

TIP30 SERIES
(TIP30/30A/30B/30C)

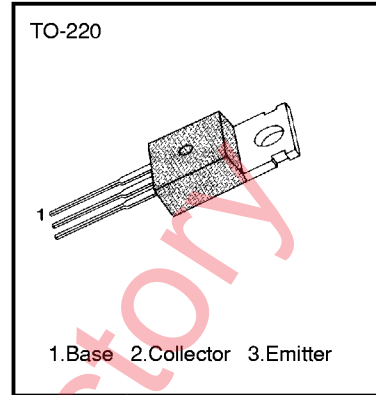
PNP EPITAXIAL SILICON TRANSISTOR

**MEDIUM POWER LINEAR
 SWITCHING APPLICATIONS**

• Complement to TIP29/29A/29B/29C

ABSOLUTE MAXIMUM RATINGS

| Characteristic | Symbol | Rating | Unit |
|--|-----------|------------|------------------|
| Collector Base Voltage : TIP30 | V_{CBO} | - 40 | V |
| : TIP30A | | - 60 | V |
| : TIP30B | | - 80 | V |
| : TIP30C | | - 100 | V |
| Collector Emitter Voltage : TIP30 | V_{CEO} | - 40 | V |
| : TIP30A | | - 60 | V |
| : TIP30B | | - 80 | V |
| : TIP30C | | - 100 | V |
| Emitter-Base Voltage | V_{EBO} | - 5 | V |
| Collector Current (DC) | I_C | - 1 | A |
| Collector Current (Pulse) | I_C | - 3 | A |
| Base Current | I_B | - 0.4 | A |
| Collector Dissipation ($T_C=25^\circ\text{C}$) | P_C | 30 | W |
| Collector Dissipation ($T_A=25^\circ\text{C}$) | P_C | 2 | W |
| Junction Temperature | T_J | 150 | $^\circ\text{C}$ |
| Storage Temperature | T_{STG} | - 65 ~ 150 | $^\circ\text{C}$ |



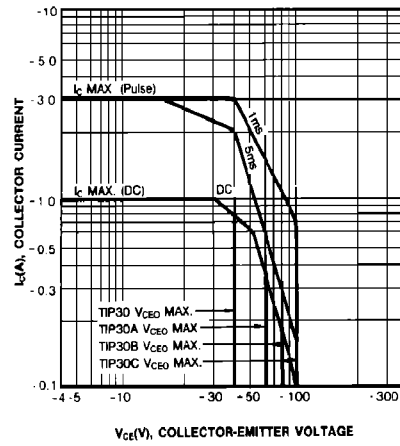
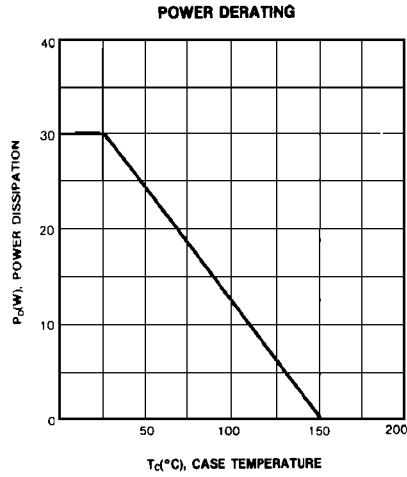
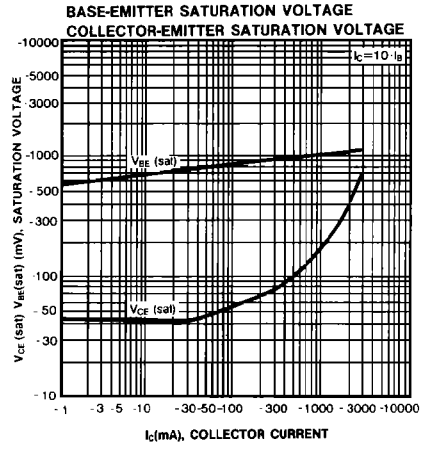
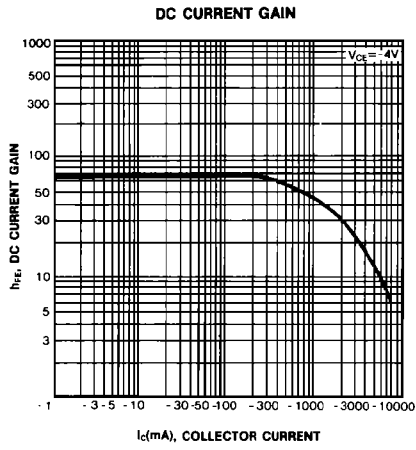
ELECTRICAL CHARACTERISTICS ($T_C=25^\circ\text{C}$)

| Characteristic | Symbol | Test Conditions | Min | Max | Unit |
|---|-----------------|--|------|------|---------------|
| *Collector Emitter Sustaining Voltage : TIP30 | $BV_{CEO(sus)}$ | $I_C = -30\text{mA}, I_B = 0$ | -40 | | V |
| : TIP30A | | | -60 | | V |
| : TIP30B | | | -80 | | V |
| : TIP30C | | | -100 | | V |
| Collector Cutoff Current : TIP30/30A | I_{CEO} | $V_{CE} = -30\text{V}, I_B = 0$ | | -0.3 | mA |
| : TIP30B/30C | | $V_{CE} = -60\text{V}, I_B = 0$ | | -0.3 | mA |
| Collector Cutoff Current : TIP30 | I_{CES} | $V_{CE} = -40\text{V}, V_{EB} = 0$ | | -200 | μA |
| : TIP30A | | $V_{CE} = -60\text{V}, V_{EB} = 0$ | | -200 | μA |
| : TIP30B | | $V_{CE} = -80\text{V}, V_{EB} = 0$ | | -200 | μA |
| : TIP30C | | $V_{CE} = -100\text{V}, V_{EB} = 0$ | | -200 | μA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB} = -5\text{V}, I_C = 0$ | | -1.0 | mA |
| *DC Current Gain | h_{FE} | $V_{CE} = -4\text{V}, I_C = -0.2\text{A}$ | 40 | | |
| | | $V_{CE} = -4\text{V}, I_C = -1\text{A}$ | 15 | 75 | |
| *Collector Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = -1\text{A}, I_B = -125\text{mA}$ | | -0.7 | V |
| *Base Emitter On Voltage | $V_{BE(on)}$ | $V_{CE} = -4\text{V}, I_C = -1\text{A}$ | | -1.3 | V |
| Current Gain Bandwidth Product | f_T | $V_{CE} = -10\text{V}, I_C = -200\text{mA}$ $f = 1\text{MHz}$ | 3.0 | | MHz |

* Pulse Test: $PW \leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$

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|--------------------------|------------------------|---|
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