



DTB143E

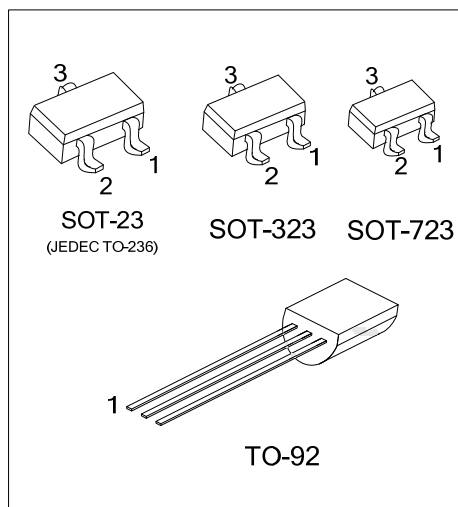
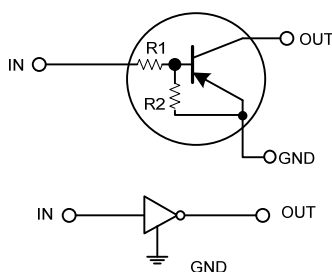
PNP DIGITAL TRANSISTOR

PNP DIGITAL TRANSISTOR BUILT-IN 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 | |
| - | DTB143EG-AE3-R | SOT-23 | G | I | O | Tape Reel |
| - | DTB143EG-AL3-R | SOT-323 | G | I | O | Tape Reel |
| - | DTB143EG-AQ3-R | SOT-723 | G | I | O | Tape Reel |
| DTB143EL-T92-B | DTB143EG-T92-B | TO-92 | G | O | I | Tape Box |
| DTB143EL-T92-K | DTB143EG-T92-K | TO-92 | G | O | I | Bulk |

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

| | |
|--|--|
| <p>DTB143EG-AE3-R</p> <p>(1) Packing Type (2) Package Type (3) Green Package</p> | <p>(1) B: Tape Box, K: Bulk, R: Tape Reel (2) AE3: SOT-23, AL3: SOT-323, AQ3: SOT-723 T92: TO-92 (3) G: Halogen Free and Lead Free, L: Lead Free</p> |
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■ MARKING

| SOT-23 / SOT-323 / SOT-723 | TO-92 |
|----------------------------|-------|
| | |

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

| PARAMETER | | SYMBOL | RATING | UNIT |
|----------------------|----------------|-----------|------------|--------------------|
| Supply Voltage | | V_{CC} | -50 | V |
| Input Voltage | | V_{IN} | -30~+10 | V |
| Output Current | | I_{OUT} | -500 | mA |
| Power Dissipation | SOT-23/SOT-323 | P_D | 200 | mW |
| | SOT-723 | | 125 | |
| | TO-92 | | 625 | |
| 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.

