Power Transistor (160V , 1.5A)

2SD2211 / 2SD1918 / 2SD1857A

●Features

1) High breakdown voltage.(BV_{CEO} = 160V)
2) Low collector output capacitance.
   (Typ. 20pF at V_{CB} = 10V)
3) High transition frequency.(f_T = 80MHz)
4) Complements the 2SB1275 / 2SB1236A.

●Absolute maximum ratings (Ta = 25°C)

Parameter		Symbol	Limits	Unit	
Collector-base voltage		V_{CBO}	160	V	
Collector-emitter voltage		V_{CEO}	160	V	
Emitter-base voltage		V_{EBO}	5	V	
Collector current		I_C	1.5	A(DC)	
			3	A(Pulse)	*1
Collector power dissipation	2SD1857A	P_C	1	W	*2
	2SD2211		2	W	*3
	2SD1918		1		
			10	W(Tc=25°C)	
Junction temperature		Tj	150	°C	
Storage temperature		Tstg	−55 ~+150	°C	

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

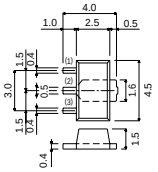
●Packaging specifications and h_{FE}

Type	2SD2211	2SD1918	2SD1857A
Package	MPT3	CPT3	ATV
h_{FE}	QR	Q	PQ
Marking	DQ*	–	–
Code	T100	TL	TV2
Basic ordering unit (pieces)	1000	2500	2500

* Denotes h_{FE}

●External dimensions (Units : mm)

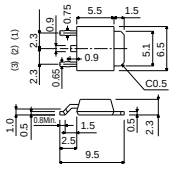
2SD2211



ROHM : MPT3
EIAJ : SC-62

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

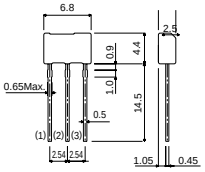
2SD1918



ROHM : CPT3
EIAJ : SC-63

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

2SD1857A



Taping specifications

ROHM : ATV

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

●Electrical characteristics (Ta = 25°C)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Conditions	
Collector-base breakdown voltage		BV_{CBO}	160	–	–	V	I_C = 50μA	
Collector-emitter breakdown voltage		BV_{CEO}	160	–	–	V	I_C = 1mA	
Emitter-base breakdown voltage		BV_{EBO}	5	–	–	V	I_E = 50μA	
Collector cutoff current		I_{CBO}	–	–	1	μA	V_{CB} = 120V	
Emitter cutoff current		I_{EBO}	–	–	1	μA	V_{EB} = 4V	
Collector-emitter saturation voltage		$V_{CE(sat)}$	–	–	2	V	I_C/I_B = 1A/0.1A	*
Base-emitter saturation voltage		$V_{BE(sat)}$	–	–	1.5	V	I_C/I_B = 1A/0.1A	*
DC current transfer ratio	2SD2211,2SD1918	h_{FE}	120	–	390	–	V_{CE}/I_C = 5V/0.1A	
	2SD1857A		82	–	270	–		
Transition frequency		f_T	–	80	–	MHz	V_{CE} = 5V , I_E = −0.1A , f = 30MHz	
Output capacitance		Cob	–	20	–	pF	V_{CB} = 10V , I_E = 0A , f = 1MHz	

*Measured using pulse current.