

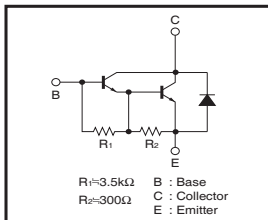
Power Transistor (100V, 2A)

2SD1980

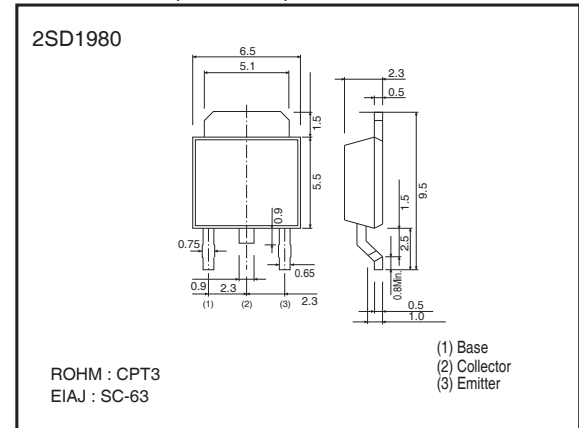
●Features

- 1) Darlington connection for high DC current gain.
- 2) Built-in resistor between base and emitter.
- 3) Built-in damper diode.
- 4) Complements the 2SB1316.

●inner circuit



●Dimensions (Unit : mm)



●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	VCBO	100	V
Collector-emitter voltage	VCEO	100	V
Emitter-base voltage	VEBO	6	V
Collector current	IC	2	A(DC)
		3	A(Pulse)
		1	W
Collector power dissipation	PC	10	W(Tc=25°C)
		150	°C
Junction temperature	Tj	150	°C
Storage temperature	Tstg	-55 to +150	°C

*1 Single pulse Pw=100ms

●Packaging specifications and hFE

Type	2SD1980
Package	CPT3
hFE	1k to 10k
Marking	-
Code	TL
Basic ordering unit (pieces)	2500

* Denotes hFE

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BVCBO	100	-	-	V	IC=50μA
Collector-emitter breakdown voltage	BVCEO	100	-	-	V	IC=5mA
Emitter-base breakdown voltage	BVEBO	6	-	-	V	IE=5mA
Collector cutoff current	ICBO	-	-	10	μA	VCE=100V
Emitter cutoff current	IEBO	-	-	3	mA	VEB=5V
Collector-emitter saturation voltage	VCE(sat)	-	-	1.5	V	IC=1A, IB=1mA
Base-Emitter saturation voltage	VEB(sat)	-	-	2.0	V	IC/IB=1A/1mA
DC current transfer ratio	hFE	1000	-	10000	-	VCE=2V, IC=1A
Transition frequency	fT	-	80	-	MHz	VCE=5V, IE=-0.1A, f=30MHz
Output capacitance	Cob	-	25	-	pF	VCE=10V, IE=0A, f=1MHz

* Measured using pulse current.

Electrical characteristic curves

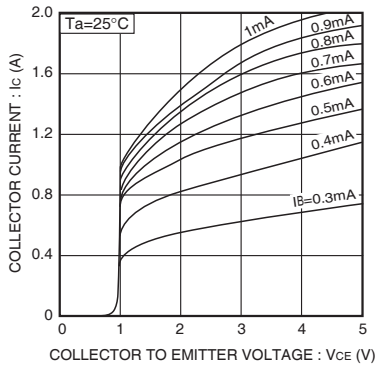


Fig.1 Grounded emitter output characteristics

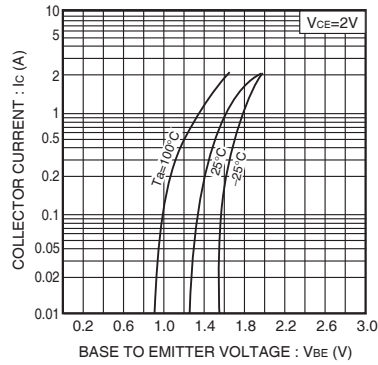


Fig.2 Grounded emitter propagation characteristics

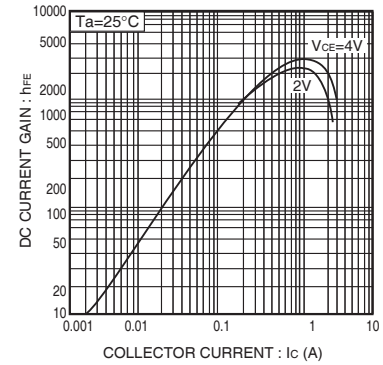


Fig.3 DC current gain vs. collector current

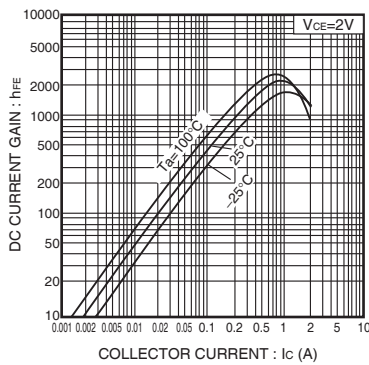


Fig.4 DC current gain vs. collector current

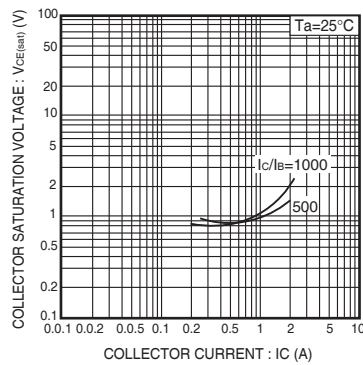


Fig.5 Collector-emitter saturation voltage vs. collector current

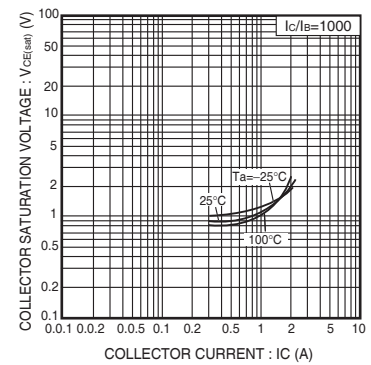


Fig.6 Collector-emitter saturation voltage vs. collector current

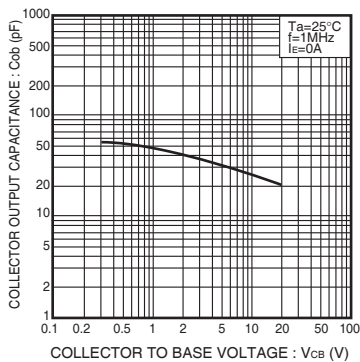


Fig.7 Collector output capacitance vs. collector-base voltage

Notes

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