



DTC124T

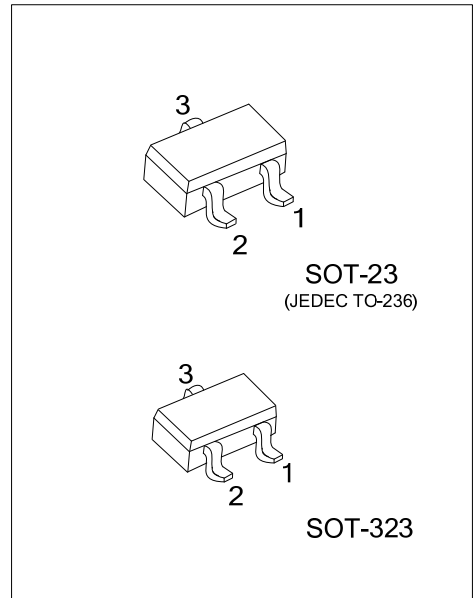
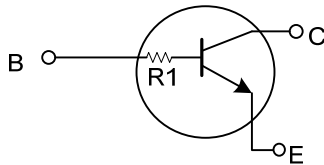
NPN SILICON TRANSISTOR

NPN DIGITAL TRANSISTOR (BUILT-IN BIAS RESISTORS)

FEATURES

- * Built-in bias resistors that implies easy ON/OFF applications.
- * The bias resistors are thin-film resistors with complete isolation to allow negative input.

EQUIVALENT CIRCUIT



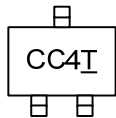
ORDERING INFORMATION

| Order Number | Package | Pin Assignment | | | Packing |
|----------------|---------|----------------|---|---|-----------|
| | | 1 | 2 | 3 | |
| DTC124TG-AE3-R | SOT-23 | E | B | C | Tape Reel |
| DTC124TG-AL3-R | SOT-323 | E | B | C | Tape Reel |

Note: Pin Assignment: E: Emitter B: Base C: Collector

| | |
|--|---|
| <p>DTC124TG-AE3-R</p> <p>(1) Packing Type (2) Package Type (3) Green Package</p> | <p>(1) R: Tape Reel (2) AE3: SOT-23, AL3: SOT-323 (3) G: Halogen Free and Lead Free</p> |
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MARKING



DTC124T

NPN SILICON TRANSISTOR

■ ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$, unless others specified)

| PARAMETER | SYMBOL | RATINGS | UNIT |
|-----------------------------|-----------|------------|------------------|
| Collector-base voltage | V_{CBO} | 50 | V |
| Collector-emitter voltage | V_{CEO} | 50 | V |
| Emitter-base voltage | V_{EBO} | 5 | V |
| Collector current | I_C | 100 | mA |
| Collector Power dissipation | P_C | 200 | mW |
| Junction temperature | T_J | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{STG} | -55 ~ +150 | $^\circ\text{C}$ |

Note Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL SPECIFICATIONS ($T_A=25^\circ\text{C}$, unless others specified)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|--------------------------------------|---------------|--|------|-----|------|---------------|
| Collector-Base Breakdown Voltage | BV_{CBO} | $I_C=50\mu\text{A}$ | 50 | | | V |
| Collector-Emitter Breakdown Voltage | BV_{CEO} | $I_C=1\text{mA}$ | 50 | | | V |
| Emitter-Base Breakdown Voltage | BV_{EBO} | $I_E=50\mu\text{A}$ | 5 | | | V |
| Collector Cutoff Current | I_{CBO} | $V_{CB}=50\text{V}$ | | | 0.5 | μA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB}=4\text{V}$ | | | 0.5 | μA |
| Collector-Emitter Saturation Voltage | $V_{CE(SAT)}$ | $I_C=5\text{mA}$, $I_B=0.5\text{mA}$ | | | 0.3 | V |
| DC Current transfer Ratio | h_{FE} | $V_{CE}=5\text{V}$, $I_C=1\text{mA}$ | 100 | 250 | 600 | |
| Input Resistance | R1 | | 15.4 | 22 | 28.6 | K Ω |
| Transition Frequency | f_T | $V_{CE}=10\text{V}$, $I_E=-5\text{mA}$, $f=100\text{MHz}$ (Note) | | 250 | | MHz |

Note: Transition frequency of the device

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