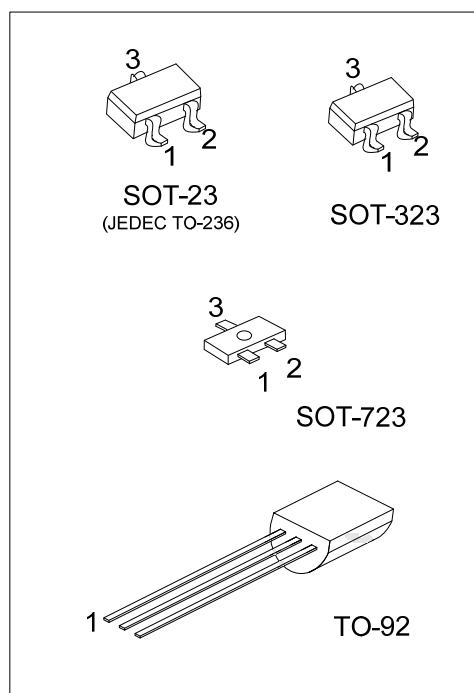
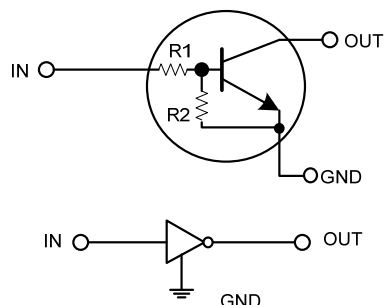


**DTD123Y****NPN SILICON TRANSISTOR****DIGITAL TRANSISTORS
(BUILT-IN RESISTORS)****FEATURES**

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

EQUIVALENT CIRCUIT**ORDERING INFORMATION**

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
DTD123YL-AE3-R	DTD123YG-AE3-R	SOT-23	I	G	O	Tape Reel
DTD123YL-AL3-R	DTD123YG-AL3-R	SOT-323	I	G	O	Tape Reel
DTD123YL-AQ3-R	DTD123YG-AQ3-R	SOT-723	I	G	O	Tape Reel
DTD123YL-T92-B	DTD123YG-T92-B	TO-92	G	O	I	Tape Box
DTD123YL-T92-K	DTD123YG-T92-K	TO-92	G	O	I	Bulk

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

DTD123YG-AE3-R (1) Packing Type (2) Package Type (3) Green Package	(1) R: Tape Reel, B: Tape Box, K: Bulk (2) AE3: SOT-23, AL3: SOT-323, AQ3: SOT-723 T92: TO-92 (3) G: Halogen Free and Lead Free, L: Lead Free
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MARKING

SOT-23 / SOT-323 / SOT-723	TO-92
Y: Lead Free $\bar{Y}$: Halogen Free	L: Lead Free G: Halogen Free Date Code

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

PARAMETER		SYMBOL	RATINGS	UNIT
Supply voltage		V _{CC}	50	V
Input voltage		V _{IN}	-5 ~ +12	V
Output current		I _C	500	mA
Power dissipation	SOT-23/SOT-323	P _D	200	mW
	SOT-723		100	mW
	TO-92		625	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 CHARACTERISTICS (T_A=25°C, unless others specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
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 _O /I _I =50mA/2.5mA		0.1	0.3	V
Input Current	I _{IN}	V _{IN} =5V			3.6	mA
Output Current	I _{O(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 _I		1.54	2.2	2.86	KΩ
Resistance Ratio	R ₂ /R ₁		3.6	4.5	5.5	
Transition Frequency	f _T	V _{CE} =10V, I _E = -50mA, f=100MHz (Note)		200		MHz

Note: Transition frequency of the device.

