



DTB123Y

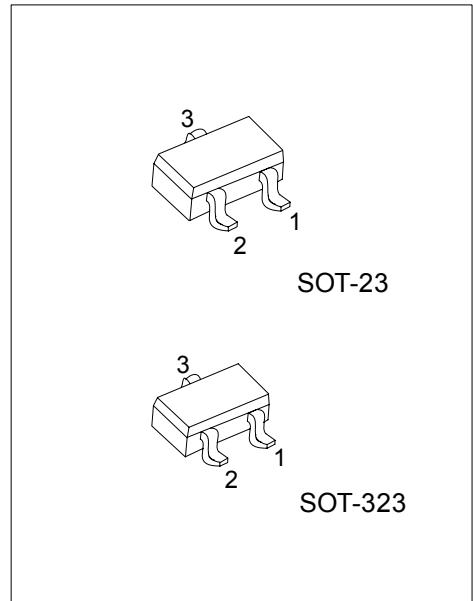
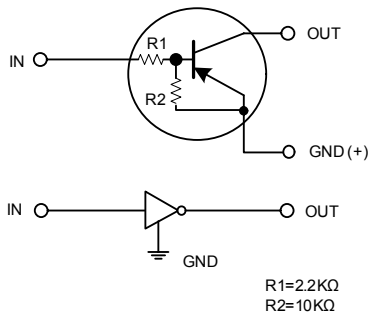
PNP SILICON TRANSISTOR

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



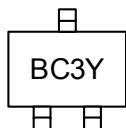
*Pb-free plating product number:DTB123YL

■ ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
DTB123Y-AE3-R	DTB123YL-AE3-R	SOT-23	G	I	O	Tape Reel
DTB123Y-AL3-R	DTB123YL-AL3-R	SOT-323	G	I	O	Tape Reel

<p>DTB123YL-AE3-R</p> <ul style="list-style-type: none"> (1) Packing Type (2) Package Type (3) Lead Plating 	<ul style="list-style-type: none"> (1) R: Tape Reel (2) AE3: SOT-23, AL3: SOT-323 (3) L: Lead Free Plating, Blank: Pb/Sn
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■ MARKING



■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V_{CC}	-50	V
Input Voltage	V_{IN}	-12 ~ +5	V
Output Current	I_C	-500	mA
Power Dissipation	P_D	200	mW
Junction Temperature	T_J	+150	°C
Storage Temperature	T_{STG}	-55 ~ +150	°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.

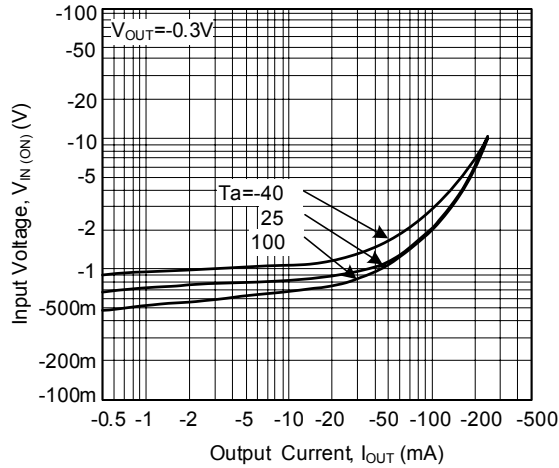
■ ELECTRICAL SPECIFICATIONS (Ta=25°C, unless others specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input Voltage	$V_{IN(OFF)}$	$V_{CC} = -5V, I_{OUT} = -100\mu A$			-0.3	V
	$V_{IN(ON)}$	$V_{OUT} = -0.3V, I_{OUT} = -20mA$	-2			
Output Voltage	$V_{OUT(ON)}$	$I_{OUT}/I_{IN} = -50mA/-2.5mA$		-0.1	-0.3	V
Input Current	I_{IN}	$V_{IN} = -5V$			-3.0	mA
Output Current	$I_{OUT(OFF)}$	$V_{CC} = -50V, V_{IN} = 0V$			-0.5	μA
DC Current Gain	h_{FE}	$V_{OUT} = -5V, I_{OUT} = -50mA$	56			
Input Resistance	R_1		1.54	2.2	2.86	K Ω
Resistor Ratio	R_2/R_1		3.6	4.5	5.5	
Transition Frequency (Note)	f_T	$V_{CE} = -10V, I_E = 50mA, f = 100MHz$		200		MHz

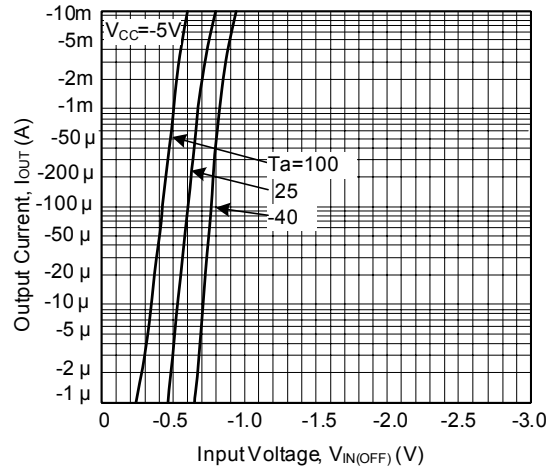
Note: Transition frequency of the device

TYPICAL CHARACTERISTICS

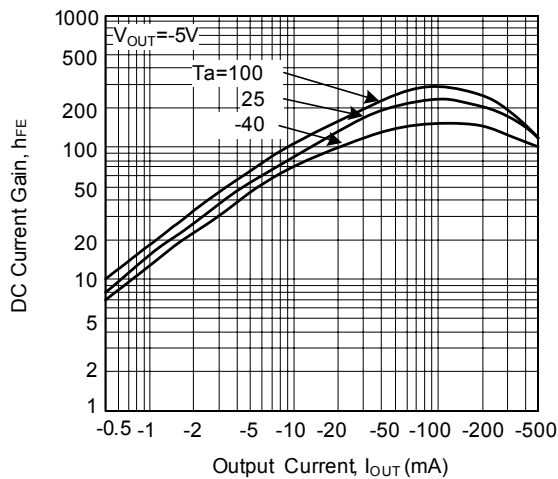
Input Voltage vs. Output Current
(ON Characteristics)



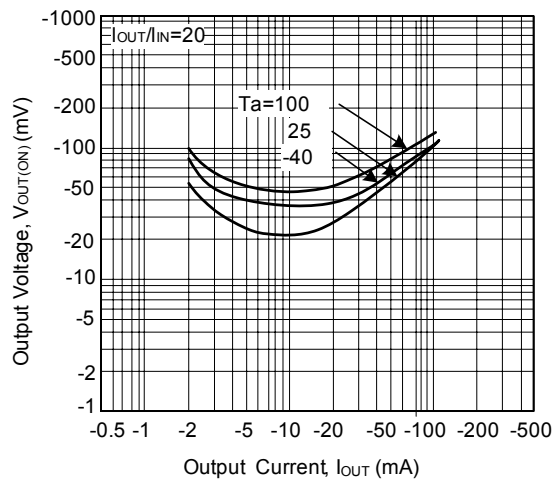
Output Current vs. Input Voltage
(OFF Characteristics)



DC Current Gain vs. Output Current



Output Voltage vs. Output Current



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