Power Transistor (−60V, −5A)

2SB1292

●**Features**

1) Low $V_{CE(sat)}$. (Typ.−0.3V at Ic/Ib=−3/−0.3A)
2) Excellent DC current gain characteristics.
3) Pc = 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	Ic	−5	A (DC)	
		−10	A (Pulse)	*
Collector power dissipation	Pc	2	W	
		30	W (Tc=25℃)	
Junction temperature	Tj	150	℃	
Storage temperature	Tstg	−55~150	℃	

* Sigle pulse Pw=100ms

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions	
Collector-base breakdown voltage	BV_{CBO}	−60	—	—	V	Ic=−50 μA	
Collector-emitter breakdown voltage	BV_{CEO}	−60	—	—	V	Ic=−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	Ic/Ib=−3A/−0.3A	*
Base-emitter saturation voltage	$V_{CE(sat)}$	—	—	−1.5	V	Ic/Ib=−3A/−0.3A	*
DC current transfer ratio	h_{FE}	100	—	320	—	V_{CE}/Ic=5V/−1A	
Transition frequency	ft	—	12	—	MHz	V_{CE}=−5V, I_E=0.5A, f=5MHz	*
Output capacitance	Cob	—	150	—	pF	V_{CB}=−10V, Ic=0A, f=1MHz	

* Measured using pulse current

(94L-316-B75)

Power Transistor (60V, 5A)

2SD1832

●**Features**

1) Low $V_{CE(sat)}$. (Typ. 0.3V at Ic/Ib=3/0.3A)
2) Excellent DC current gain characteristics.
3) Pc =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	Ic	5	A (DC)	
		10	A (Pulse)	*
Collector power dissipation	Pc	2	W	
		30	W (Tc=25℃)	
Junction temperature	Tj	150	℃	
Storage temperature	Tstg	−55~150	℃	

* Sigle pulse Pw=100ms

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions	
Collector-base breakdown voltage	BV_{CBO}	80	—	—	V	Ic=50 μA	
Collector-emitter breakdown voltage	BV_{CEO}	60	—	—	V	Ic=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	Ic/Ib=3A/0.3A	*
Base-emitter saturation voltage	$V_{CE(sat)}$	—	—	1.5	V	Ic/Ib=3A/0.3A	*
DC current transfer ratio	h_{FE}	100	—	320	—	V_{CE}/Ic=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)

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