

PNP small signal transistor

BC857B

●Features

- 1) Ideal for switching and AF amplifier applications.
- 2) High current gain.

●Packaging specifications

Type	Package	Taping
	Code	T116
	Basic ordering unit (pieces)	3000
BC857B		○

●Absolute maximum ratings (Ta=25°C)

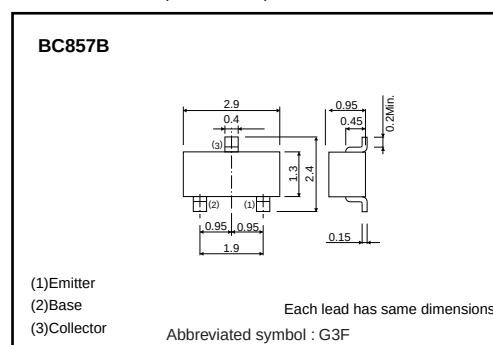
Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	-50	V
Collector-emitter voltage	V_{CEO}	-45	V
Emitter-base voltage	V_{EBO}	-5	V
Collector current	I_C	-0.1	A
Collector power dissipation	P_C	0.20	W
		0.35	W *
Junction temperature	T_J	150	°C
Storage temperature	T_{stg}	-65 to 150	°C

* Mounted on a 7×5×0.6 mm CERAMIC SUBSTRATE

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-emitter breakdown voltage	BV_{CEO}	-45	-	-	V	$I_C = -1mA$
Collector-base breakdown voltage	BV_{CBO}	-50	-	-	V	$I_C = -50\mu A$
Emitter-base breakdown voltage	BV_{EBO}	-5	-	-	V	$I_E = -50\mu A$
Collector-base cutoff current	I_{CBO}	-	-	-0.015	μA	$V_{CB} = -30V$
Collector-emitter saturation voltage	$V_{CE(sat1)}$	-	-	-0.3	V	$I_C/I_E = -10mA / -0.5mA$
	$V_{CE(sat2)}$	-	-	-0.65	V	$I_C/I_E = -100mA / -5mA$
Base-emitter voltage	$V_{BE(on)}$	-0.6	-	-0.75	V	$V_{CE} = -5V, I_C = -10mA$
DC current transfer ratio	h_{FE}	210	-	480	-	$V_{CE} = 5V, I_C = -2mA$
Transition frequency	f_T	-	250	-	MHz	$V_{CE} = -5V, I_E = 20mA, f = 100MHz$
Collector output capacitance	C_{ob}	-	-	4.5	pF	$V_{CB} = -10V, f = 1MHz$
Collector-base cutoff current	I_{CBO}	-	-	-4	μA	$V_{CB} = -30V$

●Dimensions (Unit : mm)



●Electrical characteristics curves

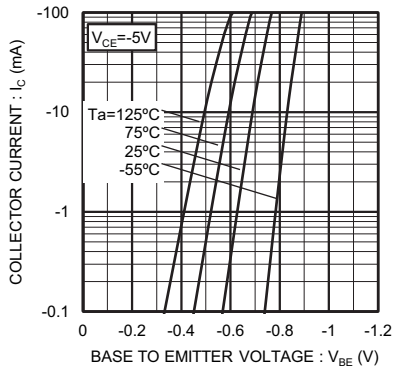


Fig 1. Grounded Emitter Propagation Characteristics

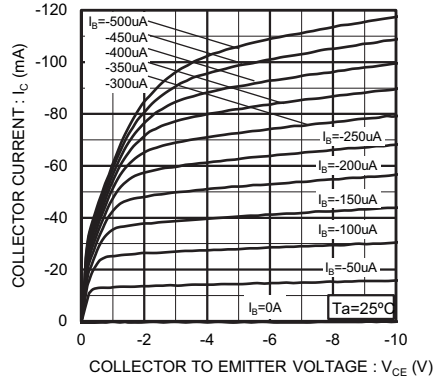


Fig 2. Grounded Emitter Output Characteristics (I)

