

**SOT-23 BIPOLAR TRANSISTORS**  
**TRANSISTOR(PNP)**

**FEATURES**

- \* Power dissipation  
P<sub>CM</sub> : 0.225 W (T<sub>amb</sub>=25°C) Note1
- \* Collector current  
I<sub>CM</sub> : -0.1 A
- \* Collector-base voltage  
V<sub>(BR)CBO</sub> : -50 V
- \* Operating and storage junction temperature range  
T<sub>J</sub>, T<sub>stg</sub>: -55°C to +150°C

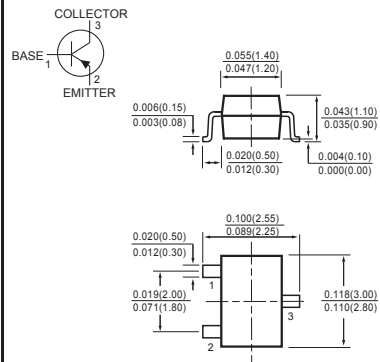
**MECHANICAL DATA**

- \* Case: Molded plastic
- \* Epoxy: UL 94V-O rate flame retardant
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 0.008 gram

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.  
Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

**SOT-23**



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

| CHARACTERISTICS                                                                       | SYMBOL               | MIN | MAX  | UNITS |
|---------------------------------------------------------------------------------------|----------------------|-----|------|-------|
| Collector-base breakdown voltage (I <sub>C</sub> = -10μA, I <sub>E</sub> =0)          | V <sub>(BR)CBO</sub> | -50 | -    | V     |
| Collector-emitter breakdown voltage (I <sub>C</sub> = -10mA, I <sub>B</sub> =0)       | V <sub>(BR)CEO</sub> | -45 | -    | V     |
| Emitter-base breakdown voltage (I <sub>E</sub> = -10μA, I <sub>C</sub> =0)            | V <sub>(BR)EBO</sub> | -5  | -    | V     |
| Collector cut-off current (V <sub>CB</sub> = -45V, I <sub>E</sub> =0)                 | I <sub>CBO</sub>     | -   | -0.1 | μA    |
| Collector cut-off current (V <sub>CE</sub> = -40V, I <sub>B</sub> =0)                 | I <sub>CEO</sub>     | -   | -0.1 | μA    |
| Emitter cut-off current (V <sub>EB</sub> = -5V, I <sub>C</sub> =0)                    | I <sub>EBO</sub>     | -   | -0.1 | μA    |
| DC current gain (V <sub>CE</sub> = -5V, I <sub>C</sub> = -2mA)                        | h <sub>FE(1)</sub>   | 220 | 475  | -     |
| Collector-emitter saturation voltage (I <sub>C</sub> = -100mA, I <sub>B</sub> = -5mA) | V <sub>CE(sat)</sub> | -   | -0.5 | V     |
| Base-emitter saturation voltage (I <sub>C</sub> = -100mA, I <sub>B</sub> = -10mA)     | V <sub>BE(sat)</sub> | -   | -1.1 | V     |
| Transition frequency (V <sub>CE</sub> = -5V, I <sub>C</sub> = -10mA, f= 100MHz)       | f <sub>T</sub>       | 100 | -    | MHz   |

**DEVICE MARKING**

|        |    |
|--------|----|
| BC857B | 3F |
|--------|----|

Notes: 1. Transistor mounted on an FR4 Printed-circuit board.  
2. "Fully ROHS compliant", "100% Sn plating (Pb-free)".

2007-3

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