



DTB114E

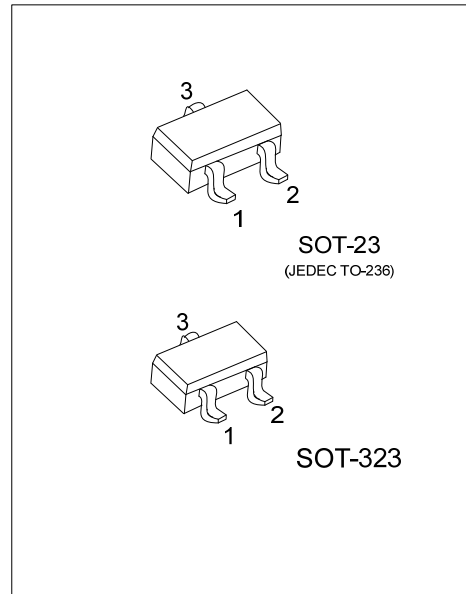
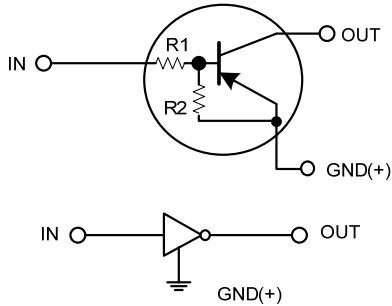
PNP SILICON TRANSISTOR

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



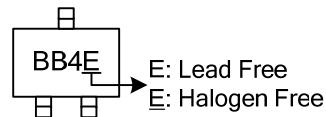
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
DTB114EL-AE3-R	DTB114EG-AE3-R	SOT-23	I	G	O	Tape Reel
DTB114EL-AL3-R	DTB114EG-AL3-R	SOT-323	I	G	O	Tape Reel

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

DTB114EG-AE3-R	(1)Packing Type (2)Package Type (3)Green Package	(1) R: Tape Reel (2) AE3: SOT-23, AL3: SOT-323 (3) G: Halogen Free and Lead Free, L: Lead Free
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■ MARKING



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

PARAMETER	SYMBOL	RATING	UNIT
Supply Voltage	V_{CC}	-50	V
Input Voltage	V_{IN}	-40 ~ +10	V
Output Current	I_{OUT}	-500	mA
Power Dissipation	P_D	200	mW
Junction Temperature	T_J	+150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 ~ +150	$^\circ\text{C}$

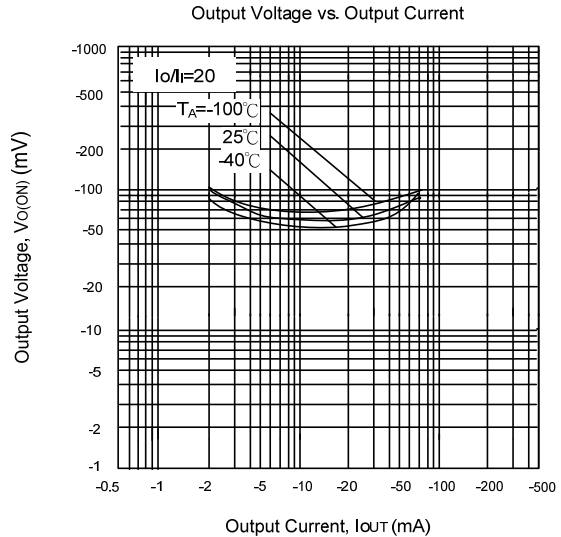
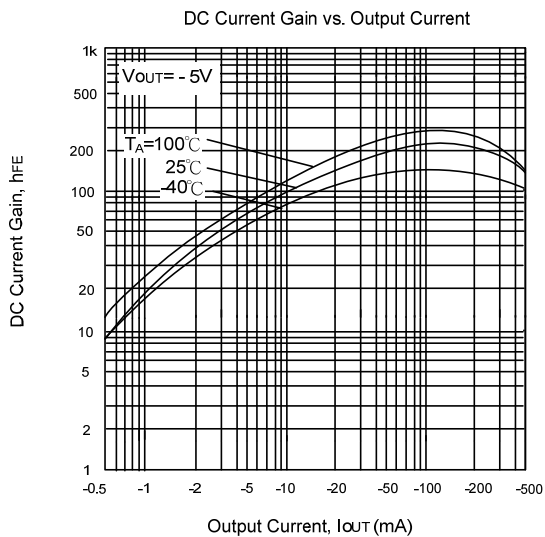
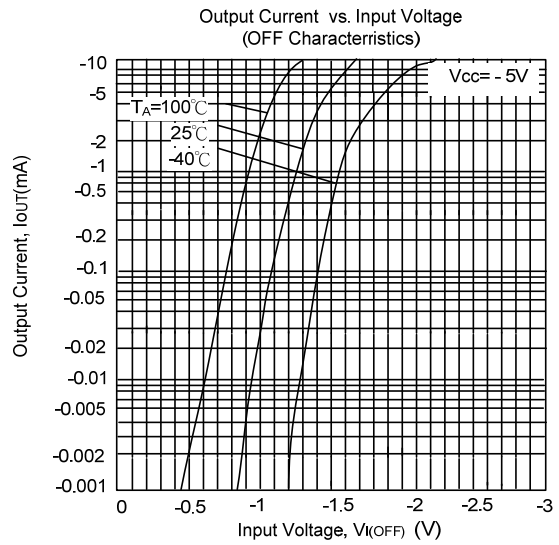
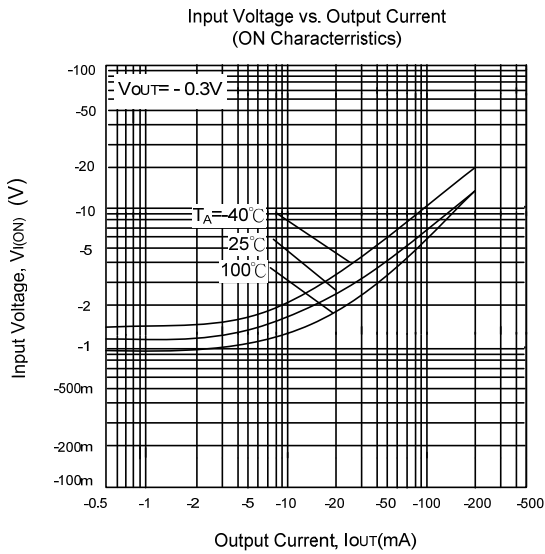
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$, unless otherwise specified.)

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
	$V_{IN(ON)}$	$V_{OUT} = -0.3V, I_{OUT} = -10\text{mA}$	-3			
Output Voltage	$V_{OUT(ON)}$	$I_{OUT}/I_{IN} = -50\text{mA}/-2.5\text{mA}$		-0.1	-0.3	V
Input Current	I_{IN}	$V_{IN} = -5V$			-0.88	mA
Output Current	$I_{OUT(OFF)}$	$V_{CC} = -50V, V_{IN} = 0V$			-0.5	μA
DC Current Gain	h_{FE}	$V_{OUT} = -5V, I_{OUT} = -50\text{mA}$	56			
Input Resistance	R_1		7	10	13	k Ω
Resistance Ratio	R_2/R_1		0.8	1	1.2	
Transition Frequency	f_T	$V_{CE} = -10\text{V}, I_E = 5\text{mA}, f = 100\text{MHz}$ (Note)		200		MHz

Note: Transition frequency of the device.

TYPICAL CHARACTERISTICS



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