

Transistors

For Power Amplification (60V, 3A)

2SD2394

●Structure

NPN Silicon Triple Diffused Planar Transistor

●Features

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

●Applications

Low frequency amplifier

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

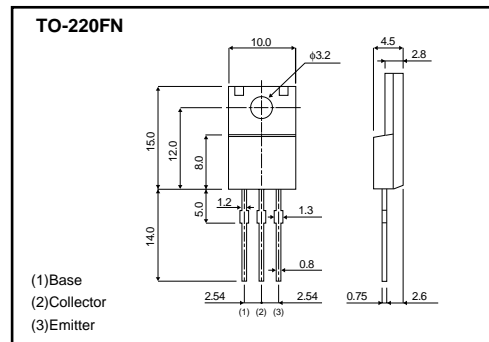
Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CB0}	80	V
Collector-emitter voltage	V_{CE0}	60	V
Emitter-base voltage	V_{EB0}	7	V
Collector current	DC	I_c	3 A(DC)
	Pulse	I_{cP}	6 A(Pulse)*1
Collector power dissipation	P_c	2	W($T_a=25^\circ\text{C}$)
		25	W($T_c=25^\circ\text{C}$)
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

*1 $P_w=100\text{ms}$, single 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}	80	-	-	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	μA	$V_{CB}=60\text{V}$
Emitter cutoff current	I_{EB0}	-	-	10	μA	$V_{EB}=7\text{V}$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-	1.0	V	$I_c/I_B=2\text{A}/0.2\text{A}$ *1
Base-emitter saturation voltage	$V_{BE(sat)}$	-	-	1.5	V	$I_c/I_B=2\text{A}/0.2\text{A}$ *1
DC current gain	h_{FE}	100	-	320	-	$V_{CE}=5\text{V}$, $I_c=0.5\text{A}$
Transition frequency	f_T	-	8	-	MHz	$V_{CE}=5\text{V}$, $I_E=-0.5\text{A}$, $f=5\text{MHz}$ *1
Collector output capacitance	C_{ob}	-	35	-	pF	$V_{CB}=10\text{V}$, $I_E=0\text{A}$, $f=1\text{MHz}$

*1 Pulse test

●External dimensions (Unit : mm)



●Complements

PNP	NPN
2SB1565	2SD2394

●Packaging specifications and h_{FE}

Type	Package	Taping
2SD2394	h _{FE} Code	-
	Basic ordering unit (pieces)	500
2SD2394	EF	○

 h_{FE} values are classified as follows:

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

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