



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

MID31C

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

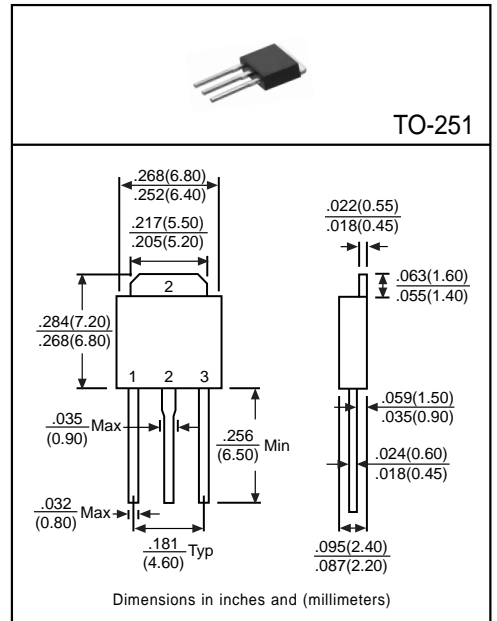
Designed for use in general purpose amplifier and switching applications.

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>CBO</sub>	100	V
Collector-Emitter Voltage	V <sub>CEO</sub>	100	V
Emitter-Base Voltage	V <sub>EBO</sub>	5	V
Collector Current	I <sub>C</sub>	3	A
Total Power Dissipation(T <sub>C</sub> =25°C)	P <sub>D</sub>	15	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>CBO</sub>	100	-	-	V	I <sub>C</sub> =1mA, I <sub>E</sub> =0
Collector-Emitter Breakdown Voltage	BV <sub>CEO</sub>	100	-	-	V	I <sub>C</sub> =30mA, I <sub>B</sub> =0
Collector Cutoff Current	I <sub>CES</sub>	-	-	20	μA	V <sub>CE</sub> =100V, V <sub>EB</sub> =0
	I <sub>CEO</sub>	-	-	50	μA	V <sub>CE</sub> =60V, I <sub>B</sub> =0
Emitter Cutoff Current	I <sub>EBO</sub>	-	-	1	mA	V <sub>EB</sub> =5V, I <sub>C</sub> =0
Collector-Emitter Saturation Voltage <sup>(1)</sup>	V <sub>CE(sat)</sub>	-	-	1.2	V	I <sub>C</sub> =3A, I <sub>B</sub> =375mA
Base-Emitter On Voltage <sup>(1)</sup>	V <sub>BE(on)</sub>	-	-	1.8	V	I <sub>C</sub> =3A, V <sub>CE</sub> =4V
DC Current Gain <sup>(1)</sup>	h <sub>FE1</sub>	25	-	-	-	I <sub>C</sub> =1A, V <sub>CE</sub> =4V
	h <sub>FE2</sub>	10	-	50	-	I <sub>C</sub> =3A, V <sub>CE</sub> =4V
Transition Frequency	f <sub>T</sub>	3	-	-	MHz	I <sub>C</sub> =0.5A, V <sub>CE</sub> =10V, f=1MHz

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