

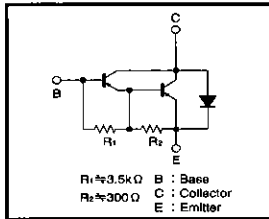
Power Transistor (−100V, −2A)

2SB1580 / 2SB1316 / 2SB1567 / 2SB1287

●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 2SD2195/2SD1980/2SD2398/2SD1765.

●Circuit schematic



●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V _{CB0}	−100	V
Collector-emitter voltage	V _{CE0}	−100	V
Emitter-base voltage	V _{EB0}	−8	V
Collector current	I _C	−2	A (DC)
		−3	A (Pulse) *1
Collector power dissipation	P _C	2SB1580	2
		2SB1316	1
		2SB1567, 2SB1287	10
		2	
		W (T _C =25°C)	
		W	
		20	W (T _C =25°C)
Junction temperature	T _J	150	°C
Storage temperature	T _{stg}	−55~150	°C

*1 Single pulse P_w=100ms *2 On 40 x 40 x 0.7 mm ceramic board.

●Packaging specifications and h_{FE}

Type	2SB1580	2SB1316	2SB1567	2SB1287
Package	MPT3	CPT3	TO-220FN	TO-220FP
h _{FE}	1k~10k	1k~10k	1k~10k	1k~10k
Marking	BN*	—	—	—
Code	T100	TL	—	—
Basic ordering unit (pieces)	1000	2500	500	500

* Denotes h_{FE}

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV _{CB0}	−100	—	—	V	I _C =−50 μA
Collector-emitter breakdown voltage	BV _{CE0}	−100	—	—	V	I _C =−5mA
Collector cutoff current	I _{CB0}	—	—	−10	μA	V _{CB} =−100V
Emitter cutoff current	I _{EB0}	—	—	−3	mA	V _{EB} =−7V
Collector-emitter saturation voltage	V _{CE(sat)}	—	—	−1.5	V	I _C /I _B =−1A/I _B =−1mA
DC current transfer ratio	h _{FE}	1000	—	10000	—	V _{CE} =−2V, I _C =−1A
Output capacitance	C _{ob}	—	35	—	pF	V _{CE} =−10V, I _C =0A, f=1MHz

* Measured using pulse current.

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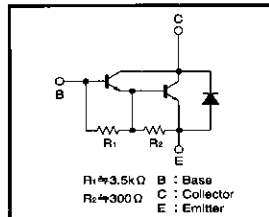
Power Transistor (100V, 2A)

2SD2195 / 2SD1980 / 2SD1867 / 2SD2398 / 2SD1765

●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 2SB1580/2SB1316/2SB1567/2SB1287.

●Circuit schematic



●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V _{CB0}	100	V
Collector-emitter voltage	V _{CE0}	100	V
Emitter-base voltage	V _{EB0}	8	V
Collector current	I _C	2	A (DC)
		3	A (Pulse) *1
Collector power dissipation	P _C	2SD2195	2
		2SD1980	1
		2SD1867	10
		2SD2398, 2SD1765	1
		W (T _C =25°C)	
		W	
		2	W (T _C =25°C)
Junction temperature	T _J	150	°C
Storage temperature	T _{stg}	−55~150	°C

*1 Single pulse P_w=100ms *2 On 40 x 40 x 0.7 mm ceramic board.
*3 Printed circuit board 1.7mm thick, collector plating 1cm² or larger.

●Packaging specifications and h_{FE}

Type	2SD2195	2SD1980	2SD1867	2SD2398	2SD1765
Package	MPT3	CPT3	ATV	TO-220FN	TO-220FP
h _{FE}	1k~10k	1k~10k	1k~10k	1k~10k	1k~10k
Marking	DP*	—	—	—	—
Code	T100	TL	TV2	—	—
Basic ordering unit (pieces)	1000	2500	2500	500	500

* Denotes h_{FE}

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV _{CB0}	100	—	—	V	I _C =50 μA
Collector-emitter breakdown voltage	BV _{CE0}	100	—	—	V	I _C =5mA
Collector cutoff current	I _{CB0}	—	—	10	μA	V _{CB} =100V
Emitter cutoff current	I _{EB0}	—	—	3	mA	V _{EB} =5V
Collector-emitter saturation voltage	V _{CE(sat)}	—	—	1.5	V	I _C =1A, I _B =1mA
DC current transfer ratio	h _{FE}	1000	—	10000	—	V _{CE} =2V, I _C =1A
Output capacitance	C _{ob}	—	25	—	pF	V _{CE} =10V, I _C =0A, f=1MHz

* Measured using pulse current.

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