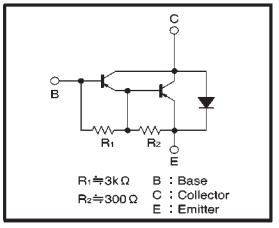
Power Transistor (−80V, −4A)

2SB1474 / 2SB1342

●**Features**

1) Darlington connection for a high h_{FE}.
2) Built-in resistor between base and emitter.
3) Built-in damper doide.
4) Complements the 2SD1933.

●**Circuit diagram**



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

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	−80	V
Collector-emitter voltage	V_{CES}	−80	V
Emitter-base voltage	V_{EBO}	−7	V
Collector current	I_C	−4	A (DC)
		−6	A ✻
Collector power dissipation	2SB1474	1	W
		10	W (Tc=25℃)
	2SB1342	2	W
		30	W (Tc=25℃)
Junction temperature	Tj	150	℃
Storage temperature	Tstg	−55～+150	℃

✻ Single pulse, Pw=100ms

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

Type	2SB1474	2SB1342
Package	CPT3	TO-220FP
h_{FE}	1k～10k	1k～10k
Code	TL	—
Basic ordering unit (pieces)	2500	500

●**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}	−80	—	—	V	I_C=−1mA
Collector cutoff current	I_{CBO}	—	—	−100	μA	V_{CB}=−80V
Emitter cutoff current	I_{EBO}	—	—	−3	mA	V_{EB}=−5V
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	−1	−1.5	V	I_C/I_B=−2A/−4mA ✻1
DC current transfer ratio	h_{FE}	1000	5000	10000	—	V_{CE}/I_C=−3V/−2A ✻1
Transition frequency	f_T	—	12	—	MHz	V_{CE}=−5V, I_E=0.5A, f=10MHz ✻2
Output capacitance	Cob	—	45	—	pF	V_{CB}=−10V, I_E=0A, f=1MHz

✻1 Measured using pulse current. ✻2 Transition frequency of the device

(94S-181-B400)

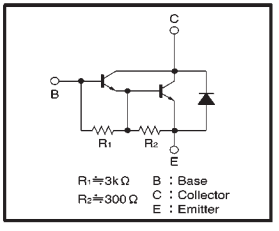
Power Transistor (80V, 4A)

2SD1933

●**Features**

1) Darlington connection for a high h_{FE}.
2) Built-in resistor between base and emitter.
3) Built-in damper doide.
4) Complements the 2SB1342.

●**Circuit diagram**



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

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	80	V
Collector-emitter voltage	V_{CES}	80	V
Emitter-base voltage	V_{EBO}	7	V
Collector current	I_C	4	A (DC)
		6	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

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

Type	2SD1933
Package	TO-220FP
h_{FE}	1k～10k
Code	—
Basic ordering unit (pieces)	500

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-emitter breakdown voltage	BV_{CEO}	80	—	—	V	I_C=1mA
Collector-base breakdown voltage	BV_{CBO}	80	—	—	V	I_C=50 μA
Collector cutoff current	I_{CBO}	—	—	100	μA	V_{CB}=80V
Emitter cutoff current	I_{EBO}	—	—	3	mA	V_{EB}=5V
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	1.5	V	I_C/I_B=2A/4mA ✻1
DC current transfer ratio	h_{FE}	1000	—	10000	—	V_{CE}/I_C=3V/2A ✻1
Transition frequency	f_T	—	40	—	MHz	V_{CE}=5V, I_E=−0.2A, f=10MHz ✻2
Output capacitance	Cob	—	35	—	pF	V_{CB}=10V, I_E=0A, f=1MHz

✻1 Measured using pulse current. ✻2 Transition frequency of the device

(94L-906-D400)

littlediode
COMPONENTS FOR ALL

Littlediode supplies new, hard to find or obsolete electronic components and semiconductors all over the world.

With over two million different components listed you are sure to find the part you need.

Feel free to visit us today at our online store:

LittleDiode.com

Looking forward to providing you with the best possible service.