

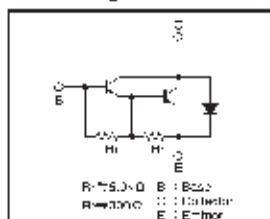
Power Transistor (—120V, —6A)

2SB1340

Features

- 1) Darlington connection for high DC current gain.
- 2) Built-in resistor between base and emitter.
- 3) Built-in damper diode.
- 4) Complements the 2SD1889.

Circuit diagram



Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CB0}	—20	—	—	V	$I_C = -50\mu A$
Collector-emitter breakdown voltage	BV_{CE0}	—20	—	—	V	$I_C = -5mA$
Collector cutoff current	I_{CBO}	—	—	100	μA	$V_{CE} = -120V$
Emitter cutoff current	I_{EBO}	—	—	3	mA	$V_{BE} = -5V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	1.5	V	$I_{C1} = -5A, I_{C2} = -5mA$
DC current transfer ratio	h_{FE}	2k	—	20k	—	$V_{CE} = -5V, I_C = -2A$
Transition frequency	f_T	—	12	—	MHz	$V_{CE} = -5V, I_C = 0.5A, f = 10MHz$
Output capacitance	C_{ob}	—	70	—	pF	$V_{CE} = -10V, I_C = 0A, f = 1MHz$

*1: Measured at $I_C = 10mA$.

*2: Transition frequency of the device.

Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Units	Unit
Collector-base voltage	V_{CB0}	120	V
Collector-emitter voltage	V_{CE0}	—120	V
Emitter-base voltage	V_{EB0}	—5	V
Collector current	I_C	—6	A (DC)
		—10	A (Pulse) *
Collector power dissipation	P_C	2	W
		30	W (Ta=25°C)
Junction temperature	T_J	150	°C
Storage temperature	T_{stg}	—55~+150	°C

* Single pulse, $P_A = 10ms$.

Packaging specifications and hrs

Type	2SB1340
Package	TO-220FF
hrc	24~26A
Case	—
Base ordering unit (pieces)	500

(96-650-B88)

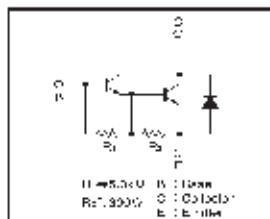
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2SD1889

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Collector-base breakdown voltage	BV_{CB0}	20	—	—	V	$I_C = 0\mu A$
Collector-emitter breakdown voltage	BV_{CE0}	20	—	—	V	$I_C = 5mA$
Collector cutoff current	I_{CBO}	—	—	100	μA	$V_{CE} = 120V$
Emitter cutoff current	I_{EBO}	—	—	3	mA	$V_{BE} = 5V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	1.5	V	$I_{C1} = 5A, I_{C2} = 5mA$
DC current transfer ratio	h_{FE}	2k	—	20k	—	$V_{CE} = 5V, I_C = 2A$
Transition frequency	f_T	—	40	—	MHz	$V_{CE} = 5V, I_C = 0.5A, f = 10MHz$
Output capacitance	C_{ob}	—	50	—	pF	$V_{CE} = 10V, I_C = 0A, f = 1MHz$

*1: Measured at $I_C = 10mA$.

*2: Transition frequency of the device.

Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Units	Unit
Collector-base voltage	V_{CB0}	120	V
Collector-emitter voltage	V_{CE0}	120	V
Emitter-base voltage	V_{EB0}	5	V
Collector current	I_C	6	A (DC)
		10	A (Pulse) *
Collector power dissipation	P_C	2	W
		30	W (Ta=25°C)
Junction temperature	T_J	150	°C
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* Single pulse, $P_A = 10ms$.

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Package	TO-220FF
hrc	24~26A
Case	—
Base ordering unit (pieces)	500

(96-765-D88)