



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

MJE13007

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

Designed for high-voltage, high-speed power switching inductive circuits.

Pinning

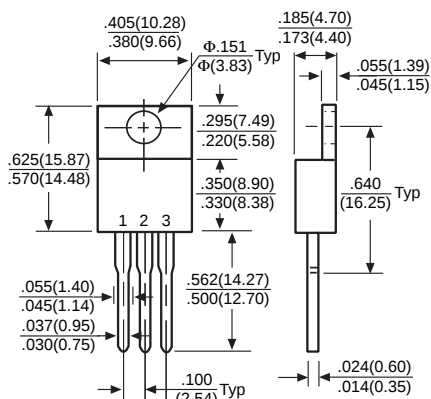
- 1 = Base
- 2 = Collector
- 3 = Emitter

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

Characteristic	Symbol	Rating	Unit
Collector-Emitter Voltage	V_{CEX}	700	V
	V_{CEO}	400	V
Emitter-Base Voltage	V_{EBO}	9	V
Collector Current	I_C	8	A
Base Current	I_B	4	A
Total Power Dissipation($T_C=25^{\circ}\text{C}$)	P_D	80	W
Junction Temperature	T_J	+150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}\text{C}$



TO-220AB



Dimensions in inches and (millimeters)

Electrical Characteristics

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Collector-Emitter Breakdown Voltage	BV_{CEX}	700	-	-	V	$I_C=1\text{mA}$, $V_{BE(off)}=1.5\text{V}$
	BV_{CEO}	400	-	-	V	$I_C=10\text{mA}$
Collector Cutoff Current	I_{CEX}	-	-	0.1	mA	$V_{CE}=700\text{V}$, $V_{BE(off)}=1.5\text{V}$
Emitter Cutoff Current	I_{EBO}	-	-	0.1	mA	$V_{EB}=9\text{V}$
Collector-Emitter Saturation Voltage ⁽¹⁾	$V_{CE(sat)1}$	-	-	1	V	$I_C=2\text{A}$, $I_B=400\text{mA}$
	$V_{CE(sat)2}$	-	-	2	V	$I_C=5\text{A}$, $I_B=1\text{A}$
	$V_{CE(sat)3}$	-	-	3	V	$I_C=8\text{A}$, $I_B=2\text{A}$
Base-Emitter Saturation Voltage ⁽¹⁾	$V_{BE(sat)1}$	-	-	1.2	V	$I_C=2\text{A}$, $I_B=400\text{mA}$
	$V_{BE(sat)2}$	-	-	1.6	V	$I_C=5\text{A}$, $I_B=1\text{A}$
DC Current Gain ⁽¹⁾	h_{FE1}	10	-	40	-	$I_C=2\text{A}$, $V_{CE}=5\text{V}$
	h_{FE2}	10	-	30	-	$I_C=5\text{A}$, $V_{CE}=5\text{V}$

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