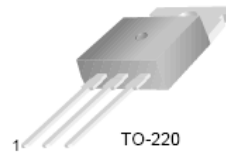


# TIP41/TIP41A/TIP41B/TIP41C

## NPN Epitaxial Silicon Transistor

### Features

- Complementary to TIP42/TIP42A/TIP42B/TIP42C



TO-220  
1. Base 2. Collector 3. Emitter

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

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Emitter Voltage: TIP41	40	V
	: TIP41A	60	V
	: TIP41B	80	V
	: TIP41C	100	V
$V_{CEO}$	Collector-Emitter Voltage: TIP41	40	V
	: TIP41A	60	V
	: TIP41B	80	V
	: TIP41C	100	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current (DC)	6	A
$I_{CP}$	Collector Current (Pulse)	10	A
$I_B$	Base Current	2	A
$P_C$	Collector Dissipation ( $T_C=25^\circ\text{C}$ )	65	W
	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 : TIP41 : TIP41A : TIP41B : TIP41C	$I_C = 30\text{mA}, I_B = 0$	40 60 80 100		V V V V
$I_{CEO}$	Collector Cut-off Current : TIP41/41A : TIP41B/41C	$V_{CE} = 30\text{V}, I_B = 0$ $V_{CE} = 60\text{V}, I_B = 0$		0.7 0.7	mA mA
$I_{CES}$	Collector Cut-off Current : TIP41 : TIP41A : TIP41B : TIP41C	$V_{CE} = 40\text{V}, V_{EB} = 0$ $V_{CE} = 60\text{V}, V_{EB} = 0$ $V_{CE} = 80\text{V}, V_{EB} = 0$ $V_{CE} = 100\text{V}, V_{EB} = 0$		400 400 400 400	$\mu\text{A}$ $\mu\text{A}$ $\mu\text{A}$ $\mu\text{A}$
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = 5\text{V}, I_C = 0$		1	mA
$h_{FE}$	* DC Current Gain	$V_{CE} = 4\text{V}, I_C = 0.3\text{A}$ $V_{CE} = 4\text{V}, I_C = 3\text{A}$	30 15	75	
$V_{CE(sat)}$	* Collector-Emitter Saturation Voltage	$I_C = 6\text{A}, I_B = 600\text{mA}$		1.5	V
$V_{BE(sat)}$	* Base-Emitter Saturation Voltage	$V_{CE} = 4\text{V}, I_C = 6\text{A}$		2.0	V
$f_T$	Current Gain Bandwidth Product	$V_{CE} = 10\text{V}, I_C = 500\text{mA}, f = 1\text{MHz}$	3.0		MHz

