Transistors

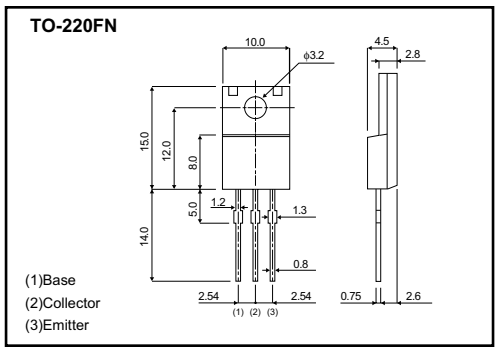
For Power Amplification (60V, 3A)

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.

●External dimensions (Unit : mm)



●Applications
Low frequency amplifier

●Complements

PNP	NPN
2SB1565	2SD2394

●Absolute maximum ratings (Ta=25°C)

Parameter		Symbol	Limits	Unit
Collector-base voltage		V_{CBO}	80	V
Collector-emitter voltage		V_{CEO}	60	V
Emitter-base voltage		V_{EBO}	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		Tj	150	°C
Storage temperature		Tstg	−55 to +150	°C

*1 Pw=100ms, single pulse

●Packaging specifications and h_{FE}

Type		Package	Taping
		Code	–
	h_{FE}	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

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-emitter breakdown voltage	BV_{CEO}	60	–	–	V	I_C=1mA
Collector-base breakdown voltage	BV_{CBO}	80	–	–	V	I_C=50μA
Emitter-base breakdown voltage	BV_{EBO}	7	–	–	V	I_E=50μA
Collector cutoff current	I_{CBO}	–	–	10	μA	V_{CB}=60V
Emitter cutoff current	I_{EBO}	–	–	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	Cob	–	35	–	pF	V_{CB}=10V, I_E=0A, f=1MHz

*1 Pulse test

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