



TIP107

PNP SILICON TRANSISTOR

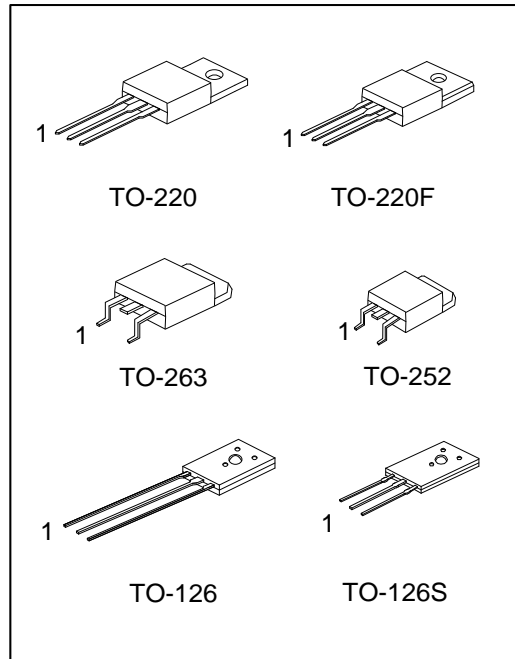
PNP EPITAXIAL TRANSISTOR

DESCRIPTION

The UTC **TIP107** is designed for using in general purpose amplifier and switching applications.

FEATURES

- * Low $V_{CE(SAT)}$
- * High Current Gain
- * Complementary to TIP102



ORDERING INFORMATION

| Ordering Number | | Package | Pin Assignment | | | Packing |
|-----------------|---------------|---------|----------------|---|---|-----------|
| Lead Free | Halogen Free | | 1 | 2 | 3 | |
| TIP107L-TA3-T | TIP107G-TA3-T | TO-220 | B | C | E | Tube |
| TIP107L-TF3-T | TIP107G-TF3-T | TO-220F | B | C | E | Tube |
| TIP107L-TN3-R | TIP107G-TN3-R | TO-252 | B | C | E | Tape Reel |
| TIP107L-TQ2-T | TIP107G-TQ2-T | TO-263 | B | C | E | Tube |
| TIP107L-TQ2-R | TIP107G-TQ2-R | TO-263 | B | C | E | Tape Reel |
| TIP107L-T60-K | TIP107G-T60-K | TO-126 | E | C | B | Bulk |
| TIP107L-T6S-K | TIP107G-T6S-K | TO-126S | E | C | B | Bulk |

Note: Pin Assignment: B: Base C: Collector E: Emitter

| | |
|---|---|
| <p>TIP107G-TA3-T</p> <p>(1) Packing Type (2) Package Type (3) Green Package</p> | <p>(1) R: Tape Reel, T: Tube, K: Bulk (2) TA3: TO-220, TF3: TO-220F, TN3: TO-252 TQ2: TO-263, T60: TO-126, T6S: TO-126S (3) G: Halogen Free and Lead Free, L: Lead Free</p> |
|---|---|

MARKING

| TO-220 / TO-220F / TO-252 / TO-263 | TO-126 / TO-126S |
|------------------------------------|------------------|
| | |

■ **ABSOLUTE MAXIMUM RATING** ($T_C=25^\circ\text{C}$, unless otherwise specified)