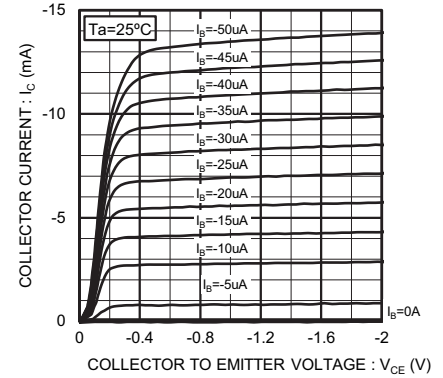


Fig 3. Grounded Emitter Output Characteristics (II)

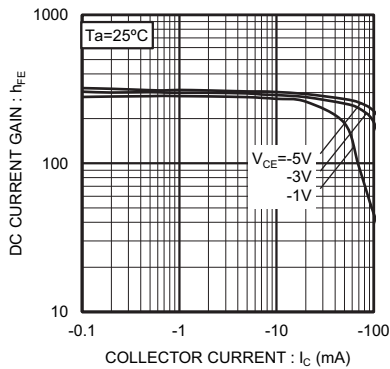


Fig 4. DC Current Gain vs. Collector Current (I)

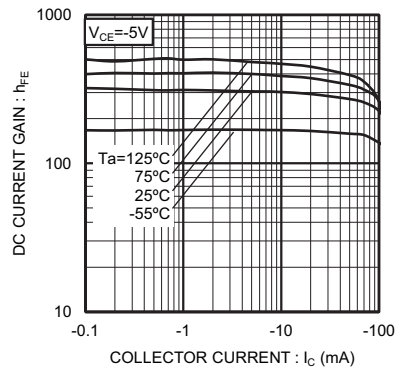


Fig 5. DC Current Gain vs. Collector Current (II)

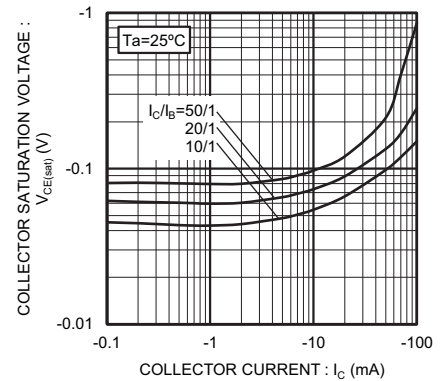


Fig 6. Collector Saturation Voltage vs. Collector Current (I)

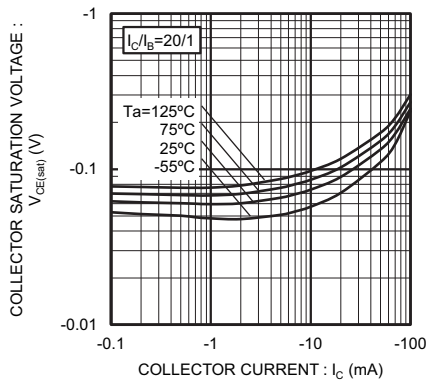


Fig 7. Collector Saturation Voltage vs. Collector Current (II)

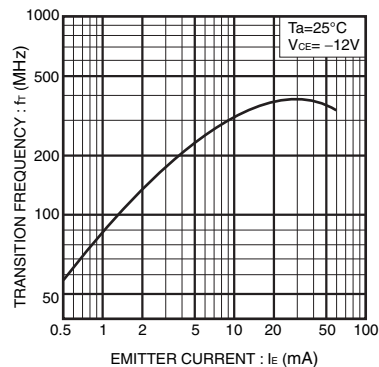
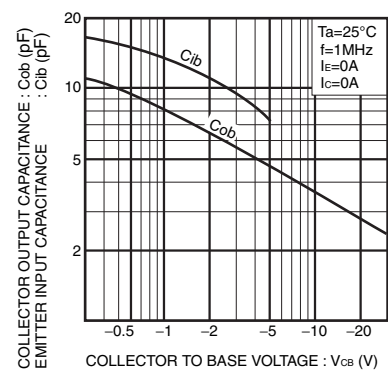


Fig 8. Gain bandwidth product vs. emitter current

Fig 9. Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

Notes

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