

Power Transistor (−60V, −5A)

2SB1292

●Features

- 1) Low saturation voltage, typically $V_{CE(sat)} = -0.3V$ at $I_C / I_E = -3A / -0.3A$.
- 2) Excellent DC current gain characteristics.
- 3) $P_C = 30W$ ($T_C = 25^\circ C$)
- 4) Wide SOA (safe operating area).
- 5) Complements the 2SD1832.

●Packaging specifications and hFE

Type	2SB1292
Package	TO-220FP
hFE	EF
Code	—
Basic ordering unit (pieces)	500

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	−60	V
Collector-emitter voltage	V_{CEO}	−60	V
Emitter-base voltage	V_{EB0}	−5	V
Collector current	I_C	−5	A (DC)
		−10	A (Pulse) *
Collector power dissipation	P_C	2	W
		30	W ($T_C = 25^\circ C$)
Junction temperature	T_J	150	$^\circ C$
Storage temperature	T_{stg}	−55~+150	$^\circ C$

* Single pulse, $P_W = 100ms$

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	−60	—	—	V	$I_C = -50 \mu A$
Collector-emitter breakdown voltage	BV_{CEO}	−60	—	—	V	$I_C = -1mA$
Emitter-base breakdown voltage	BV_{EBO}	−5	—	—	V	$I_E = -50 \mu A$
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	$I_C/I_E = -3A/-0.3A$ *
Base-emitter saturation voltage	$V_{BE(sat)}$	—	—	−1.5	V	$I_C/I_E = -3A/-0.3A$ *
DC current transfer ratio	hFE	100	—	320	—	$V_{CE}/I_C = 5V/-1A$
Transition frequency	f_T	—	12	—	MHz	$V_{CE} = -5V$, $I_E = 0.5A$, $f = 5MHz$ *
Output capacitance	C_{ob}	—	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 $I_C / I_E = 3A / 0.3A$.
- 2) Excellent DC current gain characteristics.
- 3) $P_C = 30W$ ($T_C = 25^\circ C$)
- 4) Wide SOA (safe operating area).
- 5) Complements the 2SB1292.

●Packaging specifications and hFE

Type	2SD1832
Package	TO-220FP
hFE	EF
Code	—
Basic ordering unit (pieces)	500

●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}	5	V
Collector current	I_C	5	A (DC)
		10	A (Pulse) *
Collector power dissipation	P_C	2	W
		30	W ($T_C = 25^\circ C$)
Junction temperature	T_J	150	$^\circ C$
Storage temperature	T_{stg}	−55~+150	$^\circ C$

* Single pulse, $P_W = 100ms$

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	80	—	—	V	$I_C = 50 \mu A$
Collector-emitter breakdown voltage	BV_{CEO}	60	—	—	V	$I_C = 1mA$
Emitter-base breakdown voltage	BV_{EBO}	5	—	—	V	$I_E = 50 \mu A$
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	$I_C/I_E = 3A/0.3A$ *
Base-emitter saturation voltage	$V_{BE(sat)}$	—	—	1.5	V	$I_C/I_E = 3A/0.3A$ *
DC current transfer ratio	hFE	100	—	320	—	$V_{CE}/I_C = 5V/1A$
Transition frequency	f_T	—	8	—	MHz	$V_{CE} = 5V$, $I_E = -50mA$, $f = 5MHz$ *
Output capacitance	C_{ob}	—	130	—	pF	$V_{CB} = 10V$, $I_E = 0A$, $f = 1MHz$

* Measured using pulse current

(94L-872-D75)