

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

**FEATURES**

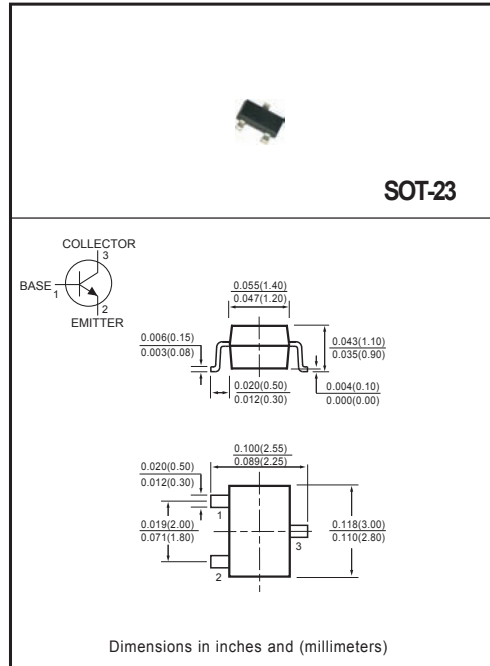
- \* Power dissipation  
 $P_{CM} : \square \quad 0.225 \square \quad W \quad (T_{amb}=25^{\circ}C)$
- \* Collector current  
 $I_{CM} : \square \quad 0.5 \square \quad A$
- \* Collector-base voltage  
 $V_{(BR)CBO} : \square \quad 50 \square \quad V$
- \* Operating and storage junction temperature range  
 $T_{J, Tstg} : -55^{\circ}C \text{ to } +150^{\circ}C$

**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%.



**ELECTRICAL CHARACTERISTICS ( @ TA = 25°C unless otherwise noted )**

| CHARACTERISTICS  | SYMBOL        | MIN | TYP | MAX  | UNITS   |
|--|---------------|-----|-----|------|---------|
| Collector-base breakdown voltage ( $I_C = 10\mu A, I_E = 0$ )      | $V_{(BR)CBO}$ | 50  | -   | -    | V       |
| Collector-emitter breakdown voltage ( $I_C = 10mA, I_B = 0$ )      | $V_{(BR)CEO}$ | 45  | -   | -    | V       |
| Emitter-base breakdown voltage ( $I_E = 10\mu A, I_C = 0$ )        | $V_{(BR)EBO}$ | 5   | -   | -    | V       |
| Collector cut-off current ( $V_{CB} = 20V, I_E = 0$ )              | $I_{CBO}$     | -   | -   | 0.1  | $\mu A$ |
| Collector cut-off current ( $V_{CE} = 20V, I_E = 0$ )              | $I_{CEO}$     | -   | -   | 0.1  | $\mu A$ |
| Collector cut-off current ( $V_{EB} = 5V, I_C = 0$ )               | $I_{EBO}$     | -   | -   | 10   | $\mu A$ |
| DC current gain ( $V_{CE} = 1V, I_C = 100mA$ )                     | $h_{FE}$      | 100 | -   | 600  | -       |
| Collector-emitter saturation voltage ( $I_C = 500mA, I_B = 50mA$ ) | $V_{CE(sat)}$ | -   | -   | 0.62 | V       |
| Base-emitter voltage ( $I_C = 500mA, V_{CE} = 1V$ )                | $V_{BE(on)}$  | -   | -   | 1.2  | V       |

|         |    |
|---------|----|
| MARKING | U1 |
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