

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

FEATURES

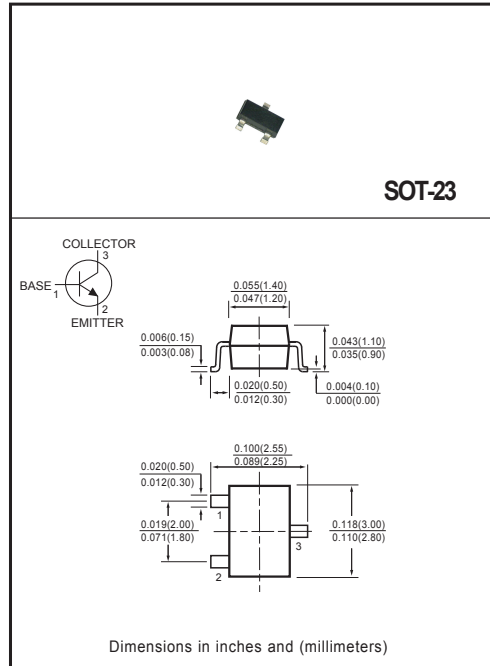
- * Power dissipation
 $P_{CM} : \square \quad 0.2 \square \quad W(T_{amb}=25^{\circ}C)$
- * Collector current
 $I_{CM} : \square \quad 0.15 \square \quad A$
- * Collector-base voltage
 $V_{(BR)CBO} : \square \quad 60 \square \quad V$
- * Operating and storage junction temperature range
 $T_{J}, T_{stg} : -55^{\circ}C \text{ to } +150^{\circ}C$

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 (@ $T_A = 25^{\circ}C$ unless otherwise noted)

| CHARACTERISTICS | SYMBOL | MIN. | TYP. | MAX. | UNITS |
|--|---------------|------|------|------|---------|
| Collector-base breakdown voltage ($I_C = 50\mu A, I_E = 0$) | $V_{(BR)CBO}$ | 60 | - | - | V |
| Collector-emitter breakdown voltage ($I_C = 1mA, I_B = 0$) | $V_{(BR)CEO}$ | 50 | - | - | V |
| Emitter-base breakdown voltage ($I_E = 50\mu A, I_C = 0$) | $V_{(BR)EBO}$ | 7 | - | - | V |
| Collector cut-off current ($V_{CB} = 60V, I_E = 0$) | I_{CBO} | - | - | 0.1 | μA |
| Emitter cut-off current ($V_{EB} = 7V, I_C = 0$) | I_{EBO} | - | - | 0.1 | μA |
| DC current gain ($V_{CE} = 6V, I_C = 1mA$) | h_{FE} | 120 | - | 560 | - |
| Collector-emitter saturation voltage ($I_C = 50mA, I_B = 5mA$) | $V_{CE(sat)}$ | - | - | 0.4 | V |
| Transition frequency ($V_{CE} = 12V, I_C = 2mA, f = 100MHz$) | f_T | 150 | - | - | MHz |

CLASSIFICATION OF $h_{FE(1)}$

| RANK | Q | R | Y |
|---------|---------|---------|---------|
| Range | 120-270 | 180-390 | 270-560 |
| Marking | BQ | BR | BS |

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