Power Transistor (100V , 2A)

2SD2195 / 2SD1980 / 2SD1867 / 2SD2398

●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.

●Absolute maximum ratings (Ta = 25°C)

Parameter		Symbol	Limits	Unit
Collector-base voltage		V_{CBO}	100	V
Collector-emitter voltage		V_{CEO}	100	V
Emitter-base voltage		V_{EBO}	6	V
Collector current		I_C	2	A(DC)
			3	A(Pulse) ∗1
Collector power dissipation	2SD2195	P_C	2	W ∗2
	2SD1980		1	W(Tc=25°C)
			10	
	2SD1867		1	W ∗3
	2SD2398		2	W(Tc=25°C)
			20	
Junction temperature		Tj	150	°C
Storage temperature		Tstg	−55 ~ +150	°C

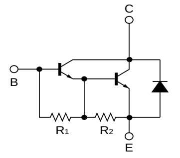
∗1 Single pulse Pw=100ms
∗2 When mounted on a 40 x 40 x 0.7 mm ceramic board.
∗3 Printed circuit board, 1.7mm thick, collector plating 100mm^2 or larger.

●Packaging specifications and h_{FE}

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

∗Denotes h_{FE}

●Circuit schematic

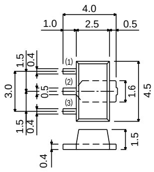


R_1≒3.5kΩ
R_2≒300Ω

B : Base
C : Collector
E : Emitter

●External dimensions (Units : mm)

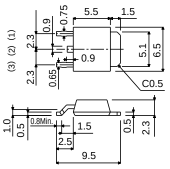
2SD2195



(1) Base(Gate)
(2) Collector(Drain)
(3) Emitter(Source)

ROHM : MPT3
EIAJ : SC-62

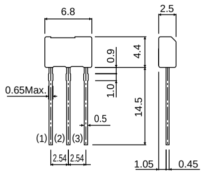
2SD1980



(1) Base(Gate)
(2) Collector(Drain)
(3) Emitter(Source)

ROHM : CPT3
EIAJ : SC-63

2SD1867

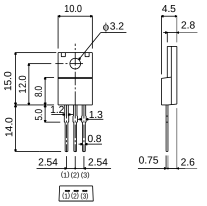


Taping specifications

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

ROHM : ATV

2SD2398



(1) Base(Gate)
(2) Collector(Drain)
(3) Emitter(Source)

ROHM : TO-220FN

●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_{CEO}	100	–	–	V	I_C = 5mA	
Collector cutoff current	I_{CBO}	–	–	10	μA	V_{CB} = 100V	
Emitter cutoff current	I_{EBO}	–	–	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	Cob	–	25	–	pF	V_{CB} = 10V , I_E = 0A , f = 1MHz	

∗ Measured using pulse current.