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

# Typical Characteristics

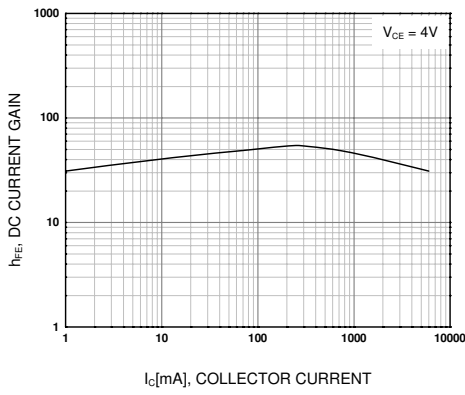


Figure 1. DC current Gain

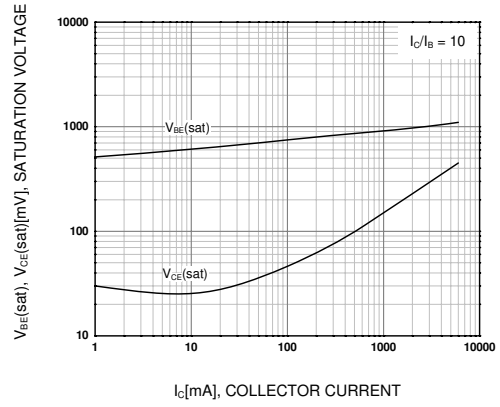


Figure 2. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

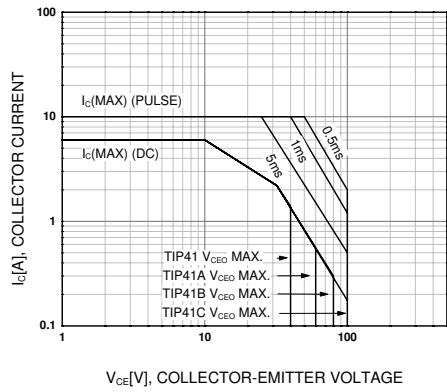


Figure 3. Safe Operating Area

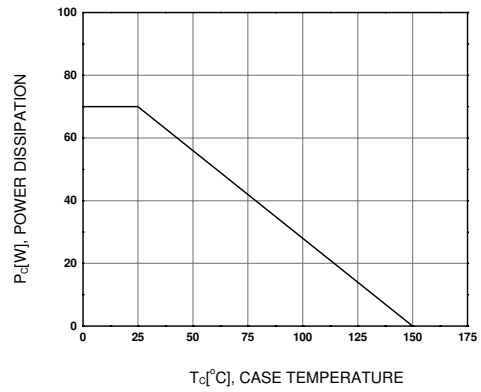
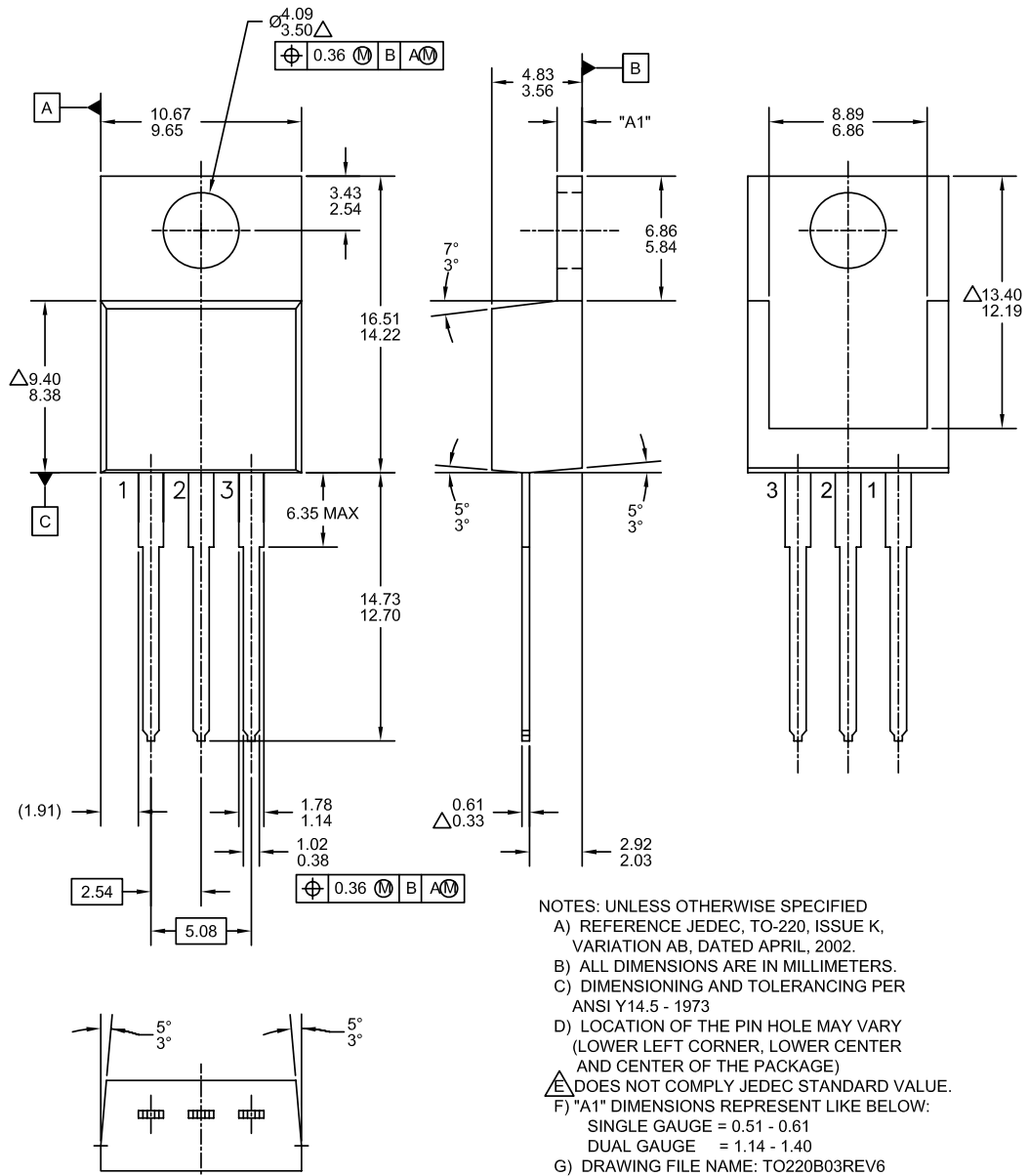


Figure 4. Power Derating

Mechanical Dimensions

TO220



NOTES: UNLESS OTHERWISE SPECIFIED  
 A) REFERENCE JEDEC, TO-220, ISSUE K, VARIATION AB, DATED APRIL, 2002.  
 B) ALL DIMENSIONS ARE IN MILLIMETERS.  
 C) DIMENSIONING AND TOLERANCING PER ANSI Y14.5 - 1973  
 D) LOCATION OF THE PIN HOLE MAY VARY (LOWER LEFT CORNER, LOWER CENTER AND CENTER OF THE PACKAGE)  
 E) DOES NOT COMPLY JEDEC STANDARD VALUE.  
 F) "A1" DIMENSIONS REPRESENT LIKE BELOW:  
 SINGLE GAUGE = 0.51 - 0.61  
 DUAL GAUGE = 1.14 - 1.40  
 G) DRAWING FILE NAME: TO220B03REV6



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| FastvCore™               | OPTOLOGIC®                          | SuperSOT™.8                      |                            |
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