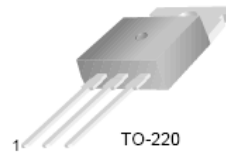


TIP41/TIP41A/TIP41B/TIP41C

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	μA μA μA μA
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

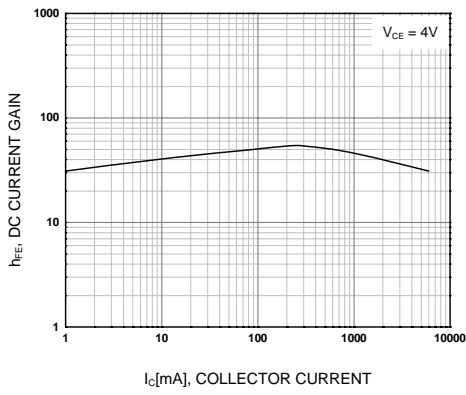


Figure 1. DC current Gain

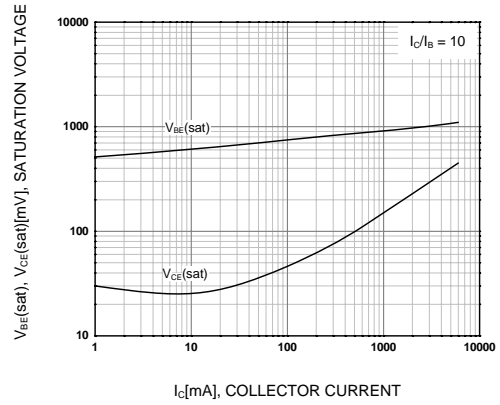


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

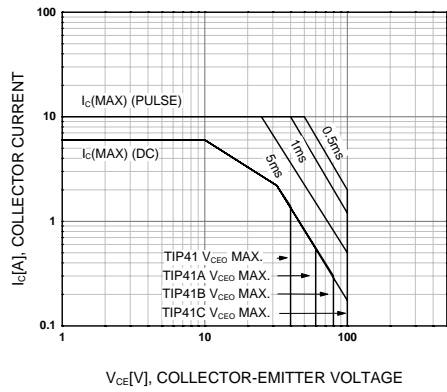


Figure 3. Safe Operating Area

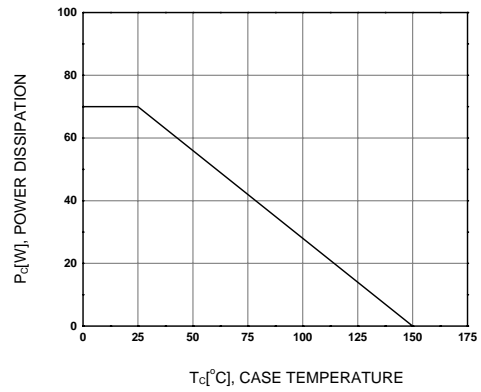
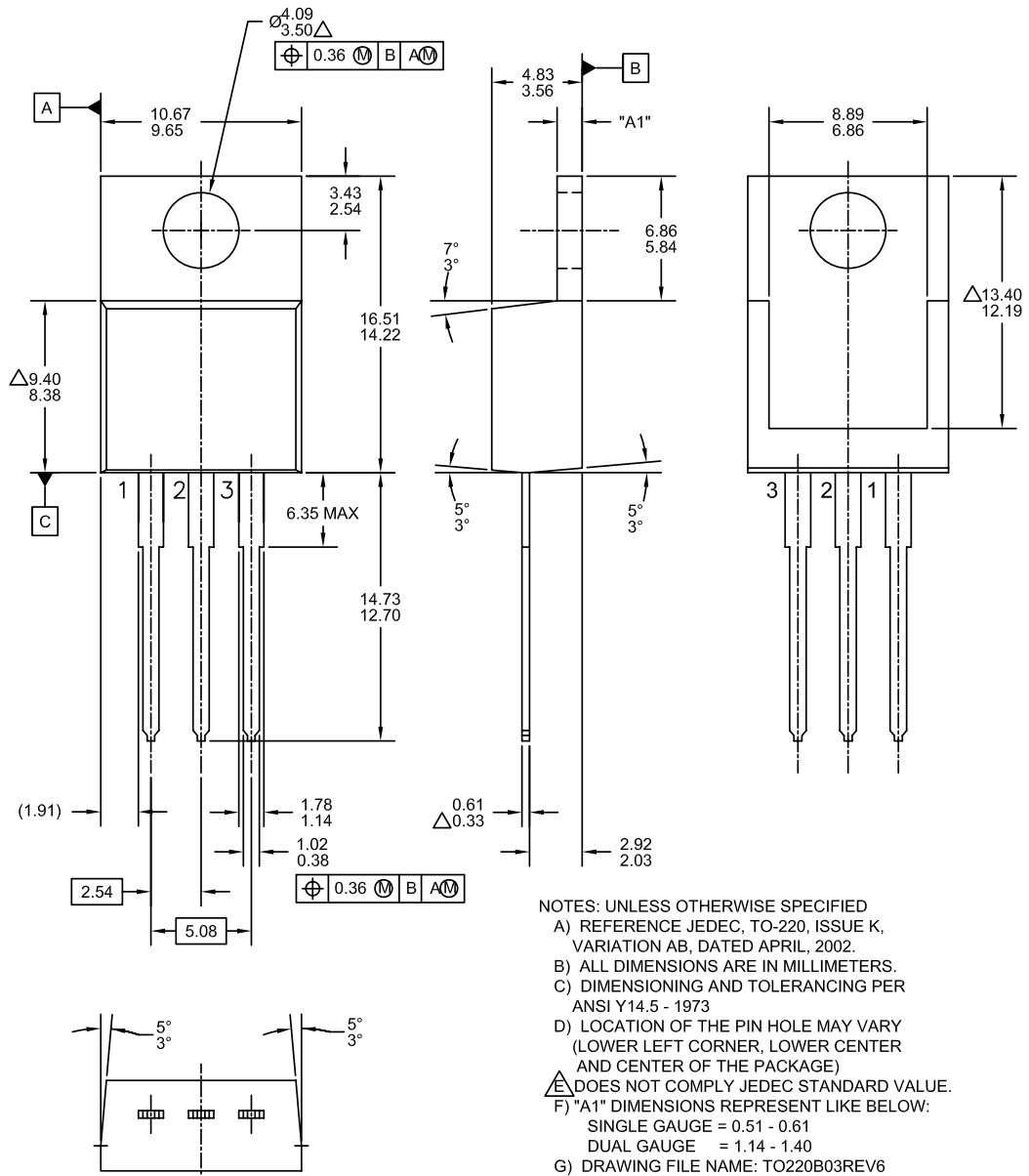


Figure 4. Power Derating

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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