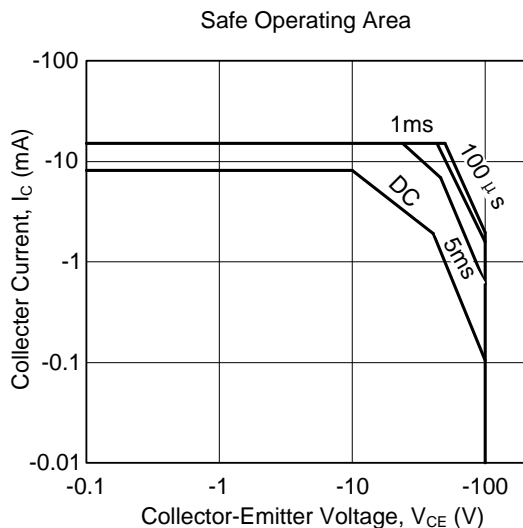
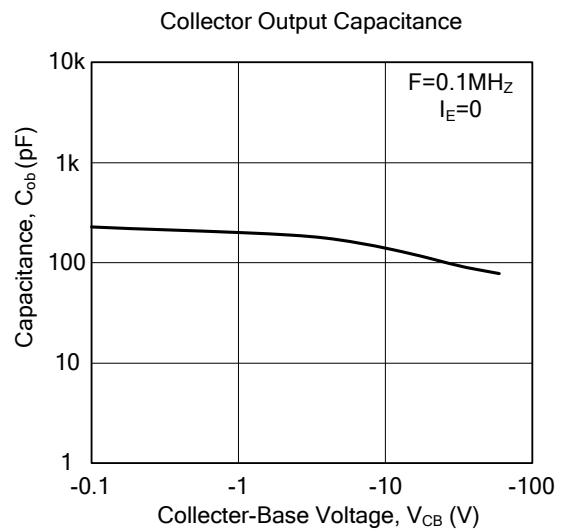
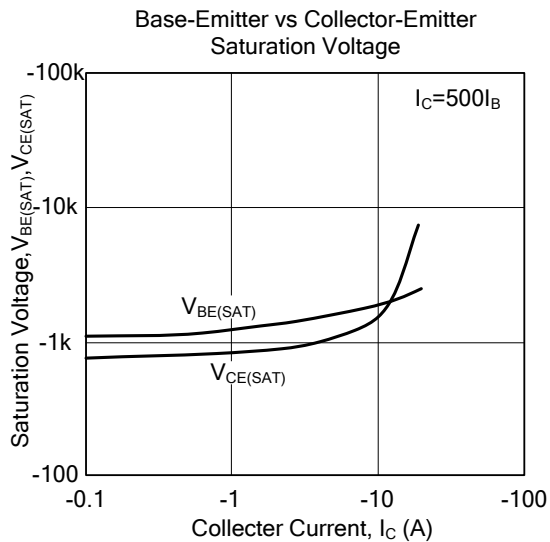
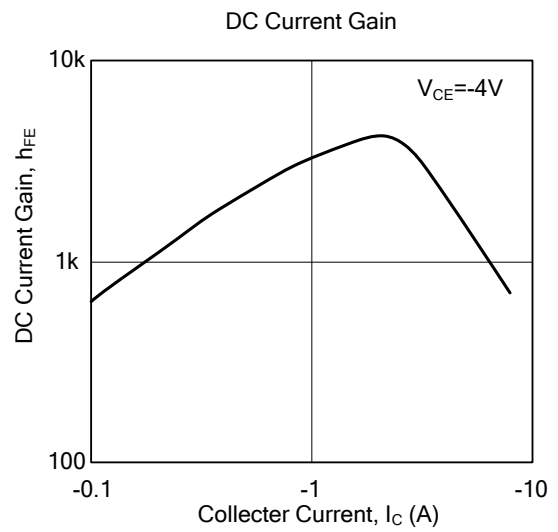
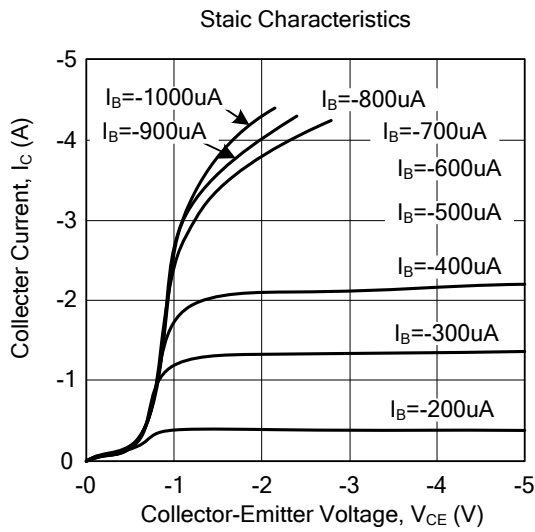
| PARAMETER | | SYMBOL | RATINGS | UNIT |
|-----------------------------|----------------|-----------|------------|------------------|
| Collector-Base Voltage | | V_{CBO} | -100 | V |
| Collector-Emitter Voltage | | V_{CES} | -100 | V |
| Emitter-Base Voltage | | V_{EBO} | -5 | V |
| Collector Current | DC | I_C | -8 | A |
| | Pulse | I_{CP} | -15 | A |
| Base Current | DC | I_B | -1 | A |
| Collector Power Dissipation | TO-220/TO-263 | P_C | 80 | W |
| | TO-220F | | 41 | W |
| | TO-252 | | 10 | W |
| | TO-126/TO-126S | | | |
| Junction Temperature | | T_J | +150 | $^\circ\text{C}$ |
| Storage Temperature | | T_{STG} | -65 ~ +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** ($T_C=25^\circ\text{C}$, unless otherwise specified)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|--------------------------------------|----------------|--|------|-----|-------|---------------|
| Collector-Emitter Sustaining Voltage | $V_{CEO(SUS)}$ | $I_C=-30\text{mA}$, $I_B=0\text{A}$ | -100 | | | V |
| Collector-Base Cut-Off Current | I_{CBO} | $V_{CB}=-100\text{V}$, $I_E=0\text{A}$ | | | -50 | μA |
| Collector-Emitter Cut-Off Current | I_{CEO} | $V_{CE}=-50\text{V}$, $I_B=0\text{A}$ | | | 50 | μA |
| Emitter-Base Cut-Off Current | I_{EBO} | $V_{EB}=-5\text{V}$, $I_C=0\text{A}$ | | | -2 | mA |
| ON CHARACTERISTICS | | | | | | |
| DC Current Gain | h_{FE1} | $V_{CE}=-4\text{V}$, $I_C=-3\text{A}$ | 1000 | | 20000 | |
| | h_{FE2} | $V_{CE}=-4\text{V}$, $I_C=-8\text{A}$ | 200 | | | |
| Collector-Emitter Saturation Voltage | $V_{CE(SAT)}$ | $I_C=-3\text{A}$, $I_B=-6\text{mA}$ | | | -2 | V |
| | | $I_C=-8\text{A}$, $I_B=-80\text{mA}$ | | | -2.5 | V |
| Base-Emitter ON Voltage | $V_{BE(ON)}$ | $V_{CE}=-4\text{V}$, $I_C=-8\text{A}$ | | | -2.8 | V |
| SMALL-SIGNAL CHARACTERISTICS | | | | | | |
| Output Capacitance | C_{ob} | $V_{CB}=-10\text{V}$, $I_E=0\text{A}$, $f=0.1\text{MHZ}$ | | | 300 | pF |

■ TYPICAL CHARACTERISTICS



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