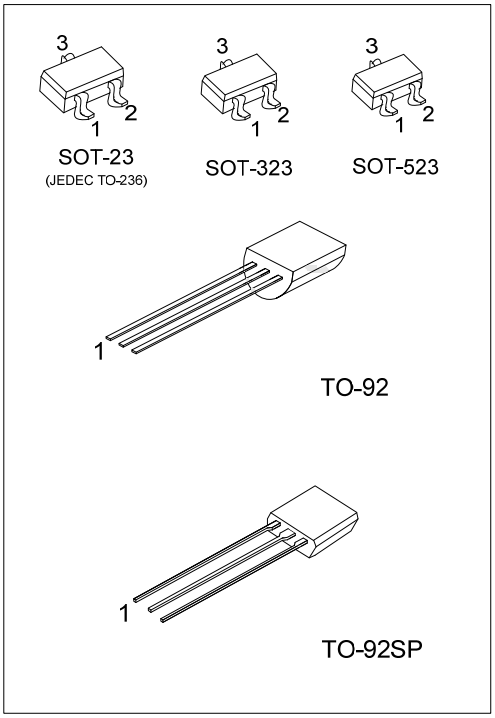
DTC143X

NPN DIGITAL TRANSISTOR

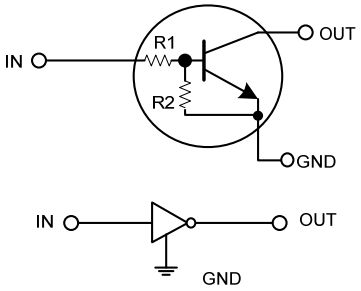
NPN DIGITAL TRANSISTOR (BUILT-IN RESISTORS)



■ 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	
DTC143XL-AE3-R	DTC143XG-AE3-R	SOT-23	I	G	O	Tape Reel
DTC143XL-AL3-R	DTC143XG-AL3-R	SOT-323	I	G	O	Tape Reel
DTC143XL-AN3-R	DTC143XG-AN3-R	SOT-523	I	G	O	Tape Reel
DTC143XL-T92-B	DTC143XG-T92-B	TO-92	G	O	I	Tape Box
DTC143XL-T92-K	DTC143XG-T92-K	TO-92	G	O	I	Bulk
DTC143XL-T9S-B	DTC143XG-T9S-B	TO-92SP	G	O	I	Tape Box
DTC143XL-T9S-K	DTC143XG-T9S-K	TO-92SP	G	O	I	Bulk

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

DTC143XG-AE3-R
(1)Packing Type
(2)Package Type
(3)Green Package

(1) B: Tape Box, K: Bulk, R: Tape Reel
(2) AE3: SOT-23, AL3: SOT-323, AN3: SOT-523, T92: TO-92, T9S: TO-92SP
(3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING

SOT-23 / SOT-323 / SOT-523	TO-92	TO-92SP
CE3X X: Halogen Free X: Lead Free	UTC DTC143X□ □□□ L: Lead Free G: Halogen Free Date Code 1	UTC TC143X□ □□□ L: Lead Free G: Halogen Free Date Code 1

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

PARAMETER		SYMBOL	RATINGS	UNIT
Supply Voltage		V_{CC}	50	V
Input Voltage		V_{IN}	-7 ~ +20	V
Output Current		I_O	100	mA
		$I_{C(MAX.)}$	100	
Power Dissipation	SOT-23/SOT-323	P_D	200	mW
	SOT-523		150	
	T0-92		625	
	TO-92SP		550	
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 otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input Voltage	$V_{I(OFF)}$	V_{CC}=5V, I_O=100μA			0.3	V
	$V_{I(ON)}$	V_O=0.3V, I_O=20mA	2.5			
Output Voltage	$V_{O(ON)}$	I_O/I_I=10mA/0.5mA		0.1	0.3	V
Input Current	I_I	V_I=5V			1.8	mA
Output Current	$I_{O(OFF)}$	V_{CC}=50V, V_I=0V			0.5	μA
DC Current Gain	h_{FE}	V_O=5V, I_O=10mA	30			
Input Resistance	R_1		3.29	4.7	6.11	KΩ
Resistance Ratio	R_2/R_1		1.7	2.1	2.6	
Transition Frequency	f_T	V_{CE}=10V, I_E=−5mA,f=100MHz (Note)		250		MHz

Note: Transition frequency of the device.