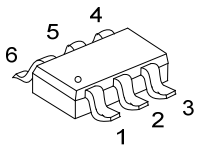
DTNP143X

Preliminary ***DUAL TRANSISTOR***

GENERAL PURPOSE
(DUAL DIGITAL TRANSISTOR)

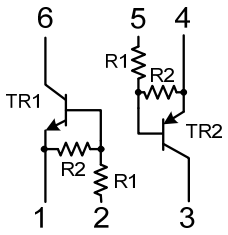


SOT-363

■ 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

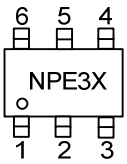
DTNP143XG-AL6-R

(1)Packing Type — (1) R: Tape Reel

(2)Package Type — (2) AL6: SOT-363

(3)Green Package — (3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°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		°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)

TR1 (NPN)

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			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	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.

TR2 (PNP)

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.