■ TYPICAL CHARACTERISTICS

Fig.1 Input Voltage vs. Output Current
(ON Characteristics)

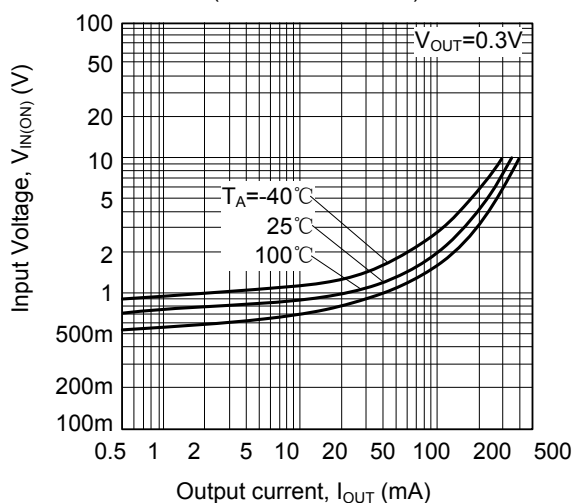


Fig.2 Output Current vs. Input Voltage
(OFF Characteristics)

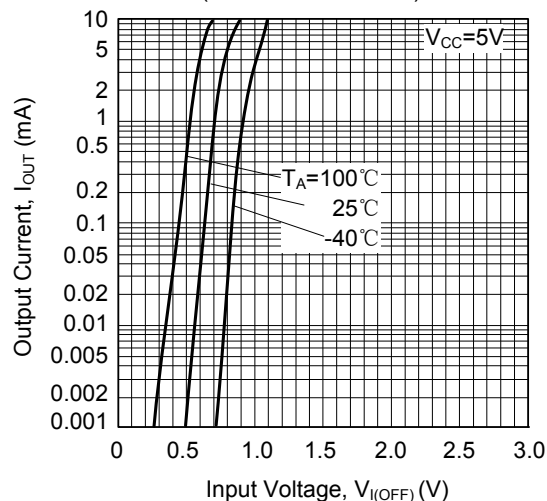


Fig.3 DC Current Gain vs. Output Current

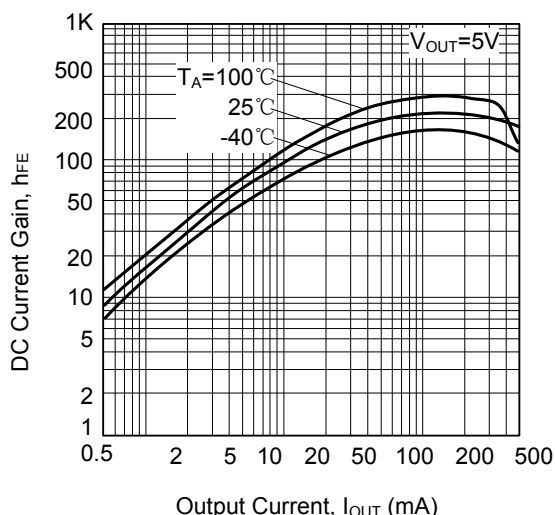
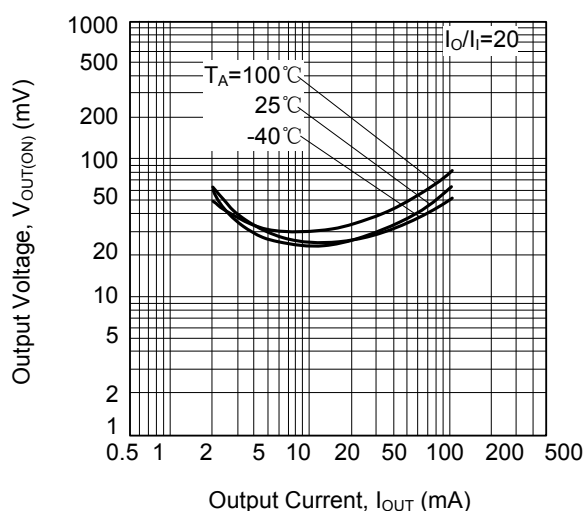


Fig.4 Output Voltage vs. Output Current



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