



## DTNN123J

## NPN SILICON TRANSISTOR

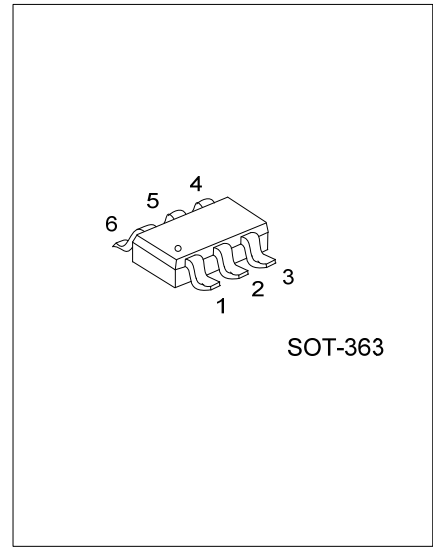
### COMPOUND TRANSISTORS

#### DESCRIPTION

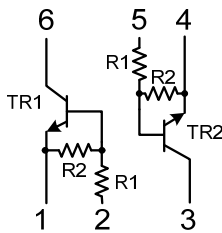
The UTC **DTNN123J** is an NPN epitaxial transistor; it uses UTC's advanced technology to provide the customers with low collector-emitter saturation voltage, etc.

#### FEATURES

- \* Two DTN123J 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.



#### EQUIVALENT CIRCUIT



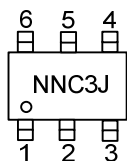
#### ORDERING INFORMATION

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

<p>DTNN123JG-AL6-R</p> <p>(1)Packing Type</p> <p>(2)Package Type</p> <p>(3)Green Package</p>	<p>(1) R: Tape Reel</p> <p>(2) AL6: SOT-363</p> <p>(3) G: Halogen Free and Lead Free, L: Lead Free</p>
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#### 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.

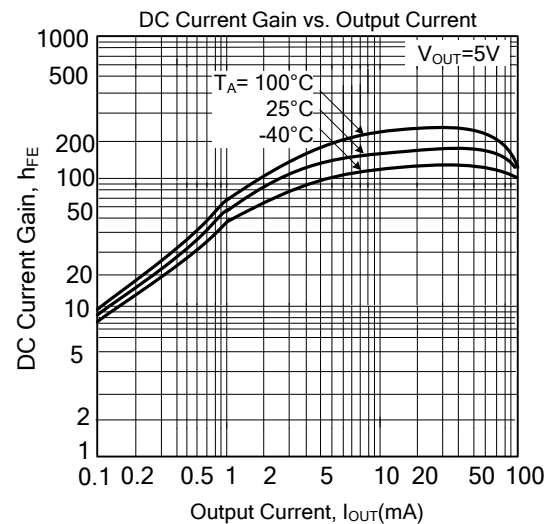
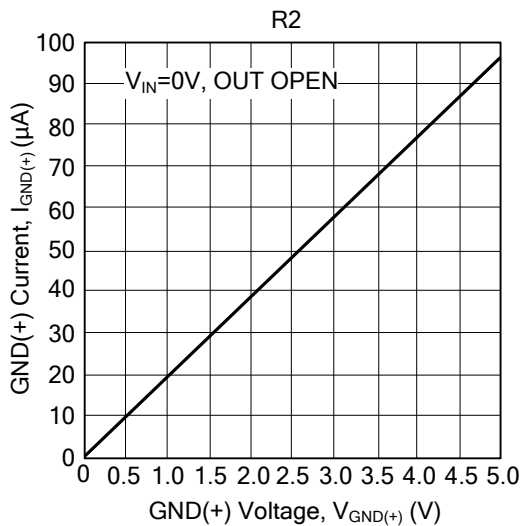
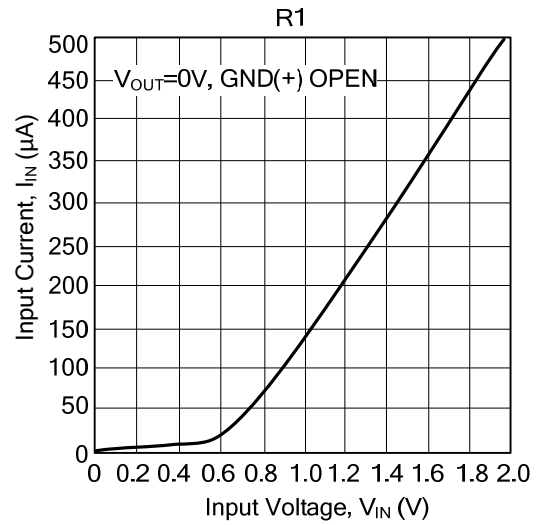
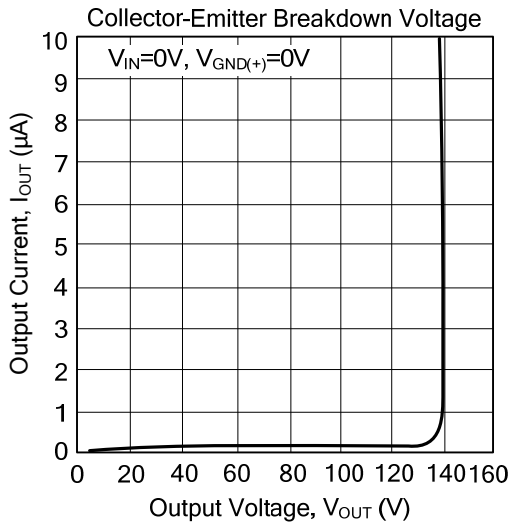
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

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

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

Note: Transition frequency of the device

## TYPICAL CHARACTERISTICS



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