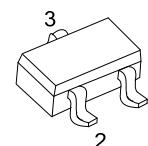
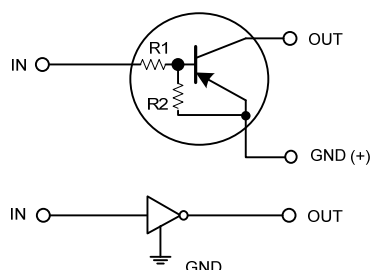


**DTB123E**

Preliminary

PNP SILICON TRANSISTOR**DIGITAL TRANSISTORS
(BUILT-IN BIAS RESISTORS)****■ FEATURES**

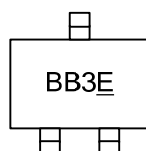
- * Built-in bias resistors that implies easy ON/OFF applications.
- * The bias resistors are thin-film resistors with complete isolation to allow positive input.

■ EQUIVALENT CIRCUIT**SOT-23**
(JEDEC TO-236)**■ ORDERING INFORMATION**

Ordering Number	Package	Pin Assignment			Packing
		1	2	3	
DTB123EG-AE3-R	SOT-23	G	I	O	Tape Reel

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

DTB123EG-AE3-R (1)Packing Type (2)Package Type (3)Green Package	(1) R: Tape Reel (2) AE3: SOT-23 (3) G: Halogen Free and Lead Free
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■ MARKING

■ **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	V
		10	V
Output Current	I_C	-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 SPECIFICATIONS** ($T_A = 25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Input Voltage	$V_{IN(OFF)}$	$V_{CC} = -5V, I_{OUT} = -100\mu A$			-0.5	V
	$V_{IN(ON)}$	$V_{OUT} = -0.3V, I_O = -20mA$	-3			
Output Voltage	$V_{OUT(ON)}$	$I_{OUT}/I_{IN} = -50mA/-2.5mA$		-0.1	-0.3	V
Input Current	I_{IN}	$V_{IN} = -5V$			-3.8	mA
Output Current	$I_{OUT(OFF)}$	$V_{CC} = -50V, V_{IN} = 0V$			-0.5	μA
ON CHARACTERISTICS						
DC Current Gain	h_{FE}	$V_{OUT} = -5V, I_{OUT} = -50mA$	39			
SMALL SIGNAL CHARACTERISTICS						
Input Resistance	R_1		1.54	2.2	2.86	k Ω
Resistor Ratio	R_2/R_1		0.8	1	1.2	
Transition Frequency (Note)	f_T	$V_{CE} = -10V, I_E = 50mA, f = 100MHz$		200		MHz

Note: Transition frequency of the device

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