

Medium Power Transistor (Motor, Relay drive) (60±10V, 2A)

2SD2212 / 2SD2143 / 2SD1866 / 2SD2397

●Features

- 1) Built-in zener diode between collector and base.
- 2) Strong protection against reverse surges due to "L" loads.
- 3) Built-in resistor between base and emitter.
- 4) Built-in damper diode.

●Absolute maximum ratings (Ta = 25°C)

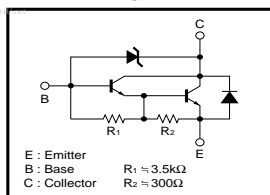
Parameter	Symbol	Limits	Unit
Collector-base voltage	V _{CB0}	60±10	V
Collector-emitter voltage	V _{CE0}	60±10	V
Emitter-base voltage	V _{EB0}	6	V
Collector current	I _c	2	A(DC)
		3	A(Pulse) * ₁
Collector power dissipation	P _c	2	W * ₂
		10	W(Tc=25°C)
		1	W * ₃
		20	W(Tc=25°C)
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	-55~+150	°C

*1 Single pulse P_w=100ms
 *2 When mounted on a 40×40×0.7mm ceramic board.
 *3 Printed circuit board 1.7mm thick, collector plating 1cm² or larger.

●Packaging specifications and hFE

Type	2SD2212	2SD2143	2SD1866	2SD2397
Package	MPT3	CPT3	ATV	TO-220FN
hFE	1k~10k	1k~10k	1k~10k	1k~10k
Code	T100	TL	TV2	-
Basic ordering unit (pieces)	1000	2500	2500	500

●Circuit diagram



●External dimensions (Units : mm)

2SD2212

ROHM : MPT3
EIAJ : SC-62

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

2SD2143

ROHM : CPT3
EIAJ : SC-63

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

2SD1866

ROHM : ATV

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

Taping specifications

2SD2397

ROHM : TO-220FN

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

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Transistors

●Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV _{CB0}	50	-	70	V	I _c =50μA
Collector-emitter breakdown voltage	BV _{CE0}	50	-	70	V	I _c =5mA
Collector cutoff current	I _{CB0}	-	-	1.0	μA	V _{CB} =40V
Emitter cutoff current	I _{EB0}	-	-	3	mA	V _{EB} =5V
Collector-emitter saturation voltage	V _{CE(sat)}	-	-	1.5	V	I _c /I _b =1A/1mA
DC current transfer ratio	h _{FE}	1000	-	10000	-	V _{CE} =2V, I _C =1A
Output capacitance	C _{ob}	-	25	-	pF	V _{CB} =10V, I _E =0A, f=1MHz

* Measured using pulse current.