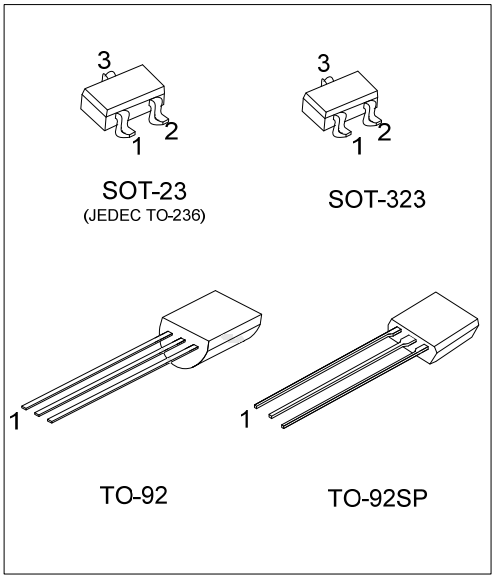
DTB123Y

PNP SILICON TRANSISTOR

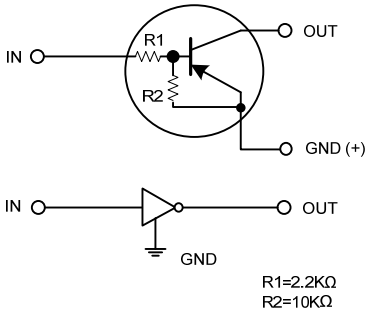
DIGITAL TRANSISTORS (BUILT- IN BIAS RESISTORS)



■ 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



■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
DTB123YL-AE3-R	DTB123YG-AE3-R	SOT-23	I	G	O	Tape Reel
DTB123YL-AL3-R	DTB123YG-AL3-R	SOT-323	I	G	O	Tape Reel
DTB123YL-T92-K	DTB123YG-T92-K	TO-92	G	O	I	Bluk
DTB123YL-T92-B	DTB123YG-T92-B	TO-92	G	O	I	Tape Box
DTB123YL-T9S-K	DTB123YG-T9S-K	TO-92SP	G	O	I	Bulk
DTB123YL-T9S-B	DTB123YG-T9S-B	TO-92SP	G	O	I	Tape Box

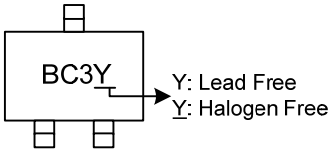
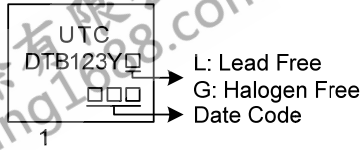
Note: Pin assignment: I: IN G: GND O: OUT

DTB123YG-AE3-R

(1)Packing Type
(2)Package Type
(3)Green Package

(1) B: Tape Box, K: Bluk, R: Tape Reel
(2) AE3: SOT-23, AL3: SOT-323, T92: TO-92
T9S: TO-92SP
(3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING

SOT-23 / SOT-323	TO-92 / TO-92SP
	

■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C, unless others specified)

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	SOT-23/ SOT-323	P_D	200	mW
	TO-92		625	mW
	TO-92SP		550	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.

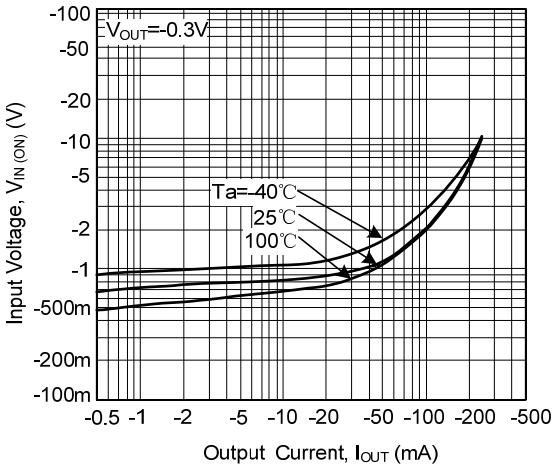
■ ELECTRICAL SPECIFICATIONS (T_A=25°C, unless others specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Input Voltage	$V_{IN(OFF)}$	V_{CC} =-5V, I_{OUT} =-100μA			-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
ON CHARACTERISTICS						
DC Current Gain	h_{FE}	V_{OUT} =-5V, I_{OUT} =-50mA	56			
SMALL SIGNAL CHARACTERISTICS						
Input Resistance	R_1		1.54	2.2	2.86	KΩ
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

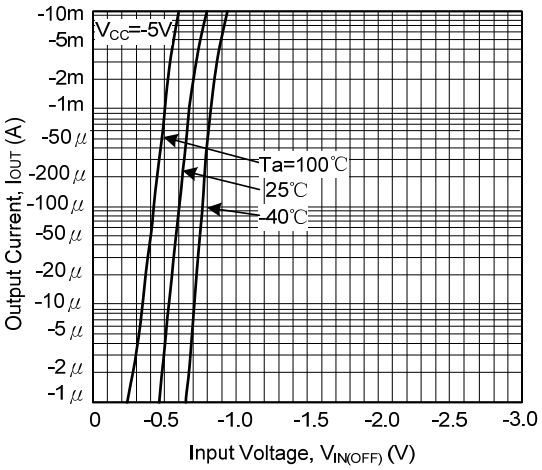
Note: Transition frequency of the device.

■ TYPICAL CHARACTERISTICS

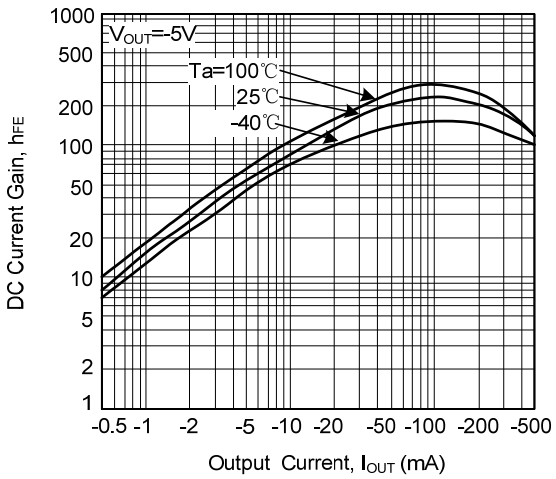
Input Voltage vs. Output Current
(ON Characteristics)



Output Current vs. Input Voltage
(OFF Characteristics)



DC Current Gain vs. Output Current



Output Voltage vs. Output Current