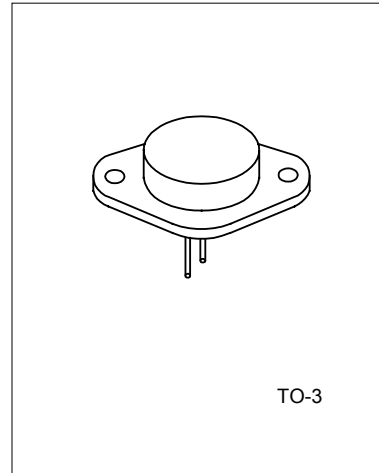


SILICON NPN TRANSISTORS

The UTC 2N3055 is a silicon NPN transistor in TO-3 metal case. It is intended for power switching circuits, series and shunt regulators, output stages and high fidelity amplifiers.



ABSOLUTE MAXIMUM RATINGS ( Ta=25°C , unless otherwise specified )

| PARAMETERS                          | SYMBOL           | VALUE      | UNITS |
|-------------------------------------|------------------|------------|-------|
| Collector-Base Voltage              | V <sub>CB0</sub> | 100        | V     |
| Collector-Emitter Voltage           | V <sub>CE0</sub> | 60         | V     |
| Emitter-Base Voltage                | V <sub>EB0</sub> | 7          | V     |
| Collector-Emitter Voltage           | V <sub>CEV</sub> | 70         | V     |
| Collector Current                   | I <sub>c</sub>   | 15         | A     |
| Collector Peak Current(1)           | I <sub>CM</sub>  | 15         | A     |
| Base Current                        | I <sub>B</sub>   | 7          | A     |
| Base Peak Current(1)                | I <sub>BM</sub>  | 15         | A     |
| Total Dissipation at Ta=25°C        | P <sub>tot</sub> | 115        | W     |
| Storage Temperature                 | T <sub>STG</sub> | -65 to 200 | °C    |
| Max. Operating Junction Temperature | T <sub>J</sub>   | 200        | °C    |

ELECTRICAL CHARACTERISTICS(Ta=25°C, unless otherwise specified)

| PARAMETER                            | SYMBOL                | TEST CONDITIONS  | MIN     | TYP | MAX        | UNIT |
|--------------------------------------|-----------------------|--|---------|-----|------------|------|
| <b>OFF CHARACTERISTICS</b>           |                       |  |         |     |            |      |
| Collector-Emitter Sustaining Voltage | V <sub>CE0(sus)</sub> | I <sub>c</sub> =200mA, I <sub>B</sub> =0V  | 60      |     |            | V    |
| Collector-Emitter Sustaining Voltage | V <sub>CER(sus)</sub> | I <sub>c</sub> =0.2 A, R <sub>BE</sub> =100 Ohms   | 70      |     |            | V    |
| Collector Cut-off Current            | I <sub>CEO</sub>      | V <sub>CE</sub> =30V, I <sub>B</sub> =0  |         |     | 0.7        | mA   |
| Collector Cut-off Current            | I <sub>CEx</sub>      | V <sub>CE</sub> =100V, V <sub>BE(off)</sub> =1.5V.<br>V <sub>CE</sub> =100V, V <sub>BE(off)</sub> =1.5V,<br>Ta=150°C |         |     | 1.0<br>5.0 | mA   |
| Emitter Cut-off Current              | I <sub>EBO</sub>      | V <sub>BE</sub> =7V, I <sub>C</sub> =0   |         |     | 5.0        | mA   |
| <b>ON CHARACTERISTICS</b>            |                       |  |         |     |            |      |
| DC Current Gain(note)                | h <sub>FE</sub>       | I <sub>c</sub> =4A, V <sub>CE</sub> =4V,<br>I <sub>c</sub> =10A, V <sub>CE</sub> =4V                                 | 20<br>5 |     | 70         |      |
| Collector-Emitter Saturation Voltage | V <sub>CE(sat)</sub>  | I <sub>c</sub> =4A, I <sub>B</sub> =400mA<br>I <sub>c</sub> =10A, I <sub>B</sub> =3.3A                               |         |     | 1.1<br>3.0 | V    |

# UTC2N3055

# SILICON NPN TRANSISTOR

| PARAMETER   | SYMBOL              | TEST CONDITIONS                                     | MIN  | TYP | MAX | UNIT |
|---|---------------------|---|------|-----|-----|------|
| Base-Emitter On Voltage                             | V <sub>BE(on)</sub> | I <sub>c</sub> =4A, V <sub>CE</sub> =4V             |      |     | 1.5 | V    |
| SECOND BREAKDOWN                                    |                     |   |      |     |     |      |
| Second Breakdown Collector with Base Forward Biased | I <sub>s/b</sub>    | V <sub>CE</sub> =60V, T=1.0s, Non-repetitive        | 2.87 |     |     | A    |
| DYNAMIC CHARACTERISTICS                             |                     |   |      |     |     |      |
| Current Gain-Bandwidth Product                      | f <sub>T</sub>      | I <sub>c</sub> =0.5A, V <sub>CE</sub> =10V, f=1MHz  | 2.5  |     |     | MHz  |
| Small-Signal Current Gain                           | h <sub>FE</sub>     | I <sub>c</sub> =1A, V <sub>CE</sub> =4V, f=1kHz     | 15   |     | 120 |      |
| Small-Signal Current Gain Cut-off Frequency         | f <sub>HFE</sub>    | I <sub>c</sub> =1A, V <sub>CE</sub> =4V<br>F=1.0kHz | 10   |     |     | kHz  |

Note(1):Pulse Test: Puls Width<=300μs, Duty Cycle<=2%

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