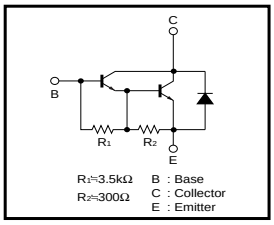
Power Transistor (100V, 2A)
2SD2195 / 2SD1980 / 2SD1867

●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.

●Equivalent circuit



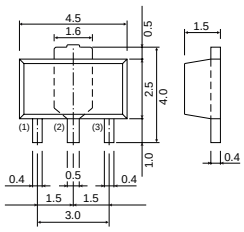
●Absolute maximum ratings (Ta=25°C)

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)
Collector power dissipation	2SD2195	PC	0.5	W
			2 *2	
	2SD1980		1	W(Tc=25°C)
			10	
	2SD1867		1 *3	W
Junction temperature		Tj	150	°C
Storage temperature		Tstg	−55 to +150	°C

*1 Single pulse Pw=100ms
*2 When mounted on a 40 x 40 x 0.7 mm ceramic board.
*3 Printed circuit board, 1.7mm thick, collector plating 100mm² or larger.

●External dimensions (Unit : mm)

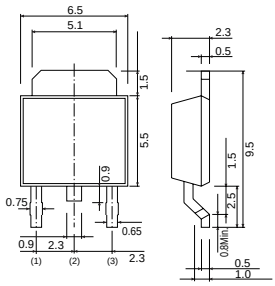
2SD2195



ROHM : MPT3
EIAJ : SC-62

(1) Base
(2) Collector
(3) Emitter

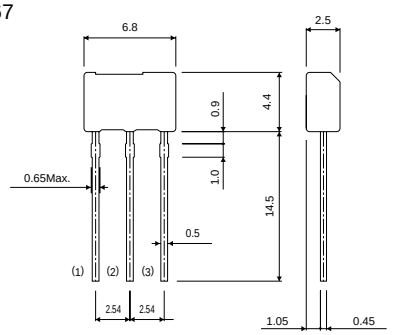
2SD1980



ROHM : CPT3
EIAJ : SC-63

(1) Base
(2) Collector
(3) Emitter

2SD1867



Taping specifications

ROHM : ATV

(1) Emitter
(2) Collector
(3) Base

●Packaging specifications and h_{FE}

Type	2SD2195	2SD1980	2SD1867
Package	MPT3	CPT3	ATV
h_{FE}	1k to 10k	1k to 10k	1k to 10k
Marking	DP	–	–
Code	T100	TL	TV2
Basic ordering unit (pieces)	1000	2500	2500

∗Denotes h_{FE}

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	100	–	–	V	I_C=50μA
Collector-emitter breakdown voltage	BV_{CBO}	100	–	–	V	I_C=5mA
Emitter-base breakdown voltage	BV_{EBO}	6	–	–	V	I_E=5mA
Collector cutoff current	I_{CBO}	–	–	10	μA	V_{CB}=100V
Emitter cutoff current	I_{EBO}	–	–	3	mA	V_{EB}=5V
Collector-emitter saturation voltag	$V_{CE(sat)}$	–	–	1.5	V	I_C=1A, I_B=1mA ∗
Base-Emitter saturation voltage	$V_{BE(sat)}$	–	–	2.0	V	I_C/I_B=1A/1mA
DC current transfer ratio	h_{FE}	1000	–	10000	–	V_{CE}=2V, I_C=1A ∗
Transition frequency	f_T	–	80	–	MHz	V_{CE}=5V, I_E=–0.1A, f=30MHz
Output capacitance	Cob	–	25	–	pF	V_{CB}=10V, I_E=0A, f=1MHz

∗Measured using pulse current.

