



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

LB123D

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

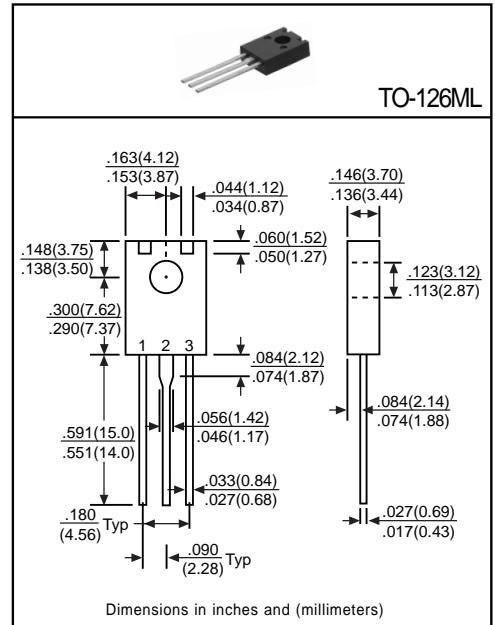
Designed for high voltage, high speed switching circuits, and amplifier applications.

Pinning

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

Absolute Maximum Ratings(T_A=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V _{CB0}	600	V
Collector-Emitter Voltage	V _{CEO}	400	V
Emitter-Base Voltage	V _{EBO}	8	V
Collector Current(DC)	I _C	1	A
Collector Current(Pulse)	I _C	2	A
Total Power Dissipation(T _C =25°C)	P _D	30	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-Base Breakdown Voltage	BV _{CB0}	600	-	-	V	I _C =1mA, I _E =0
Collector-Emitter Breakdown Voltage	BV _{CEO}	400	-	-	V	I _C =10mA, I _B =0
Emitter-Base Breakdown Voltage	BV _{EBO}	8	-	-	V	I _E =1mA, I _C =0
Collector Cutoff Current	I _{CB0}	-	-	10	μA	V _{CB} =600V, I _E =0
Emitter Cutoff Current	I _{EBO}	-	-	10	μA	V _{BE} =9V, I _C =0
Collector-Emitter Saturation Voltage ⁽¹⁾	V _{CE(sat)1}	-	-	0.8	V	I _C =0.1A, I _B =10mA
	V _{CE(sat)2}	-	-	0.9	V	I _C =0.3A, I _B =30mA
Base-Emitter Saturation Voltage ⁽¹⁾	V _{BE(sat)1}	-	-	1.2	V	I _C =0.1A, I _B =10mA
	V _{BE(sat)2}	-	-	1.8	V	I _C =0.3A, I _B =30mA
DC Current Gain ⁽¹⁾	h _{FE1}	10	-	50	-	I _C =0.3A, V _{CE} =5V
	h _{FE2}	10	-	-	-	I _C =0.5A, V _{CE} =5V
	h _{FE3}	6	-	-	-	I _C =1A, V _{CE} =5V

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

Classification of h_{FE1}

Rank	B1	B2	B3	B4	B5	B6	B7	B8
Range	10~17	13~22	18~27	23~32	28~37	33~42	38~47	43~50