DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

2SB507

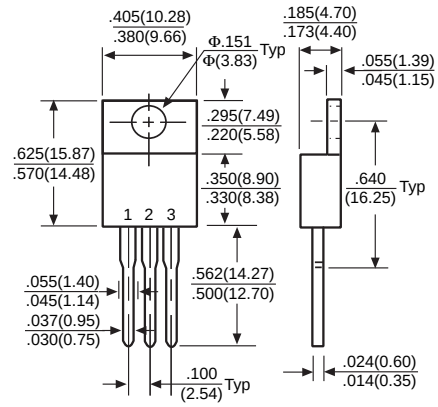
TECHNICAL SPECIFICATIONS OF PNP EPITAXIAL PLANAR TRANSISTOR

Description

Designed for use in power amplifier and switching circuits.



TO-220AB



Dimensions in inches and (millimeters)

Pinning

1 = Base
2 = Collector
3 = Emitter

Absolute Maximum Ratings(T_A=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	-60	V
Collector-Emitter Voltage	V_{CEO}	-60	V
Emitter-Base Voltage	V_{EBO}	-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 Volatge	BV_{CBO}	-60	-	-	V	I_C=-1mA, I_E=0
Collector-Emitter Breakdown Voltage	BV_{CEO}	-60	-	-	V	I_C=-10mA, I_B=0
Emitter-Base Breakdown Voltage	BV_{EBO}	-5	-	-	V	I_E=-1mA, I_C=0
Collector Cutoff Current	I_{CBO}	-	-	-0.1	mA	V_{CB}=-20V, I_E=0
	I_{CEO}	-	-	-5	mA	V_{CE}=-60V, I_B=0
Emitter Cutoff Current	I_{EBO}	-	-	-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	-	-	-	I_C=-0.1A, V_{CE}=-2V
	h_{FE2}	40	-	320	-	I_C=-1A, V_{CE}=-2V
Transition Frequency	f_T	-	8	-	MHz	I_C=-500mA, V_{CE}=-5V, f=100MHz

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

Classification of h_{FE2}

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