Power Transistor (−60V, −5A)

2SB1292

●**Features**

1) Low saturation voltage, typically $V_{CE(sat)}$ = −0.3V at I_C / I_B = −3A / −0.3A.
2) Excellent DC current gain characteristics.
3) P_C = 30W (Tc=25℃)
4) Wide SOA (safe operating area).
5) Complements the 2SD1832.

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

Type	2SB1292
Package	TO-220FP
h_{FE}	EF
Code	—
Basic ordering unit (pieces)	500

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

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	−60	V
Collector-emitter voltage	V_{CEO}	−60	V
Emitter-base voltage	V_{EBO}	−5	V
Collector current	I_C	−5	A (DC)
		−10	A (Pulse) ✻
Collector power dissipation	P_C	2	W
		30	W (Tc=25℃)
Junction temperature	Tj	150	℃
Storage temperature	Tstg	−55~+150	℃

✻ Single pulse, Pw=100ms

●**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}	−60	—	—	V	I_C=−1mA
Emitter-base breakdown voltage	BV_{EBO}	−5	—	—	V	I_E=−50 μA
Collector cutoff current	I_{CBO}	—	—	−10	μA	V_{CB}=−60V
Emitter cutoff current	I_{EBO}	—	—	−10	μA	V_{EB}=−4V
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	−1.5	V	I_C/I_B=−3A/−0.3A ✻
Base-emitter saturation voltage	$V_{BE(sat)}$	—	—	−1.5	V	I_C/I_B=−3A/−0.3A ✻
DC current transfer ratio	h_{FE}	100	—	320	—	V_{CE}/I_C=5V/−1A
Transition frequency	fT	—	12	—	MHz	V_{CE}=−5V, I_E=0.5A, f=5MHz ✻
Output capacitance	Cob	—	150	—	pF	V_{CB}=−10V, I_E=0A, f=1MHz

✻ Measured using pulse current

(94L-316-B75)

Power Transistor (60V, 5A)

2SD1832

●**Features**

1) Low saturation voltage, typically $V_{CE(sat)}$ =0.3V at I_C / I_B =3A / 0.3A.
2) Excellent DC current gain characteristics.
3) P_C =30W (Tc=25℃)
4) Wide SOA (safe operating area).
5) Complements the 2SB1292.

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

Type	2SD1832
Package	TO-220FP
h_{FE}	EF
Code	—
Basic ordering unit (pieces)	500

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

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	80	V
Collector-emitter voltage	V_{CEO}	60	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_C	5	A (DC)
		10	A (Pulse) ✻
Collector power dissipation	P_C	2	W
		30	W (Tc=25℃)
Junction temperature	Tj	150	℃
Storage temperature	Tstg	−55~+150	℃

✻ Single pulse, Pw=100ms

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	80	—	—	V	I_C=50 μA
Collector-emitter breakdown voltage	BV_{CEO}	60	—	—	V	I_C=1mA
Emitter-base breakdown voltage	BV_{EBO}	5	—	—	V	I_E=50 μA
Collector cutoff current	I_{CBO}	—	—	10	μA	V_{CB}=80V
Emitter cutoff current	I_{EBO}	—	—	10	μA	V_{EB}=4V
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	1.0	V	I_C/I_B=3A/0.3A ✻
Base-emitter saturation voltage	$V_{BE(sat)}$	—	—	1.5	V	I_C/I_B=3A/0.3A ✻
DC current transfer ratio	h_{FE}	100	—	320	—	V_{CE}/I_C=5V/1A
Transition frequency	fT	—	8	—	MHz	V_{CE}=5V, I_E=−50mA, f=5MHz ✻
Output capacitance	Cob	—	130	—	pF	V_{CB}=10V, I_E=0A, f=1MHz

✻ Measured using pulse current

(94L-872-D75)