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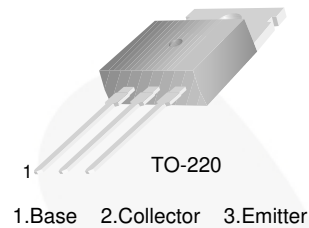
November 2014

# TIP30C

## PNP Epitaxial Silicon Transistor

### Features

- Medium Power Linear Switching Applications
- Complementary to TIP29 Series



### Ordering Information

Part Number	Top Mark	Package	Packing Method
TIP30C	TIP30C	TO-220 3L (Single Gauge)	Bulk
TIP30CTU	TIP30C	TO-220 3L (Single Gauge)	Rail

### Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at  $T_C = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	-100	V
$V_{CEO}$	Collector-Emitter Voltage	-100	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current (DC)	-1	A
$I_{CP}$	Collector Current (Pulse)	-3	A
$I_B$	Base Current	-0.4	A
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature Range	-65 to 150	$^\circ\text{C}$

## Thermal Characteristics

Values are at  $T_C = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Value	Unit
$P_C$	Collector Dissipation ( $T_A = 25^\circ\text{C}$ )	2	W
	Collector Dissipation ( $T_C = 25^\circ\text{C}$ )	30	

## Electrical Characteristics

Values are at  $T_C = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Conditions	Min.	Max.	Unit
$V_{CEO(sus)}$	Collector-Emitter Sustaining Voltage <sup>(1)</sup>	$I_C = -30\text{ mA}, I_B = 0$	-100		V
$I_{CEO}$	Collector Cut-Off Current	$V_{CE} = -60\text{ V}, I_B = 0$		-0.3	mA
$I_{CES}$	Collector Cut-Off Current	$V_{CE} = -100\text{ V}, V_{EB} = 0$		-200	$\mu\text{A}$
$I_{EBO}$	Emitter Cut-Off Current	$V_{EB} = -5\text{ V}, I_C = 0$		-1.0	mA
$h_{FE}$	DC Current Gain <sup>(1)</sup>	$V_{CE} = -4\text{ V}, I_C = -0.2\text{ A}$	40		
		$V_{CE} = -4\text{ V}, I_C = -1\text{ A}$	15	75	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage <sup>(1)</sup>	$I_C = -1\text{ A}, I_B = -125\text{ mA}$		-0.7	V
$V_{BE(on)}$	Base-Emitter On Voltage <sup>(1)</sup>	$V_{CE} = -4\text{ V}, I_C = -1\text{ A}$		-1.3	V
$f_T$	Current Gain Bandwidth Product	$V_{CE} = -10\text{ V}, I_C = -200\text{ mA}, f = 1\text{ MHz}$	3.0		MHz

### Note:

1. Pulse test:  $p_w \leq 300\ \mu\text{s}$ , duty cycle  $\leq 2\%$ .

## Typical Performance Characteristics

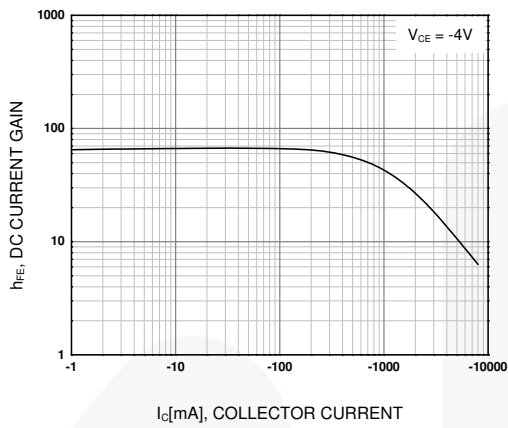


Figure 1. DC Current Gain

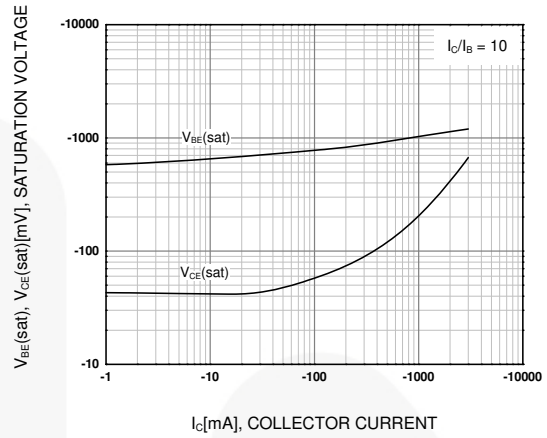


Figure 2. Base-Emitter Saturation Voltage and Collector-Emitter Saturation Voltage

