



## UG8J

## NPN SILICON TRANSISTOR

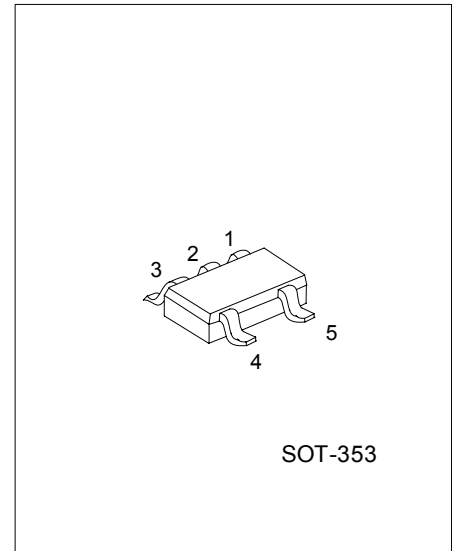
### EMITTER COMMON (DUAL DIGITAL TRANSISTORS)

#### FEATURES

- \* Two DTC143Z chips in a SOT-353 package.
- \* Mounting cost and area can be cut in half.

#### STRUCTURE

- \* Epitaxial planar type
- \* NPN silicon transistor (Built-in resistor type)



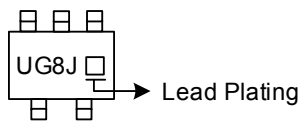
\*Pb-free plating product number: UG8JL

#### ORDERING INFORMATION

| Order Number |                   | Package | Pin Assignment |       |    |    |    | Packing   |
|--------------|-------------------|---------|----------------|-------|----|----|----|-----------|
| Normal       | Lead Free Plating |         | 1              | 2     | 3  | 4  | 5  |           |
| UG8J-AL5-R   | UG8J-AL5-R        | SOT-353 | B1             | E1,E2 | B2 | C2 | C1 | Tape Reel |

|                    |   |
|--------------------|---|
| <p>UG8JL-AL5-R</p> | <p>(1) R: Tape Reel</p> <p>(2) AL5: SOT-353</p> <p>(3) L: Lead Free Plating, Blank: Pb/Sn</p> |
|--------------------|---|

#### MARKING INFORMATION



■ ABSOLUTE MAXIMUM RATING (Ta=25 )

| PARAMETER               | SYMBOL       | RATINGS     | UNIT |
|-------------------------|--------------|-------------|------|
| Supply Voltage          | $V_{CC}$     | 50          | V    |
| Input Voltage           | $V_{IN}$     | 30          | V    |
|                         |              | -5          |      |
| Output Current          | $I_{OUT}$    | 100         | mA   |
|                         | $I_{C(MAX)}$ | 100         |      |
| Total Power Dissipation | $P_D$        | 150 (Note1) | mW   |
| Junction Temperature    | $T_J$        | +150        |      |
| Storage Temperature     | $T_{STG}$    | -40 ~ +150  |      |

Note 1. \*120mW per element must not be exceeded.

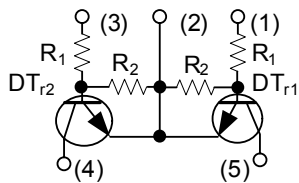
2. Absolute maximum ratings are those values beyond which the device could be permanently damaged.  
 Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS (Ta=25 )

| PARAMETER            | SYMBOL       | TEST CONDITIONS                    | MIN  | TYP | MAX  | UNIT       |
|----------------------|--------------|------------------------------------|------|-----|------|------------|
| Input Voltage        | $V_{I(OFF)}$ | $V_{CC}=5V, I_{OUT}=100\mu A$      |      |     | 0.5  | V          |
|                      | $V_{I(ON)}$  | $V_{OUT}=0.3V, I_{OUT}=5mA$        | 1.3  |     |      |            |
| Output Voltage       | $V_{O(ON)}$  | $I_{OUT}=5mA, I_{IN}=0.25mA$       |      | 0.1 | 0.3  | V          |
| Input Current        | $I_{IN}$     | $V_{IN}=5V$                        |      |     | 1.8  | mA         |
| Output Current       | $I_{O(OFF)}$ | $V_{CC}=50V, V_{IN}=0V$            |      |     | 0.5  | $\mu A$    |
| DC Current Gain      | $G_I$        | $V_{OUT}=5V, I_{OUT}=10mA$         | 80   |     |      |            |
| Transition Frequency | $f_T$        | $V_{CE}=10V, I_E=-5mA, f=100MHz^*$ |      | 250 |      | MHz        |
| Input Resistance     | $R_1$        |                                    | 3.29 | 4.7 | 6.11 | K $\Omega$ |
| Resistance Ratio     | $R_2/R_1$    |                                    | 8    | 10  | 12   |            |

Note \* Transition frequency of the device.

