

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 (Ta=25°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(Ta=25°C)
		25	W(Tc=25°C)
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

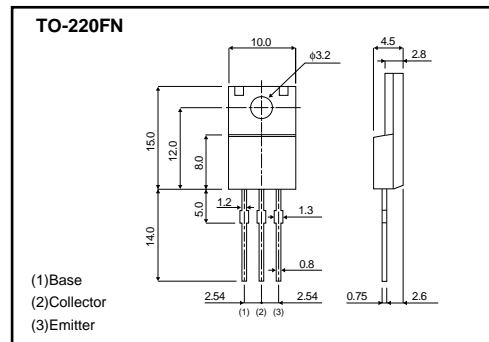
*1 $P_W=100ms$, single pulse

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-emitter breakdown voltage	BV_{CE0}	60	-	-	V	$I_C=1mA$
Collector-base breakdown voltage	BV_{CB0}	80	-	-	V	$I_C=50\mu A$
Emitter-base breakdown voltage	BV_{EB0}	7	-	-	V	$I_E=50\mu A$
Collector cutoff current	I_{CB0}	-	-	10	μA	$V_{CB}=60V$
Emitter cutoff current	I_{EB0}	-	-	10	μA	$V_{EB}=7V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-	1.0	V	$I_C/I_B=2A/0.2A$ *1
Base-emitter saturation voltage	$V_{BE(sat)}$	-	-	1.5	V	$I_C/I_B=2A/0.2A$ *1
DC current gain	h_{FE}	100	-	320	-	$V_{CE}=5V, I_C=0.5A$
Transition frequency	f_T	-	8	-	MHz	$V_{CE}=5V, I_E=-0.5A, f=5MHz$ *1
Collector output capacitance	C_{ob}	-	35	-	pF	$V_{CB}=10V, I_E=0A, f=1MHz$

*1 Pulse test

●External dimensions (Unit : mm)



●Complements

PNP	NPN
2SB1565	2SD2394

●Packaging specifications and h_{FE}

Type	Package	Taping
2SD2394	hFE	-
	EF	500

 h_{FE} values are classified as follows:

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

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