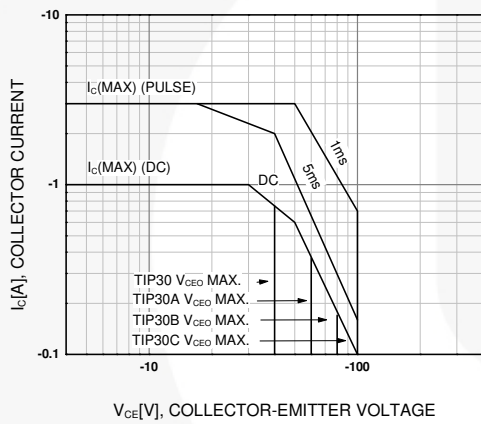


Figure 3. Safe Operating Area

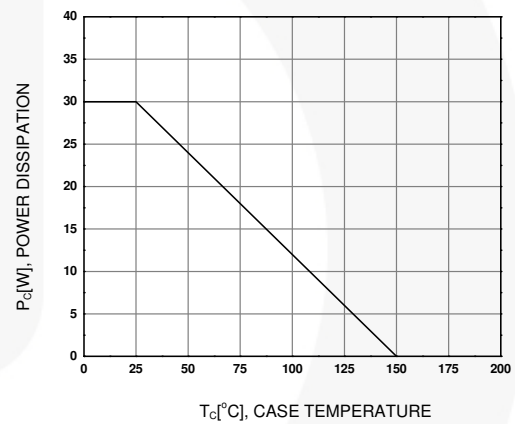


Figure 4. Power Derating

Physical Dimensions

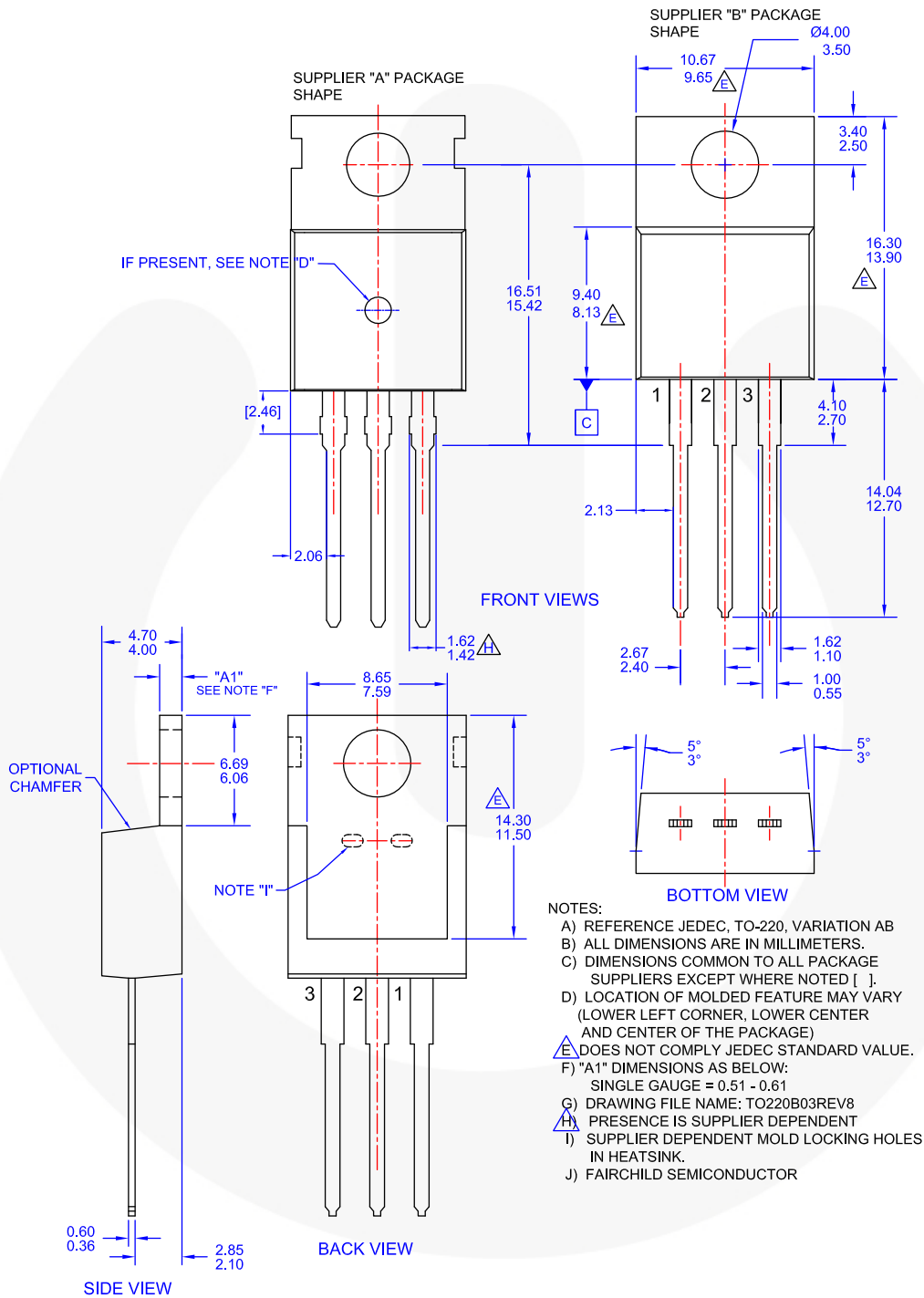







Figure 5. TO-220, MOLDED, 3LEAD, JEDEC VARIATION AB



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No Identification Needed	Full Production	Datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve the design.
Obsolete	Not In Production	Datasheet contains specifications on a product that is discontinued by Fairchild Semiconductor. The datasheet is for reference information only.

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