



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

MID31C

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

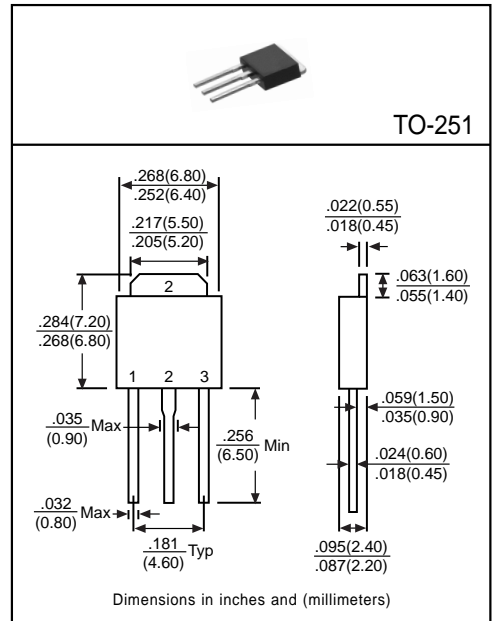
Designed for use in general purpose amplifier and switching applications.

Pinning

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

Absolute Maximum Ratings(T_A=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V _{CBO}	100	V
Collector-Emitter Voltage	V _{CEO}	100	V
Emitter-Base Voltage	V _{EBO}	5	V
Collector Current	I _C	3	A
Total Power Dissipation(T _C =25°C)	P _D	15	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 _{CBO}	100	-	-	V	I _C =1mA, I _E =0
Collector-Emitter Breakdown Voltage	BV _{CEO}	100	-	-	V	I _C =30mA, I _B =0
Collector Cutoff Current	I _{CES}	-	-	20	μA	V _{CE} =100V, V _{EB} =0
	I _{CEO}	-	-	50	μA	V _{CE} =60V, I _B =0
Emitter Cutoff Current	I _{EBO}	-	-	1	mA	V _{EB} =5V, I _C =0
Collector-Emitter Saturation Voltage ⁽¹⁾	V _{CE(sat)}	-	-	1.2	V	I _C =3A, I _B =375mA
Base-Emitter On Voltage ⁽¹⁾	V _{BE(on)}	-	-	1.8	V	I _C =3A, V _{CE} =4V
DC Current Gain ⁽¹⁾	h _{FE1}	25	-	-	-	I _C =1A, V _{CE} =4V
	h _{FE2}	10	-	50	-	I _C =3A, V _{CE} =4V
Transition Frequency	f _T	3	-	-	MHz	I _C =0.5A, V _{CE} =10V, f=1MHz

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