



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

TIP112

TECHNICAL SPECIFICATIONS OF NPN DARLINGTON TRANSISTOR

Description

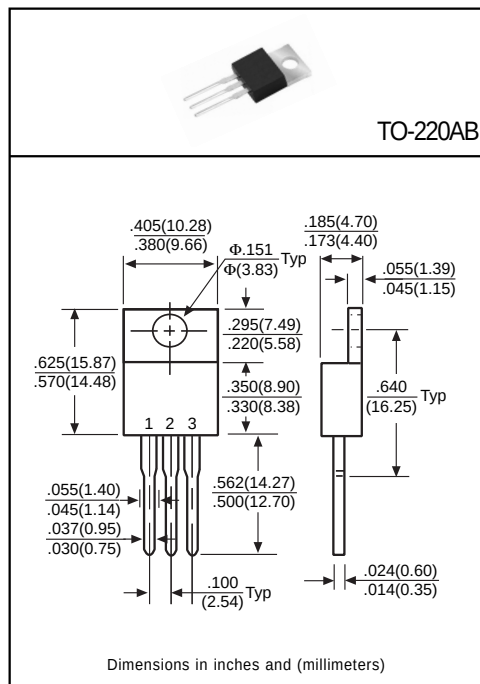
Designed for use in general purpose amplifier and low-speed switching applications.

Pinning

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

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

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 (continuous)	I_C	4	A
Collector Current (peak)	I_C	6	A
Total Power Dissipation($T_C=25^{\circ}\text{C}$)	P_D	50	W
Total Power Dissipation	P_D	2	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 Volatge	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_{CB0}	-	-	1	mA	$V_{CB}=100\text{V}$, $I_E=0$
	I_{CE0}	-	-	2	mA	$V_{CE}=50\text{V}$, $I_B=0$
Emitter Cutoff Current	I_{EB0}	-	-	2	mA	$V_{EB}=5\text{V}$, $I_C=0$
Collector-Emitter Saturation Voltage ⁽¹⁾	$V_{CE(sat)}$	-	-	2.5	V	$I_C=2\text{A}$, $I_B=8\text{mA}$
Base-Emitter On Voltage ⁽¹⁾	$V_{BE(on)}$	-	-	2.8	V	$I_C=2\text{A}$, $V_{CE}=4\text{V}$
DC Current Gain ⁽¹⁾	h_{FE1}	1K	-	-	-	$I_C=1\text{A}$, $V_{CE}=4\text{V}$
	h_{FE2}	500	-	-	-	$I_C=2\text{A}$, $V_{CE}=4\text{V}$
Output Capacitance	C_{ob}	-	-	200	pF	$V_{CE}=10\text{V}$, $f=0.1\text{MHz}$

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