Power Transistor (−50V, −3A)

2SB1566

●**Features**

1) Low saturation voltage, typically $V_{CE(sat)}$ = −0.3V at I_C / I_B = −2A / −0.2A.
2) Wide SOA (safe operating area).
3) Complements the 2SD2395.

●**Absolute maximum ratings** (Ta=25℃)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	−60	V
Collector-emitter voltage	V_{CEO}	−50	V
Emitter-base voltage	V_{EBO}	−5	V
Collector current	I_C	−3	A (DC)
	I_{CP}	−4.5	A (Pulse) ✻
Collector power dissipation	P_C	2	W
		25	W (Tc=25℃)
Junction temperature	Tj	150	℃
Storage temperature	Tstg	−55~+150	℃

✻ Single pulse, Pw=100ms

●**Packaging specifications and h_{FE}**

Type	2SB1566
Package	TO-220FN
h_{FE}	EF
Code	—
Basic ordering unit (pieces)	500

●**Electrical characteristics** (Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	−60	—	—	V	I_C=−50 μA
Collector-emitter breakdown voltage	BV_{CEO}	−50	—	—	V	I_C=−1mA
Emitter-base breakdown voltage	BV_{EBO}	−5	—	—	V	I_E=−50 μA
Collector cutoff current	I_{CBO}	—	—	−1	μA	V_{CB}=−60V
Emitter cutoff current	I_{EBO}	—	—	−1	μA	V_{EB}=−7V
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	−1	V	I_C/I_B=−2A/−0.2A ✻
Base-emitter saturation voltage	$V_{BE(sat)}$	—	—	−1.5	V	I_C/I_B=−2A/−0.2A ✻
DC current transfer ratio	h_{FE}	100	—	320	—	V_{CE}/I_C=−3V/−0.5A
Gain bandwidth product	fr	—	60	—	MHz	V_{CE}=−5V, I_E=0.5A, f=5MHz ✻
Collector output capacitance	Cob	—	40	—	pF	V_{CB}=−10V, I_E=0A, f=1MHz

✻ Measured using pulse current

(94L-459-B350)

Power Transistor (50V, 3A)

2SD2395

●**Features**

1) Low saturation voltage, typically $V_{CE(sat)}$ =0.2V at I_C / I_B=2A / 0.2A.
2) Wide SOA (safe operating area).
3) Complements the 2SB1566.

●**Absolute maximum ratings** (Ta=25℃)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	60	V
Collector-emitter voltage	V_{CEO}	50	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_C	3	A (DC)
	I_{CP}	4.5	A (Pulse) ✻
Collector power dissipation	P_C	2	W
		25	W (Tc=25℃)
Junction temperature	Tj	150	℃
Storage temperature	Tstg	−55~+150	℃

✻ Single pulse, Pw=100ms

●**Packaging specifications and h_{FE}**

Type	2SD2395
Package	TO-220FN
h_{FE}	EF
Code	—
Basic ordering unit (pieces)	500

●**Electrical characteristics** (Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	60	—	—	V	I_C=50 μA
Collector-emitter breakdown voltage	BV_{CEO}	50	—	—	V	I_C=1mA
Emitter-base breakdown voltage	BV_{EBO}	5	—	—	V	I_E=50 μA
Collector cutoff current	I_{CBO}	—	—	1	μA	V_{CB}=40V
Emitter cutoff current	I_{EBO}	—	—	1	μA	V_{EB}=4V
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	1	V	I_C/I_B=2A/0.2A ✻
Base-emitter saturation voltage	$V_{BE(sat)}$	—	—	1.5	V	I_C/I_B=2A/0.2A ✻
DC current transfer ratio	h_{FE}	100	—	320	—	V_{CE}/I_C=5V/0.5A
Transition frequency	fr	—	100	—	MHz	V_{CE}=5V, I_E=−0.5A, f=30MHz ✻
Output capacitance	Cob	—	35	—	pF	V_{CB}=10V, I_E=0A, f=1MHz

✻ Measured using pulse current

(94L-1101-D350)