

Order code	Manufacturer code	Description
81-0157	n/a	TIP31C 100V NPN HIGH VOLT TRANS (TRU) RC

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The enclosed information is believed to be correct, Information may change 'without notice' due to product improvement. Users should ensure that the product is suitable for their use. E. & O. E.	Revision A 04/07/2003

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

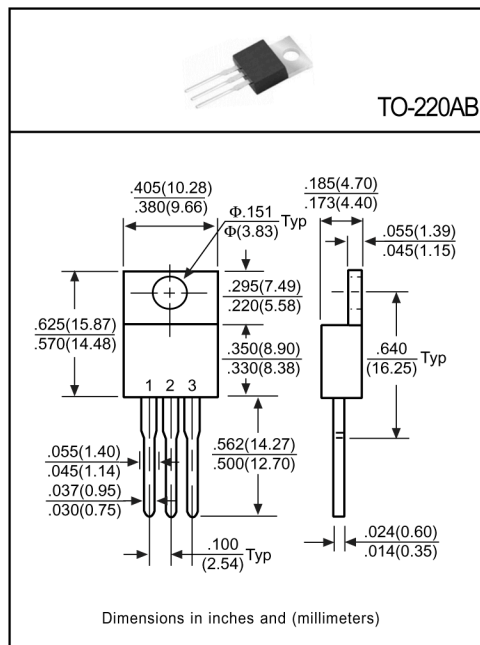
Designed for use in general purpose amplifier and switching applications.

Pinning

- 1 = Base
- 2 = Collector
- 3 = Emitter

Absolute Maximum Ratings($T_A=25^{\circ}\text{C}$)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	100	V
Collector-Emitter Voltage	V_{CE0}	100	V
Emitter-Base Voltage	V_{EB0}	5	V
Collector Current	I_C	3	A
Total Power Dissipation($T_C=25^{\circ}\text{C}$)	P_D	40	W
Junction Temperature	T_J	+150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}\text{C}$



Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Collector-Base Breakdown Voltage	BV_{CB0}	100	-	-	V	$I_C=1\text{mA}$, $I_E=0$
Collector-Emitter Breakdown Voltage	BV_{CE0}	100	-	-	V	$I_C=30\text{mA}$, $I_B=0$
Collector Cutoff Current	I_{CES}	-	-	200	μA	$V_{CE}=100\text{V}$, $I_B=0$
	I_{CEO}	-	-	300	μA	$V_{CE}=60\text{V}$, $I_B=0$
Emitter Cutoff Current	I_{EBO}	-	-	1	mA	$V_{EB}=5\text{V}$, $I_C=0$
Collector-Emitter Saturation Voltage ⁽¹⁾	$V_{CE(sat)}$	-	-	1.2	V	$I_C=3\text{A}$, $I_B=375\text{mA}$
Base-Emitter On Voltage ⁽¹⁾	$V_{BE(on)}$	-	-	1.8	V	$I_C=3\text{A}$, $V_{CE}=4\text{V}$
DC Current Gain ⁽¹⁾	h_{FE1}	25	-	-	-	$I_C=1\text{A}$, $V_{CE}=4\text{V}$
	h_{FE2}	10	-	50	-	$I_C=3\text{A}$, $V_{CE}=4\text{V}$
Transition Frequency	f_T	3	-	-	MHz	$I_C=0.5\text{A}$, $V_{CE}=10\text{V}$, $f=1\text{MHz}$

(1) Pulse Test: Pulse Width $\leq 380\mu\text{s}$, Duty Cycle $\leq 2\%$