



DTNN143X

Preliminary

DUAL TRANSISTOR

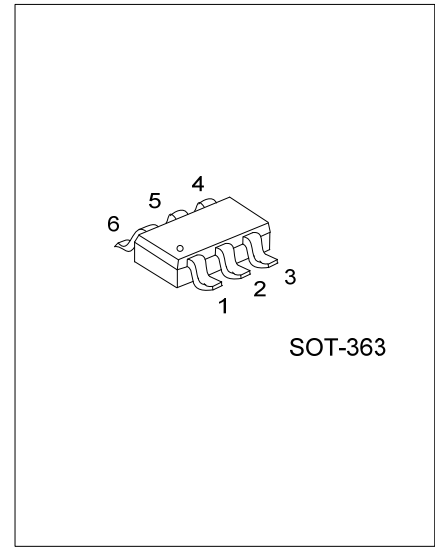
COMPOUND TRANSISTORS

DESCRIPTION

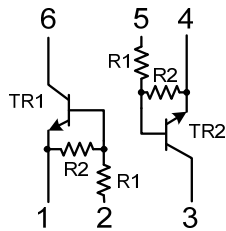
The UTC **DTNN143X** is an NPN epitaxial transistor; it uses UTC's advanced technology to provide the customers with low collector -emitter saturation voltage, etc.

FEATURES

- * Two DTC143X chips in a SOT-363 package
- * Low collector-emitter saturation voltage
- * With built-in bias resistors
- * Simplify circuit design
- * Silicon epitaxial type
- * The internal tow transistor elements are independent



SYMBOL



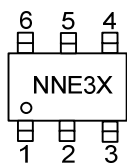
ORDERING INFORMATION

| Ordering Number | | Package | Pin Assignment | | | | | | Packing |
|-----------------|-----------------|---------|----------------|----|----|----|----|----|-----------|
| Lead Free | Halogen Free | | 1 | 2 | 3 | 4 | 5 | 6 | |
| DTNN143XL-AL6-R | DTNN143XG-AL6-R | SOT-363 | G1 | I1 | O2 | G2 | I2 | O1 | Tape Reel |

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

| | | |
|-----------------|------------------|---|
| DTNN143XG-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} | -7 ~ +20 | V |
| Output Current | I_{OUT} | 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 | $V_{IN(OFF)}$ | $V_{CC}=5V, I_o=100\mu\text{A}$ | | | 0.3 | V |
| | $V_{IN(ON)}$ | $V_o=0.3V, I_o=20\text{mA}$ | 2.5 | | | V |
| Output Voltage | $V_{OUT(ON)}$ | $I_o/I_i=10\text{mA}/0.5\text{mA}$ | | 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} | $V_o=5V, I_o=10\text{mA}$ | 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 | $V_{CE}=10V, I_E=-5\text{mA}, f=100\text{MHz}$ (Note) | | 250 | | MHz |

Note: Transition frequency of the device.

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