



DTA123J

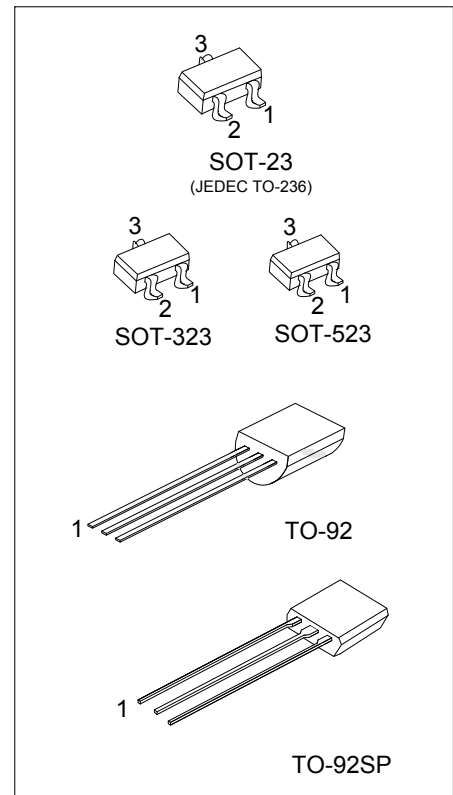
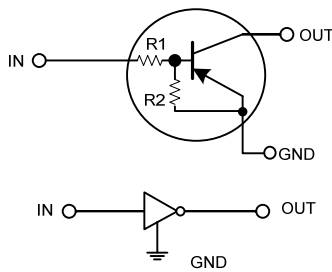
PNP SILICON TRANSISTOR

DIGITAL TRANSISTORS (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 positive input.

■ EQUIVALENT CIRCUIT



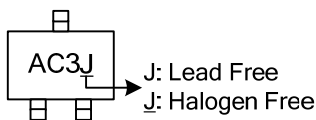
■ ORDERING INFORMATION

| Ordering Number | | Package | Pin Assignment | | | Packing |
|-----------------|----------------|---------|----------------|---|---|-----------|
| Lead Free | Halogen Free | | 1 | 2 | 3 | |
| DTA123JL-AE3-R | DTA123JG-AE3-R | SOT-23 | G | I | O | Tape Reel |
| DTA123JL-AL3-R | DTA123JG-AL3-R | SOT-323 | G | I | O | Tape Reel |
| DTA123JL-AN3-R | DTA123JG-AN3-R | SOT-523 | G | I | O | Tape Reel |
| DTA123JL-T92-B | DTA123JG-T92-B | TO-92 | G | O | I | Tape Box |
| DTA123JL-T92-K | DTA123JG-T92-K | TO-92 | G | O | I | Bulk |
| DTA123JL-T92-R | DTA123JG-T92-R | TO-92 | G | O | I | Tape Reel |
| DTA123JL-T9S-K | DTA123JG-T9S-K | TO-92SP | G | O | I | Bulk |

Note: Pin Assignment: G: GND, I: IN, O: OUT

| | |
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| <p>DTA123JL-AE3-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Lead Free</p> | <p>(1) R: Tape Reel, B: Tape Box, T: Tube, K: Bulk</p> <p>(2) AE3: SOT-23, AL3: SOT-323, AN3: SOT-523, T92: TO-92, T9S: TO-92SP</p> <p>(3) G: Halogen Free, L: Lead Free</p> |
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■ MARKING (FOR SOT-23/SOT-323/SOR-523 PACKAGE)



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

| PARAMETER | | SYMBOL | RATINGS | UNIT |
|----------------------|-----------------|--------------|------------|------------------|
| Supply Voltage | | V_{CC} | 50 | V |
| Input Voltage | | V_{IN} | -12 ~ +5 | V |
| Output Current | | I_O | -100 | mA |
| | | $I_{C(MAX)}$ | -100 | |
| Power Dissipation | SOT-23/ SOT-323 | P_D | 200 | mW |
| | SOT-523 | | 150 | |
| | TO-92 | | 625 | |
| | TO-92SP | | 550 | |
| 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 CHARACTERISTICS ($T_A=25^\circ\text{C}$)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|----------------------|--------------|--|------|------|------|---------------|
| Input Voltage | $V_{I(OFF)}$ | $V_{CC}=-5V, I_O=-100\mu\text{A}$ | | | -0.5 | V |
| | $V_{I(ON)}$ | $V_O=-0.3V, I_O=-5\text{mA}$ | -1.1 | | | |
| Output Voltage | $V_{O(ON)}$ | $I_O/I_I=-5\text{mA}/-0.25\text{mA}$ | | -0.1 | -0.3 | V |
| Input Current | I_I | $V_I=-5V$ | | | -3.6 | mA |
| Output Current | $I_{O(OFF)}$ | $V_{CC}=-50V, V_I=0V$ | | | -0.5 | μA |
| DC Current Gain | G_I | $V_O=-5V, I_O=-10\text{mA}$ | 80 | | | |
| Input Resistance | R_I | | 1.54 | 2.2 | 2.86 | K Ω |
| Resistance Ratio | R_2/R_1 | | 17 | 21 | 26 | |
| Transition Frequency | f_T | $V_{CE}=-10V, I_E=-5\text{mA}, f=100\text{MHz}$ (Note) | | 250 | | MHz |

Note: Transition frequency of the device

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