



DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

2SB507

TECHNICAL SPECIFICATIONS OF PNP EPITAXIAL PLANAR TRANSISTOR

Description

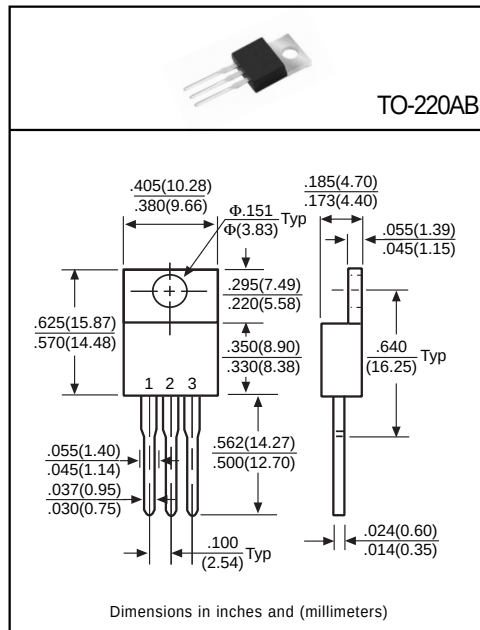
Designed for use in power amplifier and switching circuits.

Pinning

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

Absolute Maximum Ratings($T_A=25^{\circ}\text{C}$)

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($T_C=25^{\circ}\text{C}$)	P_D	30	W
Junction Temperature	T_J	+150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}\text{C}$



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	$I_C=-1\text{mA}$, $I_E=0$
Collector-Emitter Breakdown Voltage	BV_{CE0}	-60	-	-	V	$I_C=-10\text{mA}$, $I_B=0$
Emitter-Base Breakdown Voltage	BV_{EB0}	-5	-	-	V	$I_E=-1\text{mA}$, $I_C=0$
Collector Cutoff Current	I_{CBO}	-	-	-0.1	mA	$V_{CB}=-20\text{V}$, $I_E=0$
	I_{CEO}	-	-	-5	mA	$V_{CE}=-60\text{V}$, $I_B=0$
Emitter Cutoff Current	I_{EBO}	-	-	-1	mA	$V_{EB}=-4\text{V}$, $I_C=0$
Collector-Emitter Saturation Voltage ⁽¹⁾	$V_{CE(sat)}$	-	-	-1	V	$I_C=-2\text{A}$, $I_B=-0.2\text{A}$
Base-Emitter On Voltage ⁽¹⁾	$V_{BE(on)}$	-	-	-1.5	V	$I_C=-1\text{A}$, $V_{CE}=-2\text{V}$
DC Current Gain ⁽¹⁾	h_{FE1}	40	-	-	-	$I_C=-0.1\text{A}$, $V_{CE}=-2\text{V}$
	h_{FE2}	40	-	320	-	$I_C=-1\text{A}$, $V_{CE}=-2\text{V}$
Transition Frequency	f_T	-	8	-	MHz	$I_C=-500\text{mA}$, $V_{CE}=-5\text{V}$, $f=100\text{MHz}$

(1) Pulse Test: Pulse Width $\leq 380\mu\text{s}$, Duty Cycle $\leq 2\%$

Classification of h_{FE2}

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