

Power Transistor (−60V, −3A)

2SB1370

●Features

- 1) Low saturation voltage, typically $V_{CE(sat)} = -0.3V$ at $I_C / I_E = -2A / -0.2A$.
- 2) Excellent DC current gain characteristics.
- 3) $P_C = 2W (T_a = 25^\circ C) / 30W (T_c = 25^\circ C)$
- 4) Wide SOA (safe operating area).

●Packaging specifications and hFE

Type	2SB1370
Package	TO-220FN
h _{FE}	EF
Code	—
Basic ordering unit (pieces)	500

●Absolute maximum ratings (T_a = 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	−3	A (DC)
	I _{CP}	−6	A (Pulse) *
Collector power dissipation	P _C	2	W
		30	W (T _c = 25°C)
Junction temperature	T _J	150	°C
Storage temperature	T _{stg}	−55 ~ +150	°C

* Single pulse, P_w = 100ms●Electrical characteristics (T_a = 25°C)

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 _{EB0}	−5	—	—	V	I _E = −50 μA
Collector cutoff current	I _{CBO}	—	—	−10	μA	V _{CB} = −60V
Emitter cutoff current	I _{EB0}	—	—	−10	μA	V _{EB} = −4V
Collector-emitter saturation voltage	V _{CE(sat)}	—	—	−1.5	V	I _C /I _E = −2A/−0.2A *
Base-emitter saturation voltage	V _{BE(sat)}	—	—	−1.5	V	I _C /I _E = −2A/−0.2A *
DC current transfer ratio	h _{FE}	100	—	320	—	V _{CE} /I _C = −5V/−0.5A
Transition frequency	f _T	—	15	—	—	V _{CE} = −5V, I _E = 0.5A, f = 5MHz *
Output capacitance	C _{ob}	—	80	—	pF	V _{CB} = −10V, I _E = 0A, f = 1MHz

* Measured using pulse current.

(94L-411-B303)

Power Transistor (−60V, −3A)

2SB1655/2SB1565

●Features

- 1) Low saturation voltage, typically $V_{CE(sat)} = -0.3V$ at $I_C / I_E = -2A / -0.2A$.
- 2) Excellent DC current gain characteristics.
- 3) Wide SOA (safe operating area).

●Packaging specifications and hFE

Type	2SB1655	2SB1565
Package	TO-220FN	TO-220FN
h _{FE}	E	EF
Code	—	—
Basic ordering unit (pieces)	500	500

●Absolute maximum ratings (T_a = 25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V _{CBO}	−80	V
Collector-emitter voltage	V _{CEO}	−60	V
Emitter-base voltage	V _{EB0}	−7	V
Collector current	I _C	−3	A (DC)
	I _{CP}	−6	A (Pulse) *
Collector power dissipation	P _C	2	W
		25	W (T _c = 25°C)
Junction temperature	T _J	150	°C
Storage temperature	T _{stg}	−55 ~ +150	°C

* Single pulse, P_w = 100ms●Electrical characteristics (T_a = 25°C)

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 _{EB0}	−7	—	—	V	I _E = −50 μA	
Collector cutoff current	I _{CBO}	—	—	−10	μA	V _{CB} = −60V	
Emitter cutoff current	I _{EB0}	—	—	−10	μA	V _{EB} = −7V	
Collector-emitter saturation voltage	2SB1655	—	—	−1	V	I _C /I _E = −2A/−0.2A *	
	2SB1565			−1.5	V		
Base-emitter saturation voltage	V _{BE(sat)}	—	—	−1.5	V	I _C /I _E = −2A/−0.2A *	
DC current transfer ratio	2SB1655	h _{FE}	100	—	200	—	V _{CE} /I _C = −5V/−0.5A
	2SB1565		100	—	320		
Transition frequency	f _T	—	15	—	MHz	V _{CE} = −5V, I _E = 0.5A, f = 5MHz *	
Output capacitance	C _{ob}	—	50	—	pF	V _{CB} = −10V, I _E = 0A, f = 1MHz	

* Measured using pulse current.

(94L-456-B349)