DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

MJE13005

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

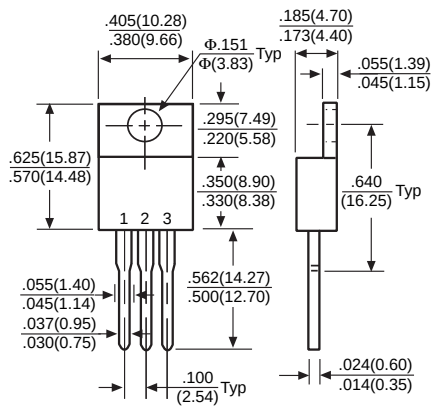
Description

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

TO-220AB

Pinning

1 = Base
2 = Collector
3 = Emitter



Dimensions in inches and (millimeters)

Absolute Maximum Ratings(T_A=25°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	4	A
Base Current	I_B	2	A
Total Power Dissipation(T_C=25°C)	P_D	75	W
Junction Temperature	T_J	+150	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Electrical Characteristics

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Collector-Emitter Breakdown Volatge	BV_{CEX}	700	-	-	V	I_C=1mA, $V_{BE(off)}$=1.5V
	BV_{CEO}	400	-	-	V	I_C=10mA
Collector Cutoff Current	I_{CEX}	-	-	1	mA	V_{CE}=700V, $V_{BE(off)}$=1.5V
Emitter Cutoff Current	I_{EBO}	-	-	1	mA	V_{EB}=9V
Collector-Emitter Saturation Voltage(1)	$V_{CE(sat)1}$	-	-	0.5	V	I_C=1A, I_B=200mA
	$V_{CE(sat)2}$	-	-	0.6	V	I_C=2A, I_B=500mA
	$V_{CE(sat)3}$	-	-	1	V	I_C=4A, I_B=1A
Base-Emitter Saturation Voltage(1)	$V_{BE(sat)1}$	-	-	1.2	V	I_C=1A, I_B=200mA
	$V_{BE(sat)2}$	-	-	1.6	V	I_C=2A, I_B=500mA
DC Current Gain(1)	h_{FE1}	10	-	60	-	I_C=0.5A, V_{CE}=5V
	h_{FE2}	10	-	60	-	I_C=1A, V_{CE}=5V
	h_{FE3}	8	-	40	-	I_C=2A, V_{CE}=5V

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