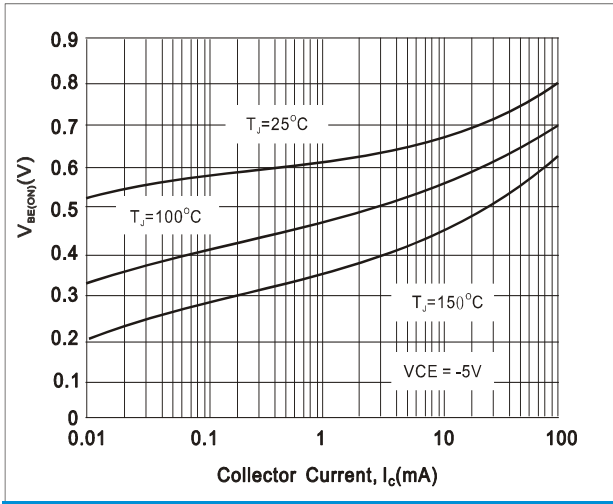


Fig.2- TYPICAL $V_{BE(ON)}$ vs. Collector Current

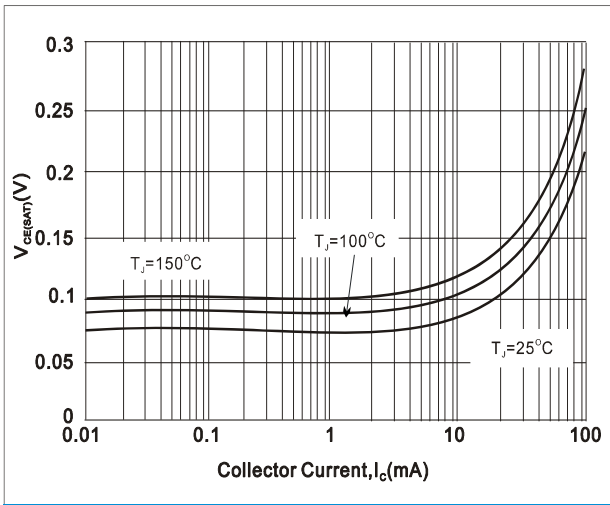


Fig.3- TYPICAL $V_{CE(SAT)}$ vs. Collector Current

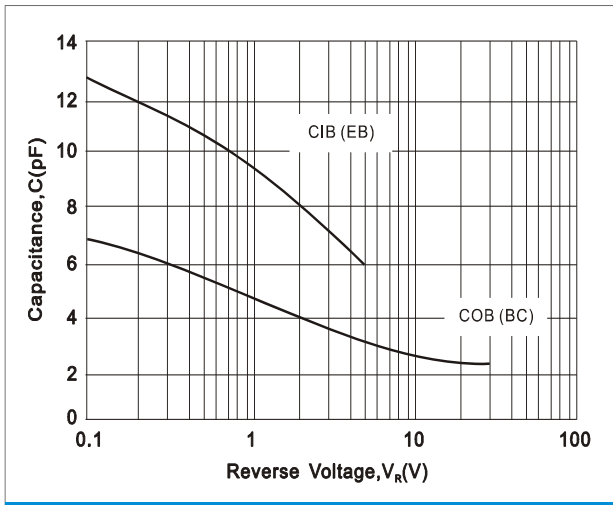


Fig.4- TYPICAL CAPACITANCES vs. REVERSE VOLTAGE

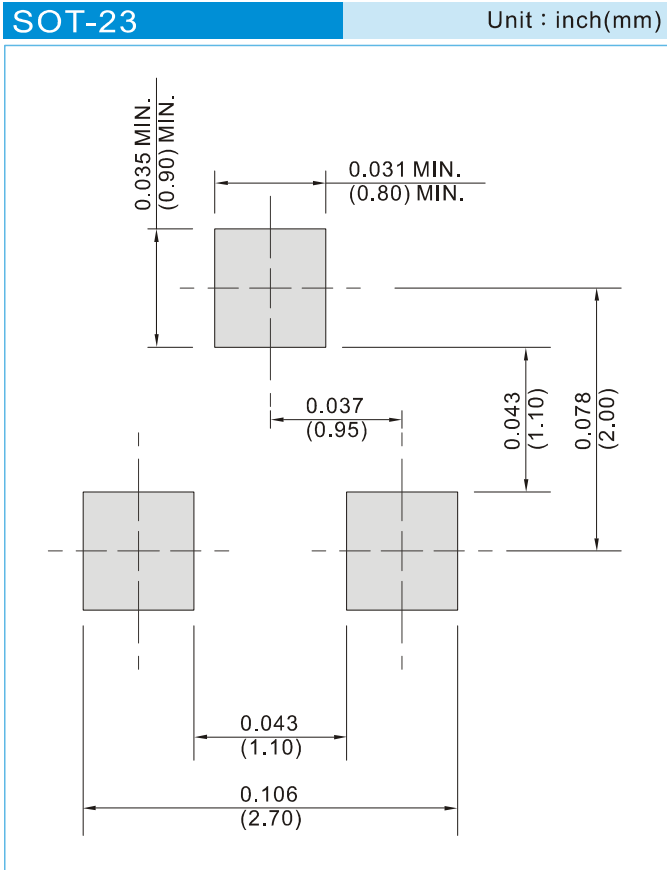


BC856-AU SERIES

PART NO. PACKING CODE VERSION

| Part No. Packing Code | Package Type | Packing Type | Marking | Version |
|-----------------------|--------------|--------------------|---------|--------------|
| BC856A-AU_R1_000A1 | SOT-23 | 3K pcs / 7" reel | 56A | Halogen free |
| BC856A-AU_R2_000A1 | SOT-23 | 12K pcs / 13" reel | 56A | Halogen free |

MOUNTING PAD LAYOUT





BC856-AU SERIES

Disclaimer

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.