



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

TIP117

TECHNICAL SPECIFICATIONS OF PNP DARLINGTON TRANSISTOR

Description

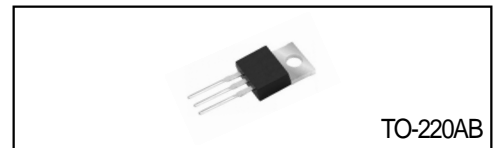
Designed for use in general purpose amplifier and low-speed switching applications.

Pinning

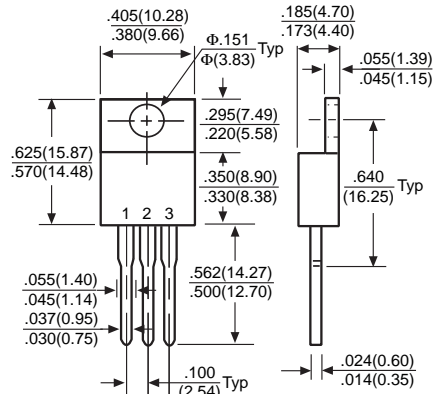
- 1 = Base
- 2 = Collector
- 3 = Emitter

Absolute Maximum Ratings (TA=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V <sub>CB0</sub>	-100	V
Collector-Emitter Voltage	V <sub>CE0</sub>	-100	V
Emitter-Base Voltage	V <sub>EB0</sub>	-5	V
Collector Current (continuous)	I <sub>C</sub>	-4	A
Collector Current (peak)	I <sub>C</sub>	-6	A
Total Power Dissipation (T <sub>C</sub> =25°C)	P <sub>D</sub>	50	W
Total Power Dissipation	P <sub>D</sub>	2	W
Junction Temperature	T <sub>J</sub>	+150	°C
Storage Temperature	T <sub>STG</sub>	-55 to +150	°C



TO-220AB



Electrical Characteristics

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Collector-Base Breakdown Voltage	BV <sub>CB0</sub>	-100	-	-	V	I <sub>C</sub> =-1mA, I <sub>E</sub> =0
Collector-Emitter Breakdown Voltage	BV <sub>CE0</sub>	-100	-	-	V	I <sub>C</sub> =-30mA, I <sub>B</sub> =0
Collector Cutoff Current	I <sub>CB0</sub>	-	-	-1	mA	V <sub>CB</sub> =-100V, I <sub>E</sub> =0
	I <sub>CE0</sub>	-	-	-2	mA	V <sub>CE</sub> =-50V, I <sub>B</sub> =0
Emitter Cutoff Current	I <sub>EB0</sub>	-	-	-2	mA	V <sub>EB</sub> =-5V, I <sub>C</sub> =0
Collector-Emitter Saturation Voltage <sup>(1)</sup>	V <sub>CE(sat)</sub>	-	-	-2.5	V	I <sub>C</sub> =-2A, I <sub>B</sub> =-8mA
Base-Emitter On Voltage <sup>(1)</sup>	V <sub>BE(on)</sub>	-	-	-2.8	V	I <sub>C</sub> =-2A, V <sub>CE</sub> =-4V
DC Current Gain <sup>(1)</sup>	h <sub>FE1</sub>	1K	-	-	-	I <sub>C</sub> =-1A, V <sub>CE</sub> =-4V
	h <sub>FE2</sub>	500	-	-	-	I <sub>C</sub> =-2A, V <sub>CE</sub> =-4V
Output Capacitance	C <sub>ob</sub>	-	-	200	pF	V <sub>CE</sub> =-10V, f=0.1MHz

(1) Pulse Test: Pulse Width ≤ 380μs, Duty Cycle ≤ 2%