



DTNP143X

Preliminary

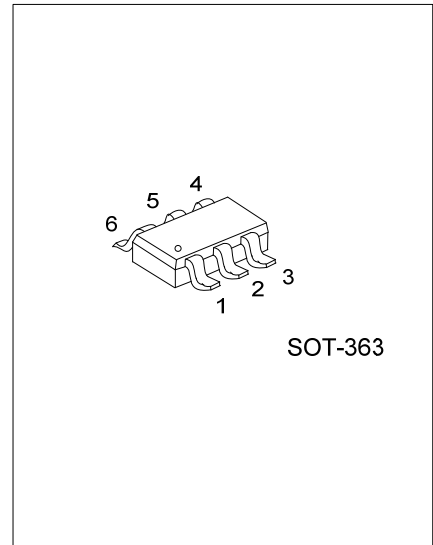
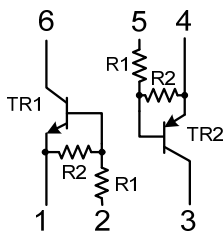
DUAL TRANSISTOR

**GENERAL PURPOSE
(DUAL DIGITAL TRANSISTOR)**

■ **FEATURES**

- * Both the DTA143X chip and DTC143X chip in a SOT-363 package.
- * NPN/PNP silicon transistor(Built-in resistor type)

■ **EQUIVALENT CIRCUIT**



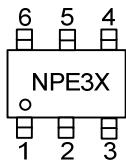
■ **ORDERING INFORMATION**

Ordering Number		Package	Pin Assignment						Packing
Lead Free	Halogen Free		1	2	3	4	5	6	
DTNP143XL-AL6-R	DTNP143XG-AL6-R	SOT-363	G1	I1	O2	G2	I2	O1	Tape Reel

Note: Pin Assignment: G: GND I: Input O: Output

<p>DTNP143XG-AL6-R</p> <ul style="list-style-type: none"> (1)Packing Type (2)Package Type (3)Green Package 	<ul style="list-style-type: none"> (1) R: Tape Reel (2) AL6: SOT-363 (3) G: Halogen Free and Lead Free, L: Lead Free
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■ **MARKING**



■ ABSOLUTE MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS		UNIT
		TR1 (NPN)	TR2 (PNP)	
Supply Voltage	V_{CC}	50	-50	V
Input Voltage	V_{IN}	-3 ~ +20	-20 ~ +7	V
Output Current	I_{OUT}	100	-100	mA
	$I_{C(MAX)}$	100	-100	mA
Total Power Dissipation (120mW per element must not be exceeded)	P_D	150		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 CHARACTERISTICS ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

TR1 (NPN)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input Voltage	$V_{I(OFF)}$	$V_{CC}=5V, I_o=100\mu A$			0.3	V
	$V_{I(ON)}$	$V_o=0.3V, I_o=20mA$	2.5			V
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	K Ω
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.

TR2 (PNP)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input Voltage	$V_{I(OFF)}$	$V_{CC}=-5V, I_o=-100\mu A$			-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	K Ω
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.

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