

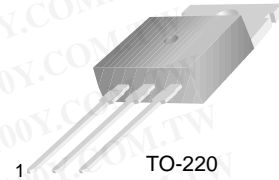
勝特力材料 886-3-5753170  
 勝特力电子(上海) 86-21-54151736  
 勝特力电子(深圳) 86-755-83298787  
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## TIP30 Series(TIP30/30A/30B/30C)

### Medium Power Linear Switching Applications

- Complementary to TIP29/29A/29B/29C



1.Base 2.Collector 3.Emitter

### PNP Epitaxial Silicon Transistor

#### Absolute Maximum Ratings $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	: TIP30	- 40
		: TIP30A	- 60
		: TIP30B	- 80
		: TIP30C	- 100
$V_{CEO}$	Collector-Emitter Voltage	: TIP30	- 40
		: TIP30A	- 60
		: TIP30B	- 80
		: TIP30C	- 100
$V_{EBO}$	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
$P_C$	Collector Dissipation ( $T_C=25^\circ\text{C}$ )	30	W
$P_C$	Collector Dissipation ( $T_a=25^\circ\text{C}$ )	2	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	- 65 ~ 150	$^\circ\text{C}$

#### Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
$V_{CEO(sus)}$	* Collector-Emitter Sustaining Voltage	$I_C = -30\text{mA}, I_B = 0$	: TIP30	-40	V
			: TIP30A	-60	V
			: TIP30B	-80	V
			: TIP30C	-100	V
$I_{CEO}$	Collector Cut-off Current	$V_{CE} = -30\text{V}, I_B = 0$		-0.3	mA
		$V_{CE} = -60\text{V}, I_B = 0$		-0.3	mA
$I_{CES}$	Collector Cut-off Current	$V_{CE} = -40\text{V}, V_{EB} = 0$	: TIP30	-200	$\mu\text{A}$
			: TIP30A	-200	$\mu\text{A}$
			: TIP30B	-200	$\mu\text{A}$
			: TIP30C	-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	$V_{CE} = -4\text{V}, I_C = -0.2\text{A}$	40		
		$V_{CE} = -4\text{V}, I_C = -1\text{A}$	15	75	
$V_{CE(sat)}$	* Collector-Emitter Saturation Voltage	$I_C = -1\text{A}, I_B = -125\text{mA}$		-0.7	V
$V_{BE(sat)}$	* Base-Emitter Saturation Voltage	$V_{CE} = -4\text{V}, I_C = -1\text{A}$		-1.3	V
$f_T$	Current Gain Bandwidth Product	$V_{CE} = -10\text{V}, I_C = -200\text{mA}$	3.0		MHz