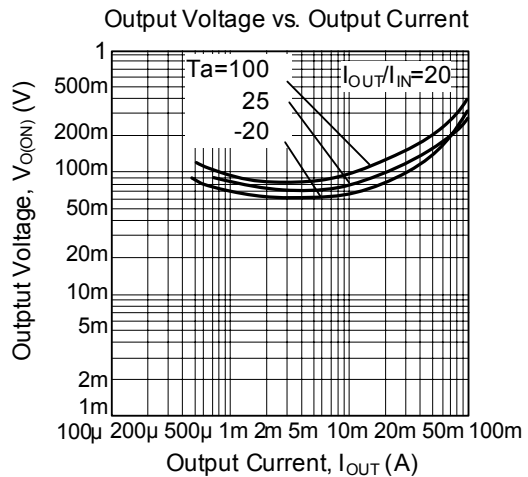
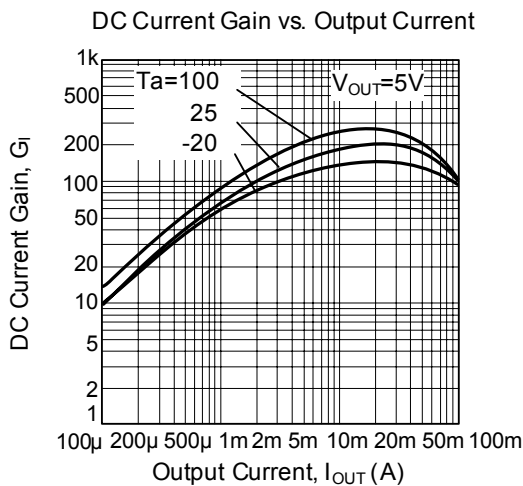
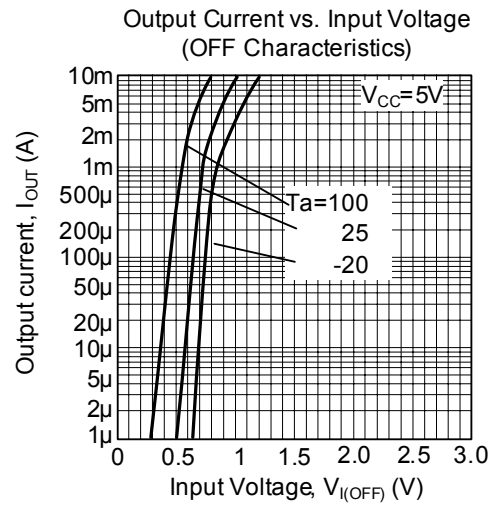
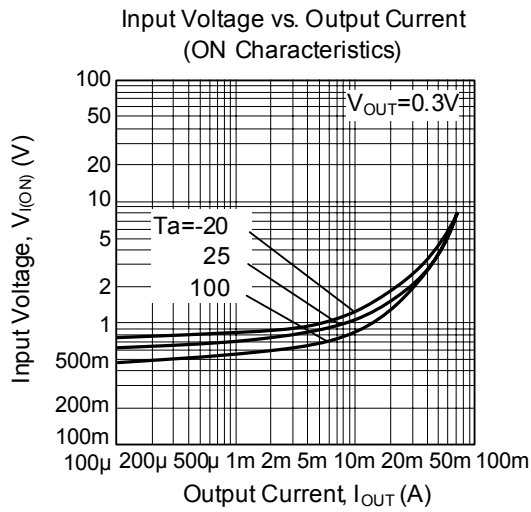
■ EQUIVALENT CIRCUIT (The following characteristic apply to both DT<sub>r1</sub> and DT<sub>r2</sub>)



$$R_1=4.7k$$

$$R_2=4.7k$$

## ■ TYPICAL CHARACTERISTICS



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