



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

2SD313

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

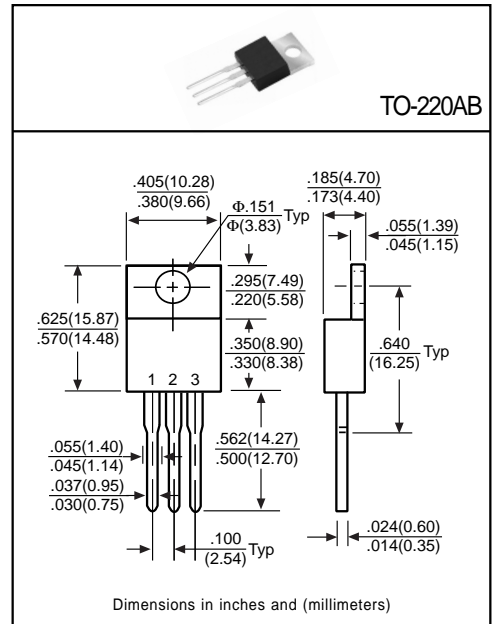
Designed for general-purpose amplifier and switching applications.

Pinning

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

Absolute Maximum Ratings(T_A=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V _{CB0}	60	V
Collector-Emitter Voltage	V _{CE0}	60	V
Emitter-Base Voltage	V _{EB0}	5	V
Collector Current	I _C	3	A
Total Power Dissipation	P _D	2	W
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}	60	-	-	V	I _C =1mA, I _E =0
Collector-Emitter Breakdown Voltage	BV _{CE0}	60	-	-	V	I _C =10mA, I _B =0
Emitter-Base Breakdown Voltage	BV _{EB0}	5	-	-	V	I _E =100μA, I _C =0
Collector Cutoff Current	I _{CB0}	-	-	0.1	mA	V _{CB} =20V, I _E =0
	I _{CE0}	-	-	5	mA	V _{CE} =60V, I _B =0
Emitter Cutoff Current	I _{EB0}	-	-	1	mA	V _{EB} =4V, I _C =0
Collector-Emitter Saturation Voltage ⁽¹⁾	V _{CE(sat)}	-	-	1	V	I _C =2A, I _B =0.2A
Base-Emitter On Voltage ⁽¹⁾	V _{BE(on)}	-	-	1.5	V	I _C =1A, V _{CE} =2V
DC Current Gain ⁽¹⁾	h _{FE1}	40	-	320	-	I _C =1A, V _{CE} =2V
	h _{FE2}	40	-	-	-	I _C =0.1A, V _{CE} =2V
Transition Frequency	f _T	-	8	-	MHz	I _C =0.5A, V _{CE} =5V

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

Classification of h_{FE1}

Rank	C	D	E	F
Range	40~80	60~120	100~200	160~320