PNP small signal transistor

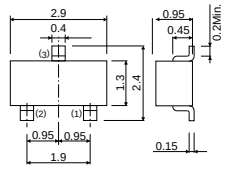
BC857B

●Features

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

●Dimensions (Unit : mm)

BC857B



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

Each lead has same dimensions

Abbreviated symbol : G3F

●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	Tj	150	°C	
Storage temperature	Tstg	–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= –50μA
Emitter-base breakdown voltage	BV_{EBO}	–5	–	–	V	I_E= –50μA
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_B= –10mA/ –0.5mA
	$V_{CE(sat2)}$	–	–	–0.65	V	I_C/I_B= –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 outpu capacitance	Cob	–	–	4.5	pF	V_{CB}= –10V, f=1MHz
Collector-base cutoff current	I_{CBO}	–	–	–4	μA	V_{CB}= –30V

●Electrical characteristics curves

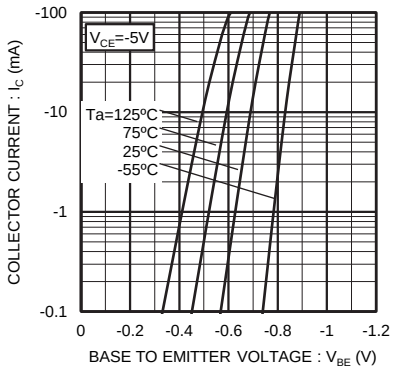


Fig 1. Grounded Emitter Propagation Characteristics

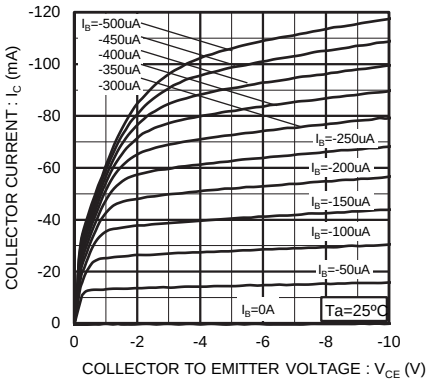


Fig 2. Grounded Emitter Output Characteristics (I)

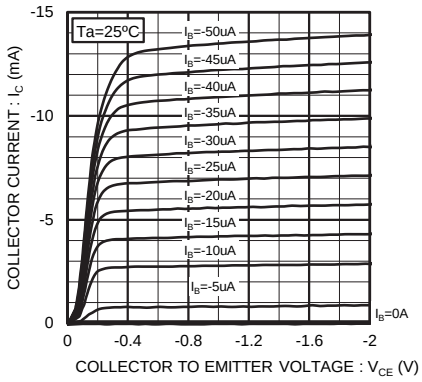


Fig 3. Grounded Emitter Output Characteristics (II)

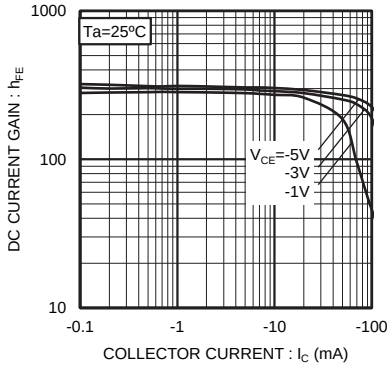


Fig 4. DC Current Gain vs. Collector Current (I)

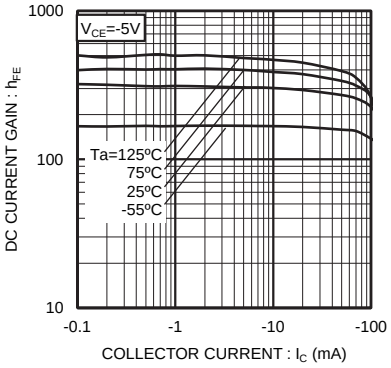


Fig 5. DC Current Gain vs. Collector Current (II)

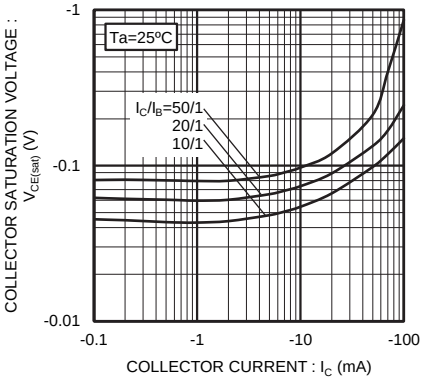


Fig 6. Collector Saturation Voltage vs. Collector Current (I)

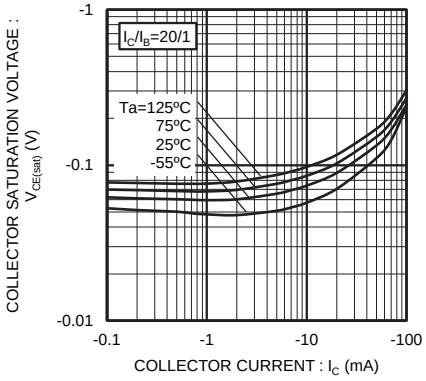


Fig 7. Collector Saturation Voltage vs. Collector Current (II)

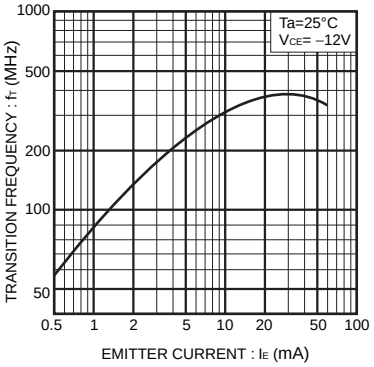


Fig.8 Gain bandwidth product vs. emitter current

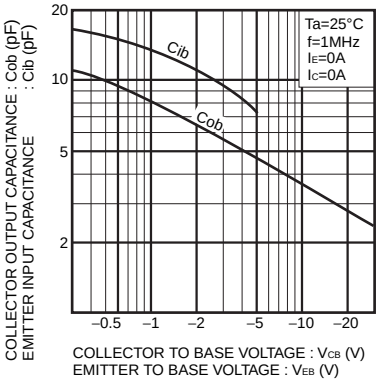


Fig.9 Collector output capacitance vs. collector-base voltage
Emitter inputcapacitance vs. emitter-base voltage

Notes

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