

Power Transistor (160V , 1.5A)

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.

●Absolute maximum ratings ($T_a = 25^\circ C$)

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	P_C	1	W *2
		1	W
		10	W($T_C=25^\circ C$)
Junction temperature	T_j	150	$^\circ C$
Storage temperature	T_{stg}	-55 ~ +150	$^\circ C$

* 1 $P_w=200msec$ duty=1/2

* 2 Printed circuit board 1.7mm thick, collector plating 1cm² or larger.

●Packaging specifications and h_{FE}

Type	2SD1918	2SD1857A
Package	CPT3	ATV
h_{FE}	QR	PQ
Marking	—	—
Code	TL	TV2
Basic ordering unit (pieces)	2500	2500

* Denotes h_{FE}

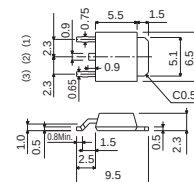
●Electrical characteristics ($T_a = 25^\circ C$)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	160	—	—	V	$I_C = 50\mu A$
Collector-emitter breakdown voltage	BV_{CEO}	160	—	—	V	$I_C = 1mA$
Emitter-base breakdown voltage	BV_{EBO}	5	—	—	V	$I_E = 50\mu A$
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	h_{FE}	120	—	390	—	$V_{CE}/I_C = 5V/0.1A$
		82	—	270	—	
Transition frequency	f_T	—	80	—	MHz	$V_{CE} = 5V$, $I_E = -0.1A$, $f = 30MHz$
Output capacitance	C_{ob}	—	20	—	pF	$V_{CB} = 10V$, $I_E = 0A$, $f = 1MHz$

* Measured using pulse current.

●Dimensions (Unit : mm)

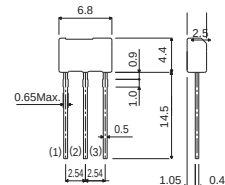
2SD1918



ROHM : CPT3
EIAJ : SC-63

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

2SD1857A



ROHM : ATV

Taping specifications

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

●Electrical characteristic curves

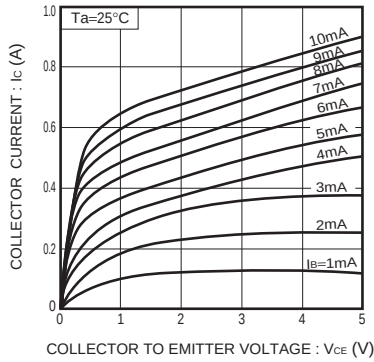


Fig.1 Ground emitter output characteristics

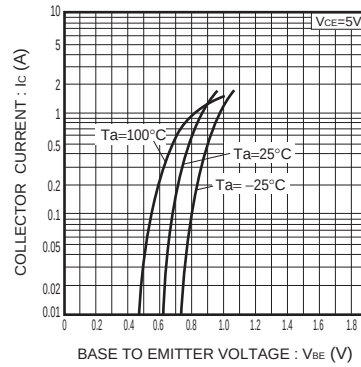


Fig.2 Ground emitter propagation characteristics

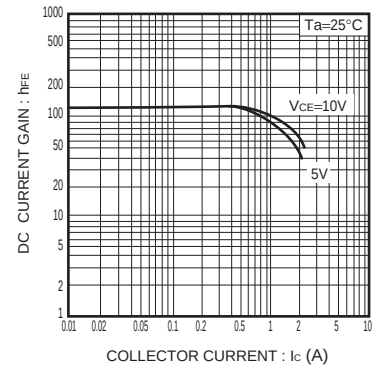


Fig.3 DC current gain vs. collector current (I)

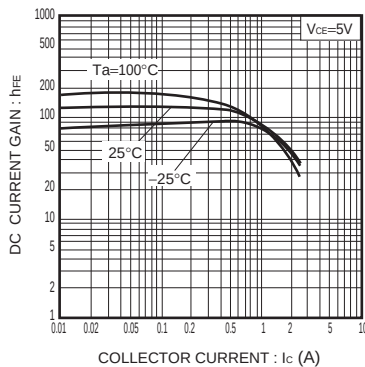


Fig.4 DC current gain vs. collector current (II)

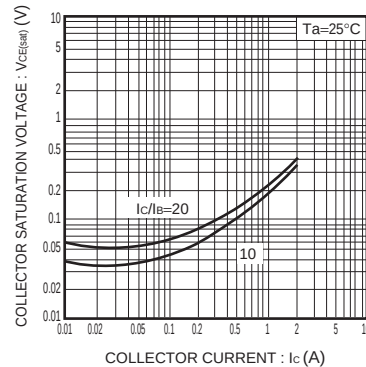


Fig.5 Collector-emitter saturation voltage vs. collector current

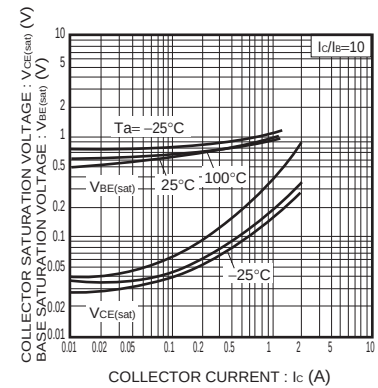
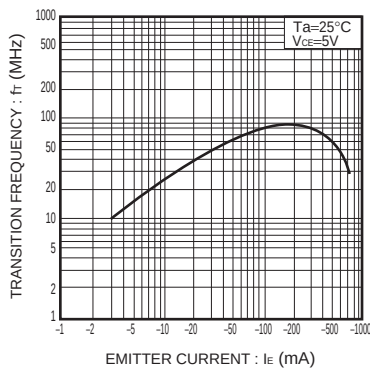
Fig.6 Collector-emitter saturation voltage vs. collector current
Base-emitter saturation voltage

Fig.7 Gain bandwidth products vs. emitter current

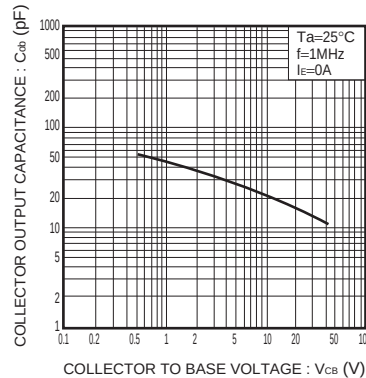


Fig.8 Collector output capacitance vs. collector-base voltage

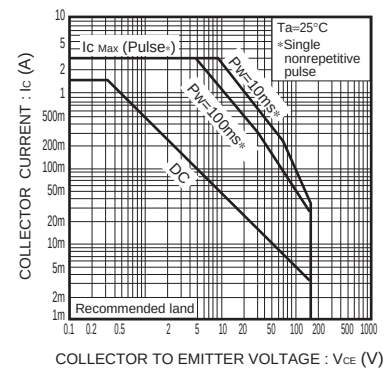


Fig.9 Safe operating area (2SD2211)

Notes

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