



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

MJE13003

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

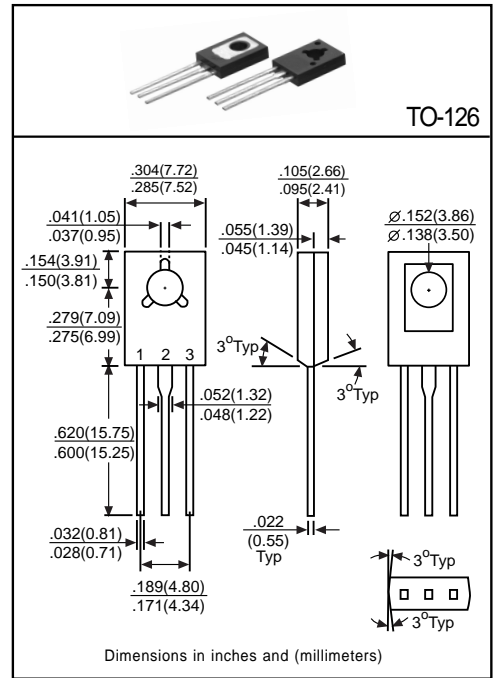
Designed for high-voltage, high-speed power switching inductive circuits where fall time is critical.

Pinning

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

Absolute Maximum Ratings(T<sub>A</sub>=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Emitter Voltage	V <sub>CEV</sub>	700	V
	V <sub>CEO</sub>	400	V
Emitter-Base Voltage	V <sub>EBO</sub>	9	V
Collector Current	I <sub>C</sub>	1.5	A
Base Current	I <sub>B</sub>	0.75	A
Total Power Dissipation(T <sub>C</sub> =25°C)	P <sub>D</sub>	40	W
Junction Temperature	T <sub>J</sub>	+150	°C
Storage Temperature	T <sub>STG</sub>	-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 Voltage	BV <sub>CEV</sub>	700	-	-	V	I <sub>C</sub> =1mA, V <sub>BE(off)</sub> =1.5V
	BV <sub>CEO</sub>	400	-	-	V	I <sub>C</sub> =10mA
Collector Cutoff Current	I <sub>CEV</sub>	-	-	1	mA	V <sub>CE</sub> =700V, V <sub>BE(off)</sub> =1.5V
Emitter Cutoff Current	I <sub>EBO</sub>	-	-	1	mA	V <sub>EB</sub> =9V
Collector-Emitter Saturation Voltage <sup>(1)</sup>	V <sub>CE(sat)1</sub>	-	-	0.5	V	I <sub>C</sub> =0.5A, I <sub>B</sub> =0.1A
	V <sub>CE(sat)2</sub>	-	-	1	V	I <sub>C</sub> =1A, I <sub>B</sub> =0.25A
	V <sub>CE(sat)3</sub>	-	-	3	V	I <sub>C</sub> =1.5A, I <sub>B</sub> =0.5A
Base-Emitter Saturation Voltage <sup>(1)</sup>	V <sub>BE(sat)1</sub>	-	-	1	V	I <sub>C</sub> =0.5A, I <sub>B</sub> =0.1A
	V <sub>BE(sat)2</sub>	-	-	1.2	V	I <sub>C</sub> =1A, I <sub>B</sub> =0.25A
DC Current Gain <sup>(1)</sup>	h <sub>FE1</sub>	8	-	40	-	I <sub>C</sub> =0.5A, V <sub>CE</sub> =2V
	h <sub>FE2</sub>	5	-	25	-	I <sub>C</sub> =1A, V <sub>CE</sub> =2V

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