

Power Transistor (120V, 2A)

2SD1857

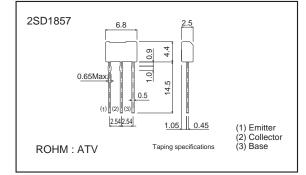
Features

- 1) High breakdown voltage. (BVCEO = 120V)
- 2) Low collector output capacitance.

(Тур. 20pF at Vcв = 10V)

- 3) High transition frequency. ($f_T = 80MHz$)
- 4) Complements the 2SB1236.

•Dimensions (Unit : mm)



•Packaging specifications and hre

		Package	Taping
Туре		Code	TV2
	hfe	Basic ordering unit (pieces)	2500
2SD1857	QR		0

hFE values are classified as follows:

Item	Q	R
hfe	120 to 270	180 to 390

•Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits	Unit	
Collector-base voltage	Vсво	120	V	
Collector-emitter voltage	Vceo	120	V	
Emitter-base voltage	Vebo	5	V	
Collector current	lc	2	А	
Collector current	Icp *1	3	А	
Collector power dissipation	Pc *2	1	W	
Junction temperature	Tj	150	°C	
Storage temperature	Tstg	-55 to +150	°C	

*1 Single pulse Pw = 10ms

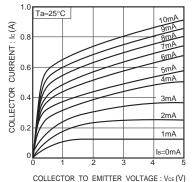
*2 When mounted on 1.7mm thick PCB having collector foll dimensions 1cm₂ or more.

•Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions	
Collector-base breakdown voltage	ВУсво	120	-	-	V	Ic = 50μA	
Collector-emitter breakdown voltage	BVCEO	120	-	-	V	Ic = 1mA	
Emitter-base breakdown voltage	ВVево	5	-	-	V	Ιε = 50μΑ	
Collector cutoff current	Ісво	-	-	1	μΑ	Vсв = 100V	
Emitter cutoff current	Іево	-	-	1	μΑ	VEB = 4V	
Collector-emitter saturation voltage	VCE(sat)	-	-	2	V	Ic/IB = 1A/0.1A	*
DC current transfer ratio	hfe	120	-	390	-	Vce/Ic = 5V/0.1A	
Transition frequency	fτ	-	80	-	MHz	Vce = 5V , Ie = -0.1A , f = 30MHz	
Output capacitance	Cob	-	20	-	pF	Vсв = 10V , IE = 0A , f = 1MHz	*

* Measured using pulse current.

•Electrical characteristics curves



COLLECTOR TO EMITTER VOLTAGE . VCE(V)

Fig.1 Ground emitter output characteristics

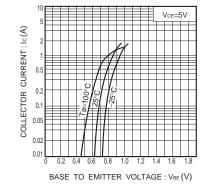


Fig.2 Ground emitter propagation characteristics

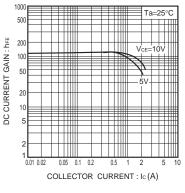


Fig.3 DC current gain vs. collector current (I)

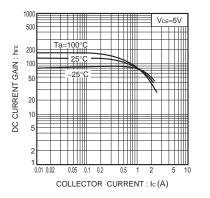


Fig.4 DC current gain vs. collector current (II)

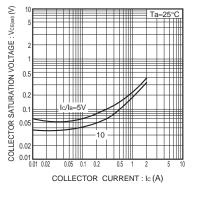


Fig.5 Collector-emitter saturation voltage vs. collector current

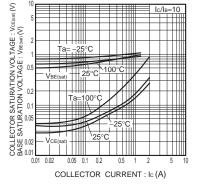


Fig.6 Collector-emitter saturation Base-emitter saturation vs. collector current

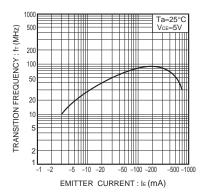
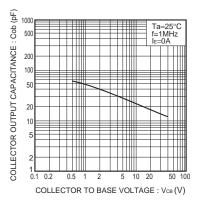
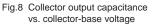


Fig.7 Gain bandwidth product vs. emitter current





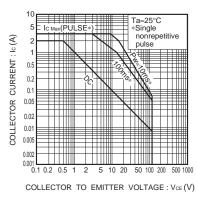


Fig.9 Safe operating area

	Notes
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