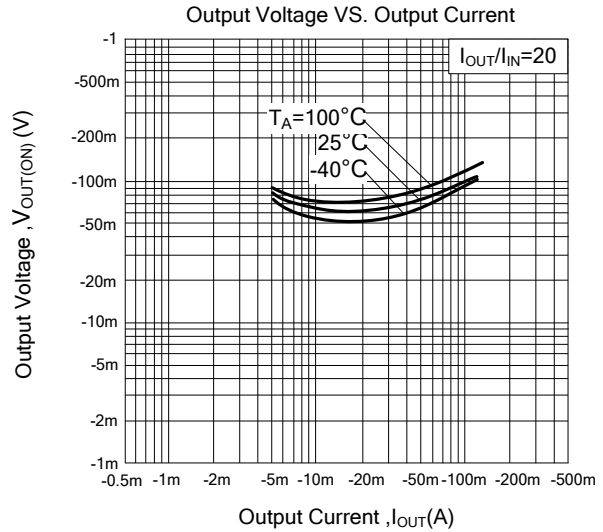
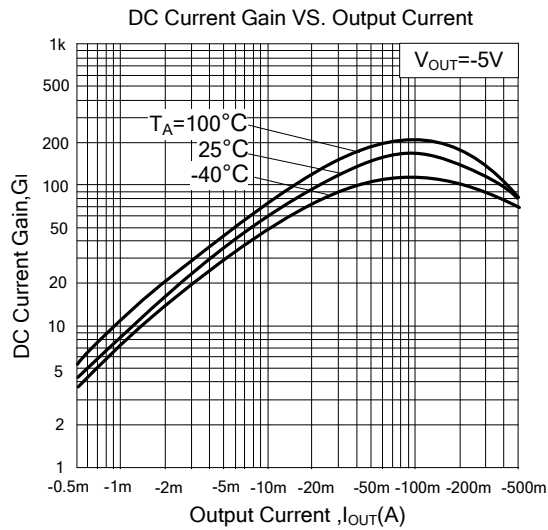
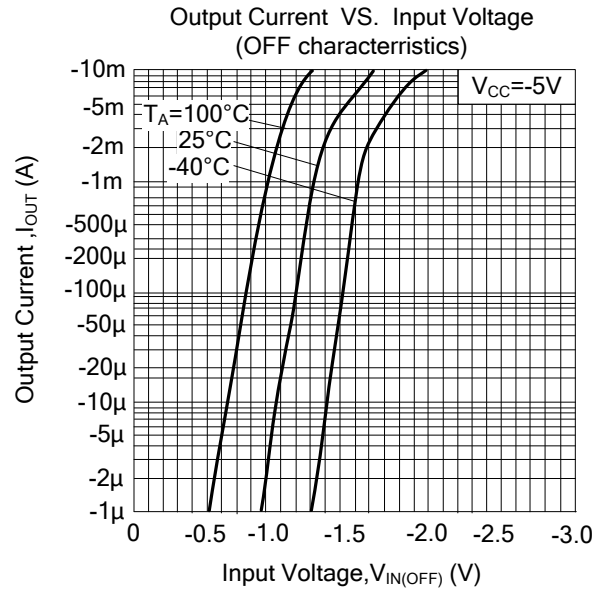
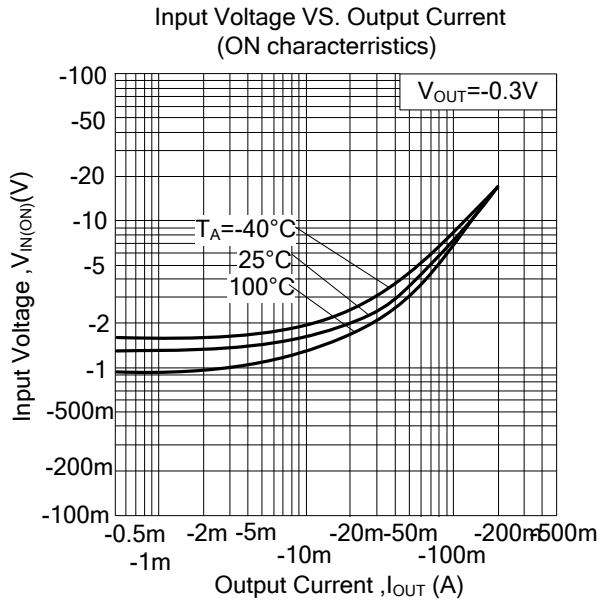
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|----------------------|----------------|---|------|-----|------|---------------|
| Input Voltage | $V_{IN(OFF)}$ | $V_{CC} = -5V, I_{OUT} = 100\mu\text{A}$ | | | -0.5 | V |
| | $V_{IN(ON)}$ | $V_{OUT} = -0.3V, I_{OUT} = -20\text{mA}$ | -3 | | | |
| Output Voltage | $V_{OUT(ON)}$ | $I_{OUT}/I_{IN} = -50\text{mA}/-2.5\text{mA}$ | | | -0.3 | V |
| Input Current | I_{IN} | $V_{IN} = -5V$ | | | -1.8 | mA |
| Output Current | $I_{OUT(OFF)}$ | $V_{CC} = -50V, V_{IN} = 0V$ | | | -0.5 | μA |
| DC Current Gain | h_{FE} | $V_{OUT} = -5V, I_{OUT} = -50\text{mA}$ | 47 | | | |
| Input Resistance | R_1 | | 3.29 | 4.7 | 6.11 | k Ω |
| Resistance Ratio | R_2/R_1 | | 0.8 | 1 | 1.2 | |
| Transition Frequency | f_T | $V_{CE} = -10V, I_E = 5\text{mA}, f = 100\text{MHz}$ (Note) | | 200 | | MHz |

Note: Transition frequency of the device

TYPICAL CHARACTERISTICS



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