# UTC UNISONIC TECHNOLOGIES CO., LTD

# TIP41C

## NPN PLANAR TRANSISTOR

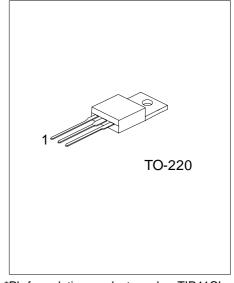
# **NPN EXPITAXIAL PLANAR TRANSISTOR**

#### **DESCRIPTION**

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

## **FEATURE**

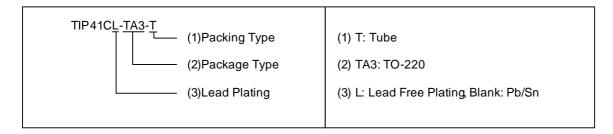
\* Complement to TIP42C



\*Pb-free plating product number:TIP41CL

### **ORDERING INFORMATION**

| Order Number |                   | Doolsono | Pin Assignment |   |   | Doolsing |  |
|--------------|-------------------|----------|----------------|---|---|----------|--|
| Normal       | Lead Free Plating | Package  | 1              | 2 | 3 | Packing  |  |
| TIP41C-TA3-T | TIP41CL-TA3-T     | TO-220   | В              | С | Е | Tube     |  |



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### ■ ABSOLUTE MAXIMUM RATINGS

| PARAMETER                    |               | SYMBOL         | RATING     | UNIT |  |
|------------------------------|---------------|----------------|------------|------|--|
| Collector Base Voltage       |               | $V_{CBO}$      | 100        | V    |  |
| Collector to Emitter Voltage |               | $V_{CEO}$      | 100        | V    |  |
| Emitter-Base Voltage         |               | $V_{EBO}$      | 5          | V    |  |
| Callactor Current            | DC            |                | 6          | Α    |  |
| Collector Current            | Current Pulse |                | 5 V        |      |  |
| Base Current                 |               | Ι <sub>Β</sub> | 2          | Α    |  |
| Calle star Dissination       | Tc=25°C       | ,              | 65         | W    |  |
| Collector Dissipation        | Ta=25°C       | Pc             | 2          | W    |  |
| Junction Temperature         |               | Τ <sub>J</sub> | 150        | °C   |  |
| Storage Temperature          |               | $T_{STG}$      | -65 ~ +150 | °C   |  |

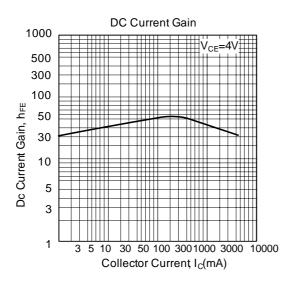
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

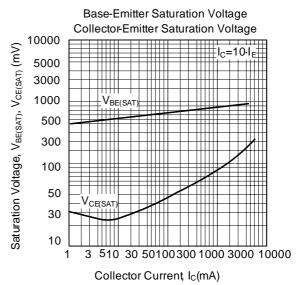
# ■ ELECTRICAL CHARACTERISTICS (Tc=25°C)

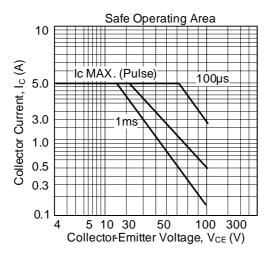
| PARAMETER                                   | SYMBOL               | TEST CONDITIONS                            | MIN | TYP | MAX | UNIT |
|---|----------------------|--|-----|-----|-----|------|
| Collector Emitter Sustaining Voltage (Note) | V <sub>CEO</sub>     | I <sub>C</sub> =30mA, I <sub>B</sub> =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 | μА   |
| Emitter Cutoff Current                      | I <sub>EBO</sub>     | V <sub>BE</sub> =5V, Ic=0                  |     |     | 1   | mΑ   |
| 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)              | $V_{BE(ON)}$         | $I_C=6A$ , $V_{CE}=4V$                     |     |     | 2.0 | V    |
| DC Current Cain (Nata)                      | 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, Ic=500mA, f=1MHz     | 3   |     |     | MHz  |

Note: Pulse Test: PW 300 µs, Duty Cycle 2%

#### TYPICAL CHARACTERISTICS







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