



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

MJE13003D

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

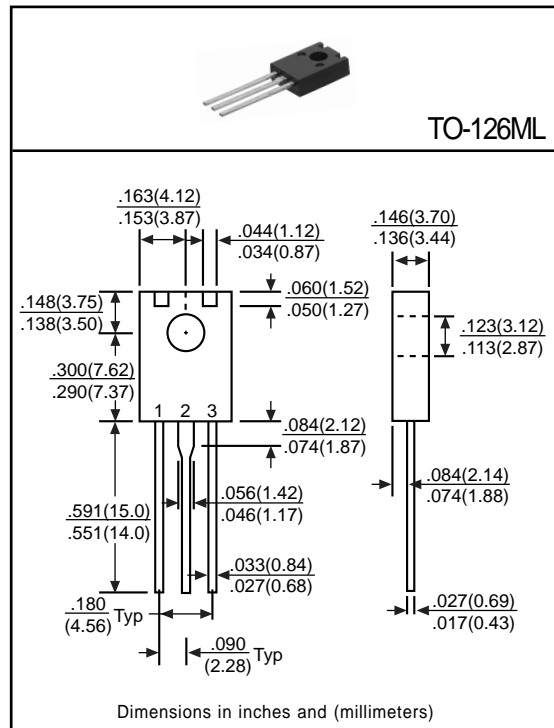
Designed for high-voltage, high-speed power switching inductive circuits where fall time is critical.

Pinning

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

Absolute Maximum Ratings (T_A=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Emitter Voltage	V _{CEV}	700	V
	V _{CEO}	400	V
Emitter-Base Voltage	V _{EBO}	9	V
Collector Current	I _C	1.5	A
Base Current	I _B	0.75	A
Total Power Dissipation (T _C =25°C)	P _D	40	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 Voltage	BV _{CEV}	700	-	-	V	I _C =1mA, V _{BE(off)} =1.5V
	BV _{CEO}	400	-	-	V	I _C =10mA
Collector Cutoff Current	I _{CEV}	-	-	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 =0.5A, I _B =0.1A
	V _{CE(sat)2}	-	-	1	V	I _C =1A, I _B =0.25A
	V _{CE(sat)3}	-	-	3	V	I _C =1.5A, I _B =0.5A
Base-Emitter Saturation Voltage ⁽¹⁾	V _{BE(sat)1}	-	-	1	V	I _C =0.5A, I _B =0.1A
	V _{BE(sat)2}	-	-	1.2	V	I _C =1A, I _B =0.25A
DC Current Gain ⁽¹⁾	h _{FE1}	8	-	40	-	I _C =0.5A, V _{CE} =2V
	h _{FE2}	5	-	25	-	I _C =1A, V _{CE} =2V

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