



DTNN123J

NPN SILICON TRANSISTOR

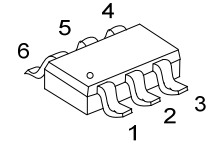
COMPOUND TRANSISTORS

DESCRIPTION

The UTC **DTNN123J** is an NPN epitaxial transistor; it uses UTC's advanced technology to provide the customers with low collector-emitter saturation voltage, etc.

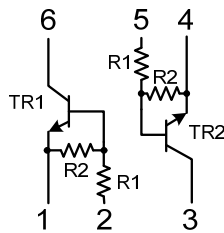
FEATURES

- * Two DTC123J chips in a SOT-363 package
- * Low collector-emitter saturation voltage
- * With built-in bias resistors
- * Simplify circuit design
- * Silicon epitaxial type.
- * The internal two transistor elements are independent.



SOT-363

EQUIVALENT CIRCUIT



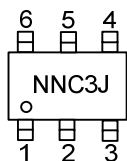
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment						Packing
Lead Free	Halogen Free		1	2	3	4	5	6	
DTNN123JL-AL6-R	DTNN123JG-AL6-R	SOT-363	G1	I1	O2	G2	I2	O1	Tape Reel

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

DTNN123JG-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** ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V_{CC}	50	V
Input Voltage	V_{IN}	-5 ~ +12	V
Output Current	I_O	100	mA
	$I_{C(MAX.)}$	100	mA
Power Dissipation	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.

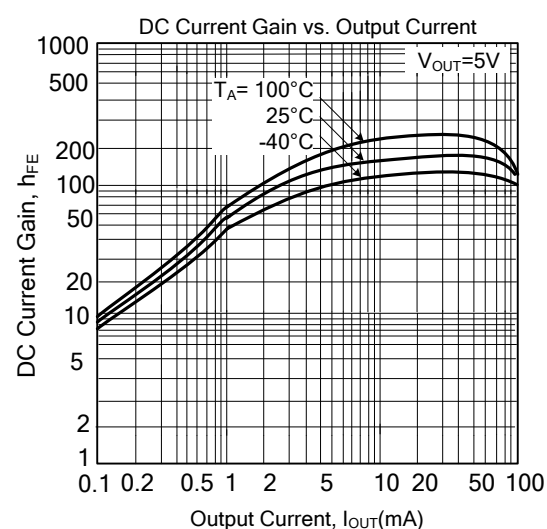
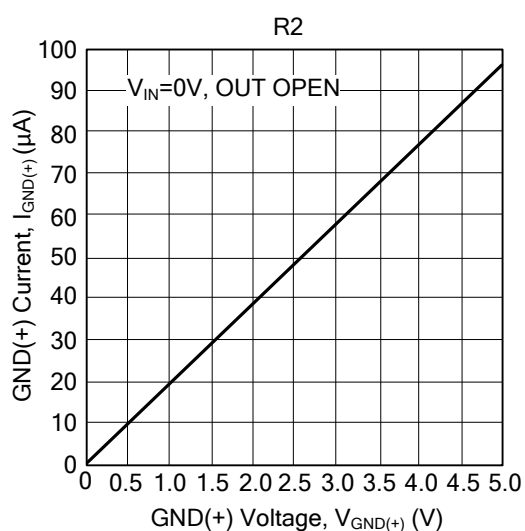
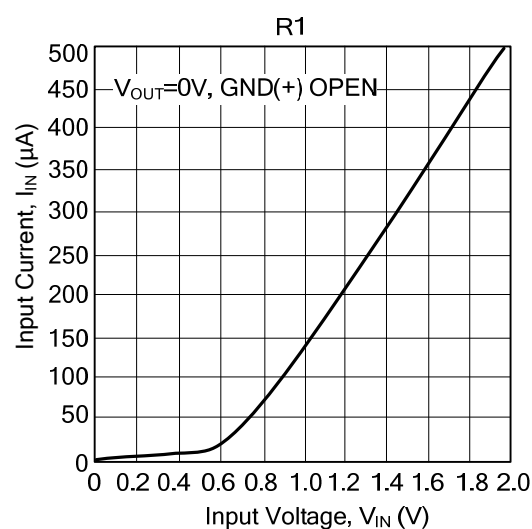
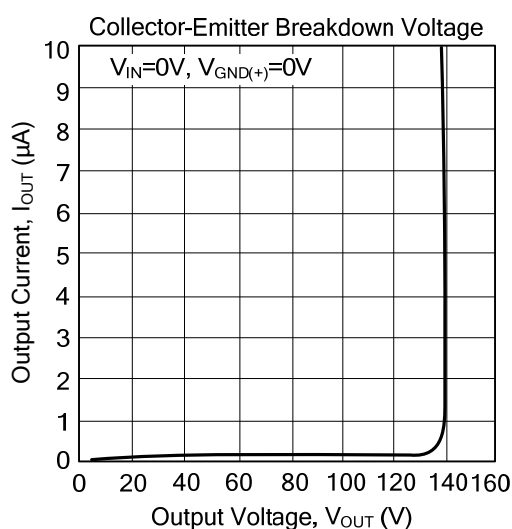
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ **ELECTRICAL CHARACTERISTICS** ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input Voltage	$V_{I(OFF)}$	$V_{CC}=5\text{V}$, $I_O=100\mu\text{A}$			0.5	V
	$V_{I(ON)}$	$V_O=0.3\text{V}$, $I_O=5\text{mA}$	1.1			V
Output Voltage	$V_{O(ON)}$	$I_O/I_I=5\text{mA}/0.25\text{mA}$		0.1	0.3	V
Input Current	I_I	$V_I=5\text{V}$			3.6	mA
Output Current	$I_{O(OFF)}$	$V_{CC}=50\text{V}$, $V_I=0\text{V}$			0.5	μA
DC Current Gain	h_{FE}	$V_O=5\text{V}$, $I_O=10\text{mA}$	80			
Input Resistance	R_1		1.54	2.2	2.86	$\text{K}\Omega$
Resistance Ratio	R_2/R_1		17	21	26	
Transition Frequency	f_T	$V_{CE}=10\text{V}$, $I_E=-5\text{mA}$, $f=100\text{MHz}$ (Note)		250		MHz

Note: Transition frequency of the device

■ TYPICAL CHARACTERISTICS



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