



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

LB125E

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

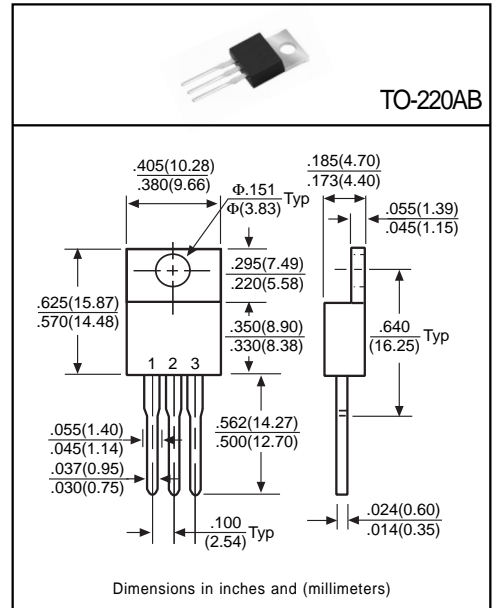
Designed for lighting applications and switch mode power supplies.

Pinning

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

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

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V <sub>CB0</sub>	600	V
Collector-Emitter Voltage	V <sub>CE0</sub>	400	V
Emitter-Base Voltage	V <sub>EB0</sub>	9	V
Collector Current(DC)	I <sub>C</sub>	5	A
Collector Current(Pulse)	I <sub>C</sub>	8	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-Base Breakdown Voltage	BV <sub>CB0</sub>	600	-	-	V	I <sub>C</sub> =1mA, I <sub>E</sub> =0
Collector-Emitter Breakdown Voltage	BV <sub>CE0</sub>	400	-	-	V	I <sub>C</sub> =10mA, I <sub>B</sub> =0
Emitter-Base Breakdown Voltage	BV <sub>EB0</sub>	9	-	-	V	I <sub>E</sub> =10mA, I <sub>C</sub> =0
Collector Cutoff Current	I <sub>CB0</sub>	-	-	100	μA	V <sub>CB</sub> =800V, I <sub>E</sub> =0
	I <sub>CE0</sub>	-	-	100	μA	V <sub>CE</sub> =400V, I <sub>B</sub> =0
Collector-Emitter Saturation Voltage <sup>(1)</sup>	V <sub>CE(sat)1</sub>	-	-	0.5	V	I <sub>C</sub> =1A, I <sub>B</sub> =0.2A
	V <sub>CE(sat)2</sub>	-	-	0.7	V	I <sub>C</sub> =2A, I <sub>B</sub> =0.4A
	V <sub>CE(sat)3</sub>	-	-	1.1	V	I <sub>C</sub> =3A, I <sub>B</sub> =0.75A
Base-Emitter Saturation Voltage <sup>(1)</sup>	V <sub>BE(sat)1</sub>	-	-	1.1	V	I <sub>C</sub> =1A, I <sub>B</sub> =0.2A
	V <sub>BE(sat)2</sub>	-	-	1.2	V	I <sub>C</sub> =2A, I <sub>B</sub> =0.4A
DC Current Gain <sup>(1)</sup>	h <sub>FE1</sub>	8	-	35	-	I <sub>C</sub> =2A, V <sub>CE</sub> =5V
	h <sub>FE2</sub>	10	-	-	-	I <sub>C</sub> =10mA, V <sub>CE</sub> =5V

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

Classification of h<sub>FE1</sub>

Rank	B1	B2	B3	B4	B5
Range	8~17	15~21	19~25	23~31	29~35