

# UNISONIC TECHNOLOGIES CO., LTD

## TIP41C

#### NPN PLANAR TRANSISTOR

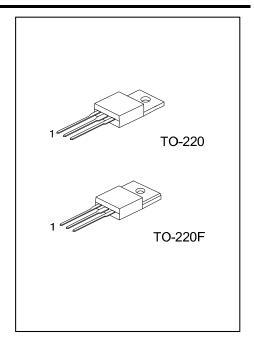
## NPN EXPITAXIAL PLANAR **TRANSISTOR**

#### **DESCRIPTION**

The UTC TIP41C is a NPN expitaxial planar transistor, designed for using in general purpose amplifier and switching applications.

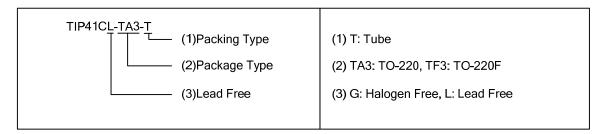
#### **FEATURE**

\* Complement to TIP42C



### ORDERING INFORMATION

| Ordering Number |               | Dagkara | Pin Assignment |   |   | Deaking |  |
|-----------------|---------------|---------|----------------|---|---|---------|--|
| Lead Free       | Halogen Free  | Package | 1              | 2 | 3 | Packing |  |
| TIP41CL-TA3-T   | TIP41CG-TA3-T | TO-220  | В              | С | Е | Tube    |  |
| TIP41CL-TF3-T   | TIP41CG-TF3-T | TO-220F | В              | С | Е | Tube    |  |



www.unisonic.com.tw 1 of 3 QW-R203-008.D

#### ■ ABSOLUTE MAXIMUM RATINGS (T<sub>C</sub>=25°C, unless otherwise specified)

| PARAMETER  |                      | SYMBOL           | RATING             | UNIT |     |  |
|--|----------------------|------------------|--------------------|------|-----|--|
| Collector Base Voltage                                 |                      | $V_{CBO}$        | 100                | V    |     |  |
| Collector to Emitter Voltage                           |                      | V <sub>CEO</sub> | 100                | V    |     |  |
| Emitter-Base Voltage                                   |                      | $V_{EBO}$        | 5                  | V    |     |  |
| DC Pulse Ic 6   10 10                                  |                      | DC               |                    | 6    | А   |  |
|  |                      | 10               | А                  |      |     |  |
| Base Current   |                      | l <sub>Β</sub>   | 2                  | Α    |     |  |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | T 05°0               | TO-220           |                    | 65   | 10/ |  |
|  | 22                   | W                |                    |      |     |  |
|  | 2                    | 10/              |                    |      |     |  |
|  | 1 <sub>A</sub> =25°C | TO-220F          |                    | 0.7  | W   |  |
| Junction Temperature                                   |                      | TJ               | 150                | °C   |     |  |
| Storage Temperature                                    |                      | T <sub>STG</sub> | -65 ~ <b>+</b> 150 | °C   |     |  |

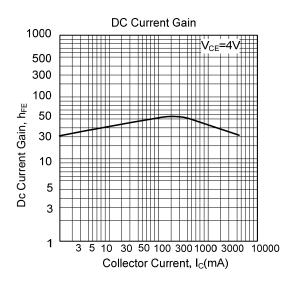
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

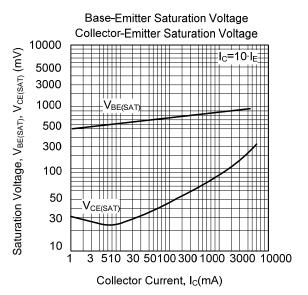
#### ■ ELECTRICAL CHARACTERISTICS (T<sub>C</sub>=25°C)

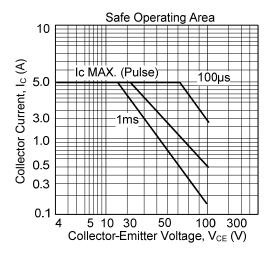
| PARAMETER                                   | SYMBOL               | TEST CONDITIONS                                     | MIN | TYP | MAX | UNIT |
|---|----------------------|---|-----|-----|-----|------|
| Collector Emitter Sustaining Voltage (Note) | $V_{CEO}$            | I <sub>C</sub> =30mA, I <sub>B</sub> =0             | 100 |     |     | V    |
| Collector Cutoff Current                    | I <sub>CEO</sub>     | V <sub>CE</sub> =60V, I <sub>B</sub> =0             |     |     | 0.7 | mA   |
| Collector Cutoff Current                    | I <sub>CES</sub>     | V <sub>CE</sub> =100V, V <sub>EB</sub> =0           |     |     | 400 | μΑ   |
| Emitter Cutoff Current                      | I <sub>EBO</sub>     | V <sub>EB</sub> =5V, I <sub>C</sub> =0              |     |     | 1   | mA   |
| Collector-Emitter Saturation Voltage (Note) | V <sub>CE(SAT)</sub> | I <sub>C</sub> =6A, I <sub>B</sub> =600mA           |     |     | 1.5 | V    |
| Base-Emitter On Voltage (Note)              | $V_{BE(ON)}$         | I <sub>C</sub> =6A, V <sub>CE</sub> =4V             |     |     | 2.0 | V    |
| DC Current Cain (Note)                      | h <sub>FE1</sub>     | I <sub>C</sub> =300mA, V <sub>CE</sub> =4V          | 30  |     |     |      |
| DC Current Gain (Note)                      | h <sub>FE2</sub>     | $I_C=3A$ , $V_{CE}=4V$                              | 15  |     | 75  |      |
| Current Gain Bandwidth Product              | f <sub>T</sub>       | V <sub>CE</sub> =10V, I <sub>C</sub> =500mA, f=1MHz | 3   |     |     | MHz  |

Note: Pulse Test:  $P_W \le 300 \mu s$ , Duty Cycle  $\le 2\%$ 

#### ■ TYPICAL CHARACTERISTICS







UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.