

# For Power Amplification ( $-60\text{V}$ , $-3\text{A}$ )

## 2SB1565

### ●Structure

PNP Silicon Epitaxial Planar Transistor

### ●Features

- 1) Low  $V_{CE(sat)}$ .
- 2) Excellent electrical characteristics of DC current Gain  $h_{FE}$ .
- 3) Wide SOA.

### ●Applications

Low frequency power amplifier  
Stereophonic output  
Stabilization of power supply

### ●Absolute maximum ratings ( $T_a=25^\circ\text{C}$ )

Parameter	Symbol	Limits	Unit
Collector-base voltage	$V_{CB0}$	-60	V
Collector-emitter voltage	$V_{CE0}$	-60	V
Emitter-base voltage	$V_{EB0}$	-7	V
Collector current	DC	$I_C$	-3 A
	Pulse	$I_{CP}$	-6 A *1
Collector power dissipation	$P_C$	2	W( $T_a=25^\circ\text{C}$ )
		25	W( $T_c=25^\circ\text{C}$ )
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

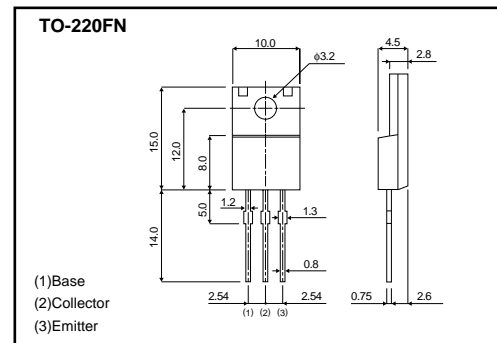
\*1  $P_w=100\text{ms}$ , non repetitive pulse

### ●Electrical characteristics ( $T_a=25^\circ\text{C}$ )

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-emitter breakdown voltage	$BV_{CE0}$	-60	-	-	V	$I_C=-1\text{mA}$
Collector-base breakdown voltage	$BV_{CB0}$	-60	-	-	V	$I_C=-50\mu\text{A}$
Emitter-base breakdown voltage	$BV_{EB0}$	-7	-	-	V	$I_E=-50\mu\text{A}$
Collector cutoff current	$I_{CB0}$	-	-	-10	$\mu\text{A}$	$V_{CB}=-60\text{V}$
Emitter cutoff current	$I_{EB0}$	-	-	-10	$\mu\text{A}$	$V_{EB}=-7\text{V}$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-	-1.5	V	$I_C/I_B=-2A/-0.2A$ *1
DC current gain	$h_{FE}$	100	-	320	-	$V_{CE}=-5\text{V}$ , $I_C=-0.5\text{A}$ *1,2
Transition frequency	$f_T$	-	15	-	MHz	$V_{CE}=-5\text{V}$ , $I_E=0.5\text{A}$ , $f=5\text{MHz}$ *1
Collector output capacitance	$C_{ob}$	-	50	-	pF	$V_{CB}=-10\text{V}$ , $I_E=0\text{A}$ , $f=1\text{MHz}$

\*1 Single pulse \*2  $h_{FE}$  rank

### ●External dimensions (Unit : mm)



### ●Complements

PNP	NPN
2SB1565	2SD2394

### ●Packaging specifications and $h_{FE}$

Type	$h_{FE}$	Package	Taping
		Code	-
2SB1565	EF	Basic ordering unit (pieces)	500
			○

$h_{FE}$  values are classified as follows:

Item	E	F
$h_{FE}$	100 to 200	160 to 320

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