

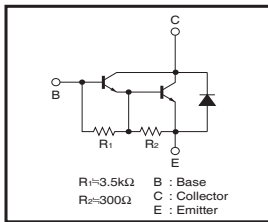
# Power Transistor (100V, 2A)

## 2SD1980

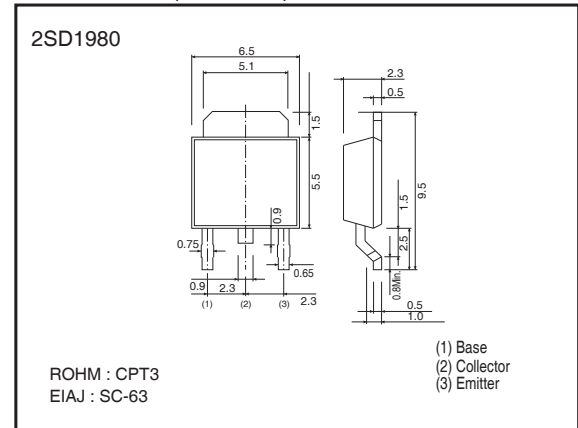
### ●Features

- 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 *1	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, Ie = 1mA	*
Base-Emitter saturation voltage	VEB(sat)	-	-	2.0	V	Ic/Ie = 1A/1mA	
DC current transfer ratio	hFE	1000	-	10000	-	VCE = 2V, Ic = 1A	*
Transition frequency	fr	-	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

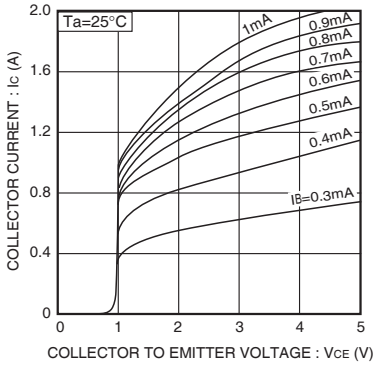


Fig.1 Grounded emitter output characteristics

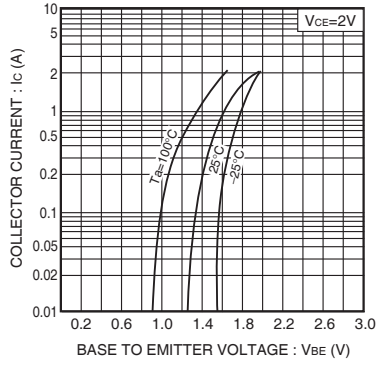


Fig.2 Grounded emitter propagation characteristics

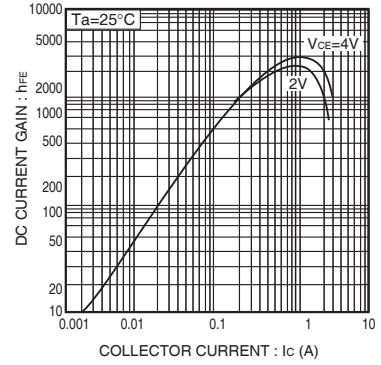


Fig.3 DC current gain vs. collector current

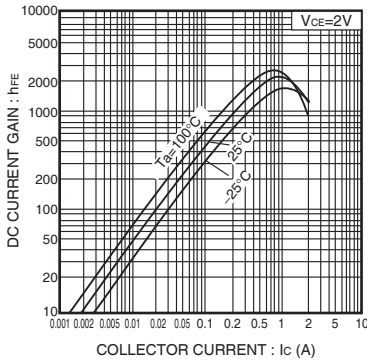


Fig.4 DC current gain vs. collector current

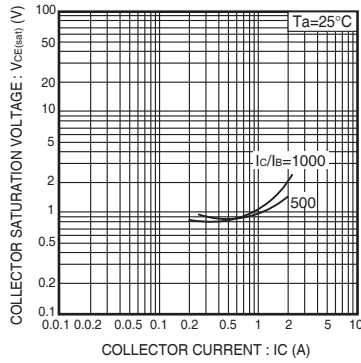


Fig.5 Collector-emitter saturation voltage vs. collector current

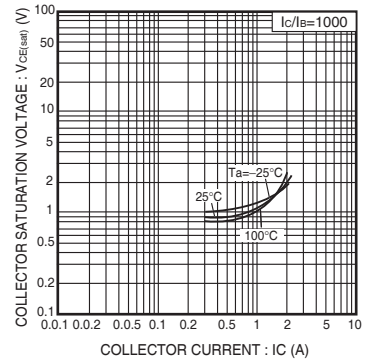


Fig.6 Collector-emitter saturation voltage vs. collector current

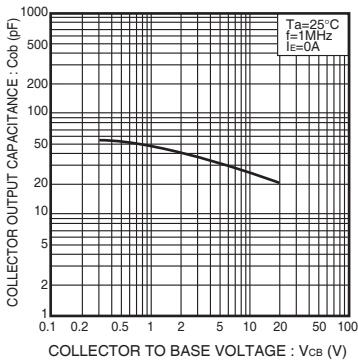


Fig.7 Collector output capacitance vs. collector-base voltage

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