●Electrical characteristic curves

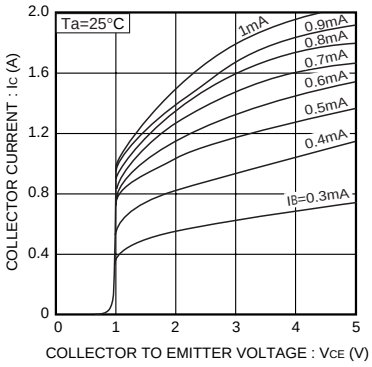


Fig.1 Grounded emitter output characteristics

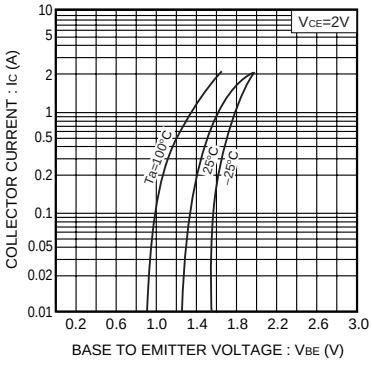


Fig.2 Grounded emitter propagation characteristics

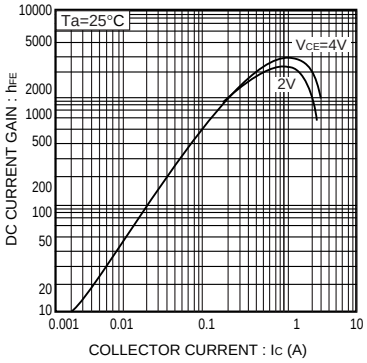


Fig.3 DC current gain vs. collector current

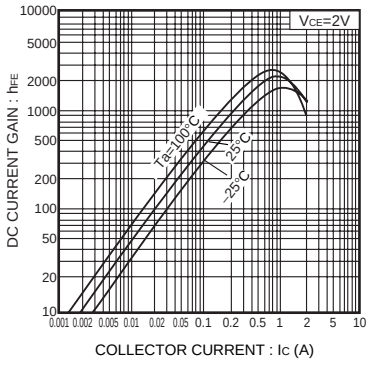


Fig.4 DC current gain vs. collector current

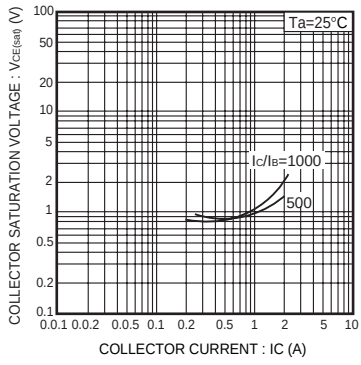


Fig.5 Collector-emitter saturation voltage vs.collector current

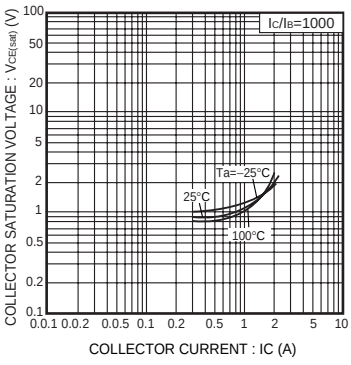


Fig.6 Collector-emitter saturation voltage vs.collector current

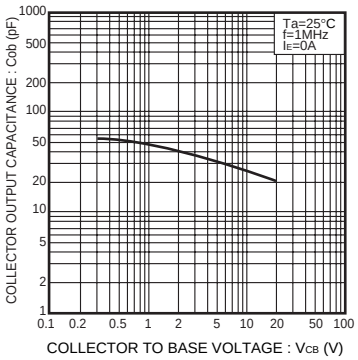


Fig.7 Collector output capacitance vs. collector-base voltage

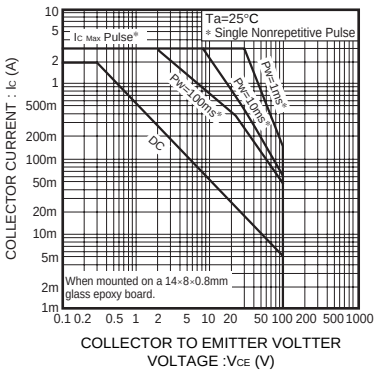


Fig.8 Safe operating area (2SD2195)

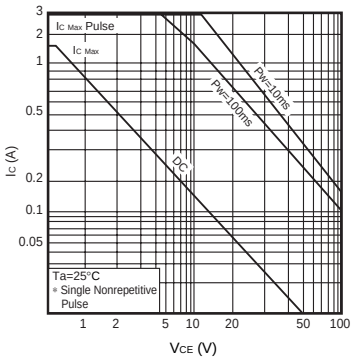


Fig.9 Safe operating area(2SD1867)

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