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

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

## Typical Characteristics

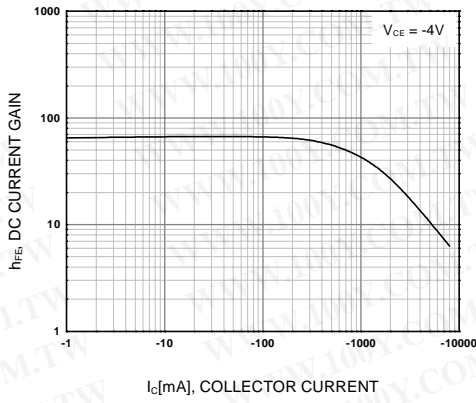


Figure 1. DC current Gain

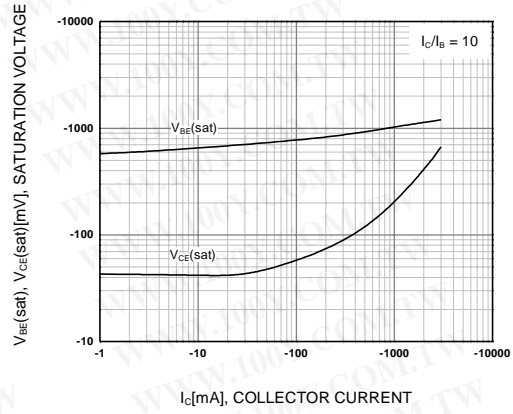


Figure 2. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

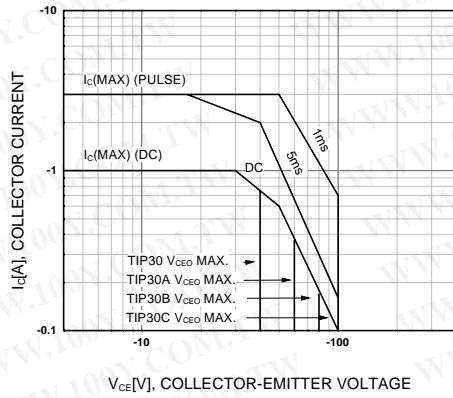


Figure 3. Safe Operating Area

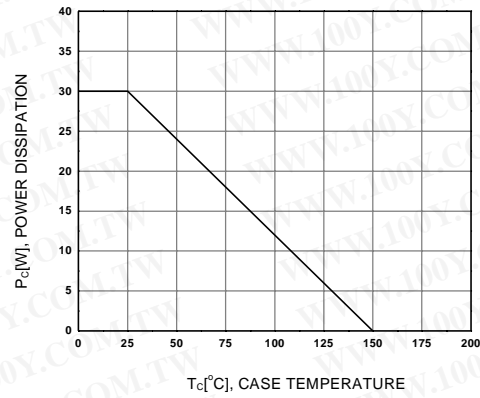


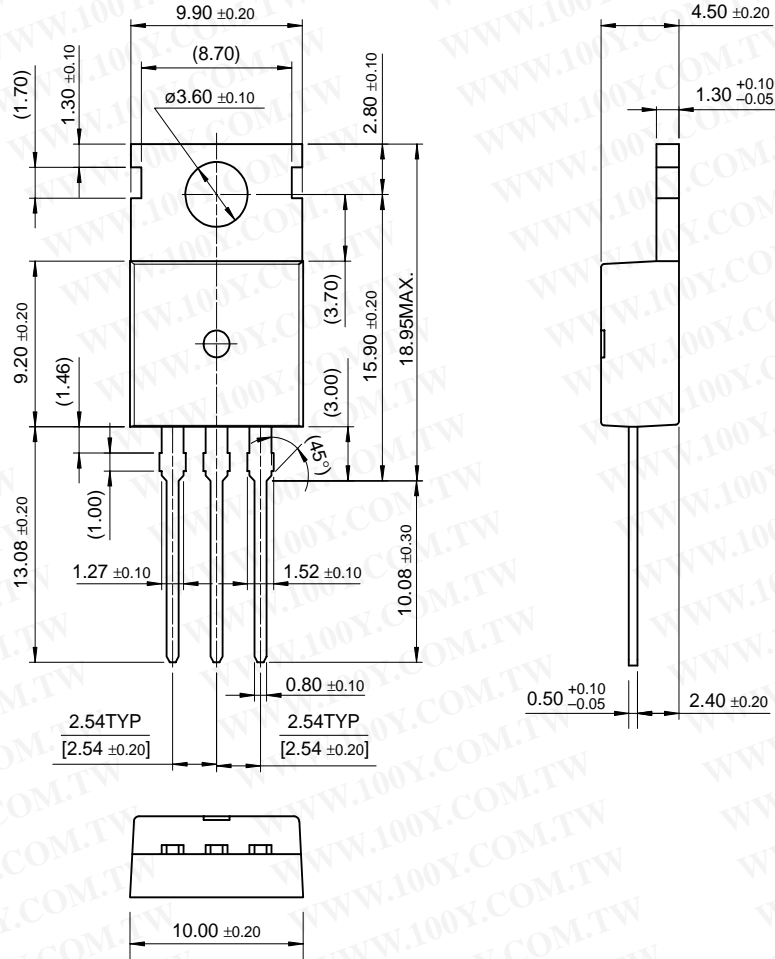
Figure 4. Power Derating

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# Package Demensions

## TO-220

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



Dimensions in Millimeters

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