



# DTB143E

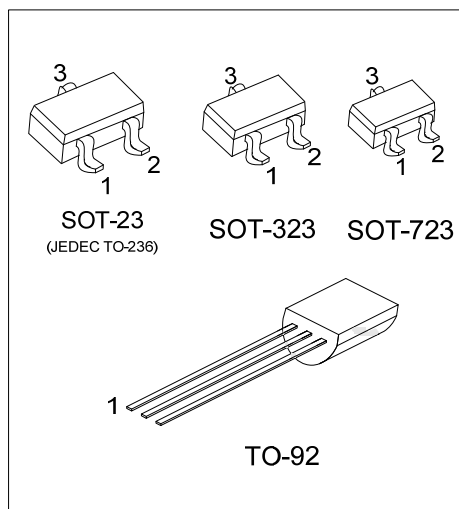
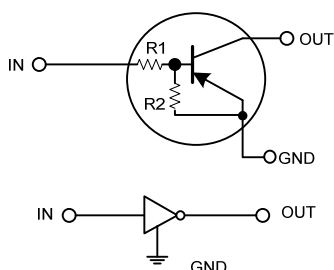
## PNP DIGITAL TRANSISTOR

### 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	
DTB143EL-AE3-R	DTB143EG-AE3-R	SOT-23	I	G	O	Tape Reel
DTB143EL-AL3-R	DTB143EG-AL3-R	SOT-323	I	G	O	Tape Reel
DTB143EL-AQ3-R	DTB143EG-AQ3-R	SOT-723	I	G	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: I: IN G: GND 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	$^{\circ}\text{C}$

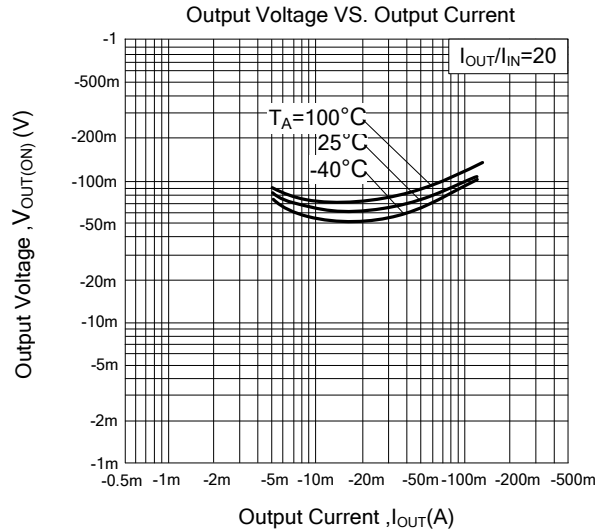
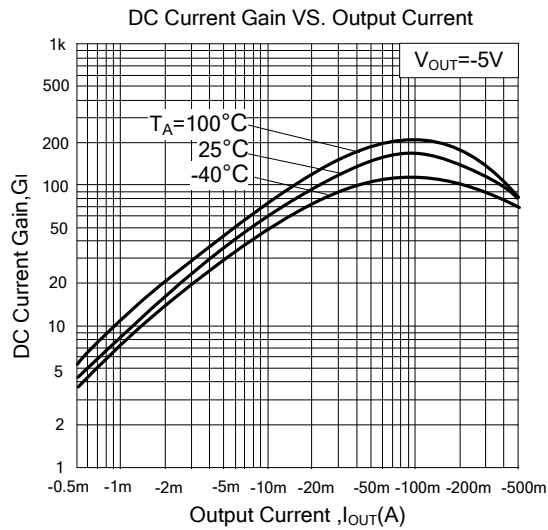
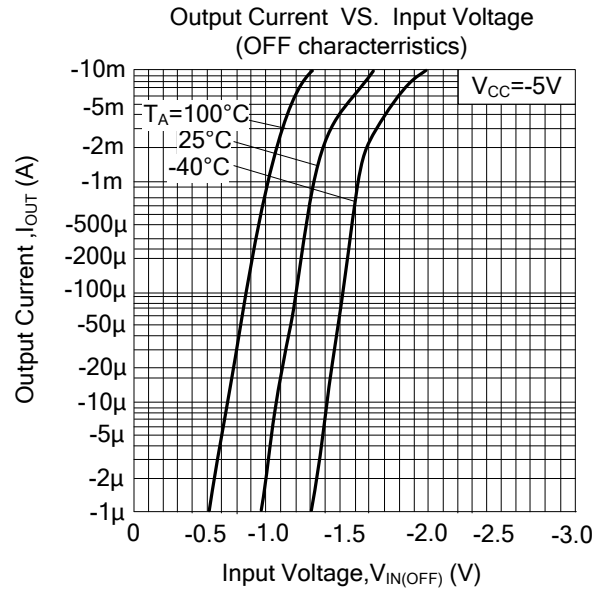
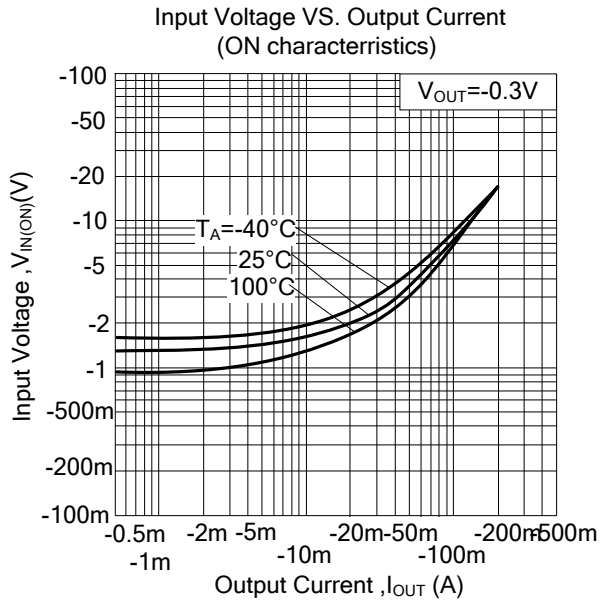
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ 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	$\mu\text{A}$
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 $\Omega$
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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