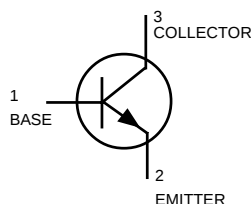


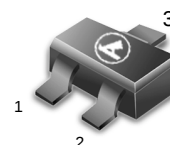
General Purpose Transistors

NPN Silicon



BC847BRLT1

is LRC preferred Device



CASE 318-07, STYLE 6
SOT-23 (TO-236AB)

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector–Emitter Voltage	V_{CEO}	50	V
Collector–Base Voltage	V_{CBO}	60	V
Emitter–Base Voltage	V_{EBO}	7.0	V
Collector Current — Continuous	I_C	150	mAdc
Collector power dissipation	P_C	0.2	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 — +150	°C

DEVICE MARKING

BC847BRLT1 =G1F

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted.)

Characteristic	Symbol	Min	Typ	Max	Unit
Collector–Emitter Breakdown Voltage ($I_C = 1\text{ mA}$)	$V_{(BR)CEO}$	50	—	—	V
Emitter–Base Breakdown Voltage ($I_E = 50\text{ }\mu\text{A}$)	$V_{(BR)EBO}$	7	—	—	V
Collector–Base Breakdown Voltage ($I_C = 50\text{ }\mu\text{A}$)	$V_{(BR)CBO}$	60	—	—	V
Collector Cutoff Current ($V_{CB} = 60\text{ V}$)	I_{CBO}	—	—	0.1	μA
Emitter cutoff current ($V_{EB} = 7\text{ V}$)	I_{EBO}	—	—	0.1	μA
Collector-emitter saturation voltage ($I_C / I_B = 50\text{ mA} / 5\text{ mA}$)	$V_{CE(sat)}$	—	—	0.4	V
DC current transfer ratio ($V_{CE} = 6\text{ V}$, $I_C = 1\text{ mA}$)	h_{FE}	120	—	560	—
Transition frequency ($V_{CE} = 12\text{ V}$, $I_E = -2\text{ mA}$, $f = 30\text{ MHz}$)	f_T	—	180	—	MHz
Output capacitance ($V_{CB} = 12\text{ V}$, $I_E = 0\text{ A}$, $f = 1\text{ MHz}$)	C_{ob}	—	2.0	3.5	pF

h_{FE} values are classified as follows:

*	Q	R	S
h_{FE}	120–270	180–390	270–560

BC847BRLT1

Fig.1 Grounded emitter propagation characteristics

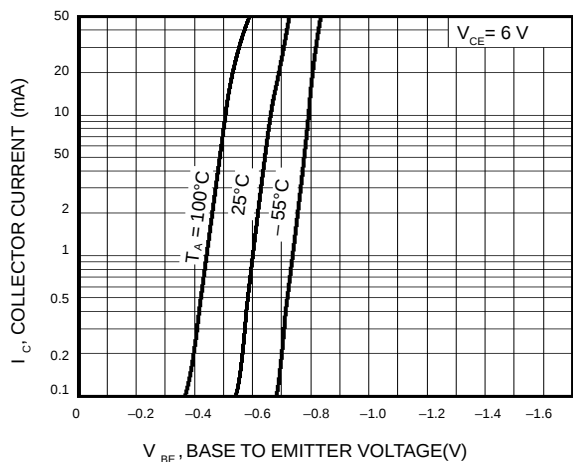


Fig.2 Grounded emitter output characteristics(I)

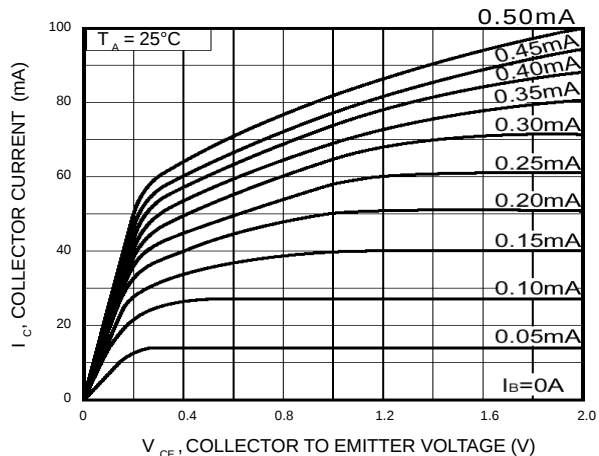


Fig.3 Grounded emitter output characteristics(II)

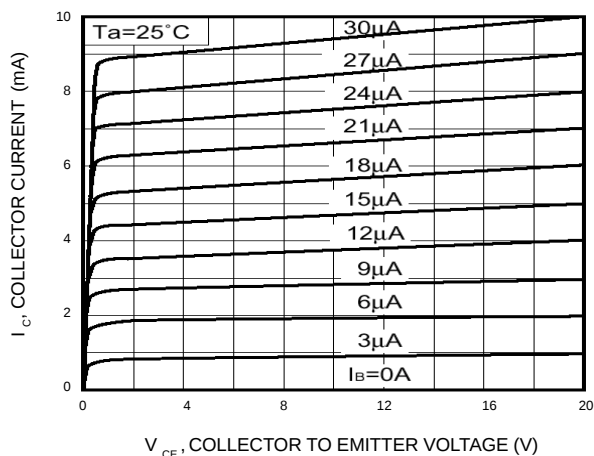


Fig.4 DC current gain vs. collector current (I)

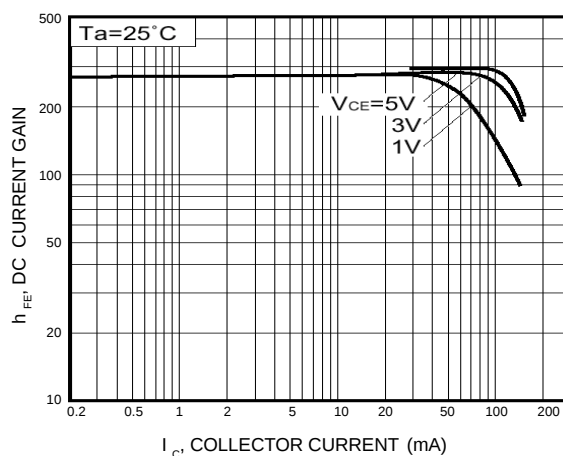


Fig.5 DC current gain vs. collector current (II)

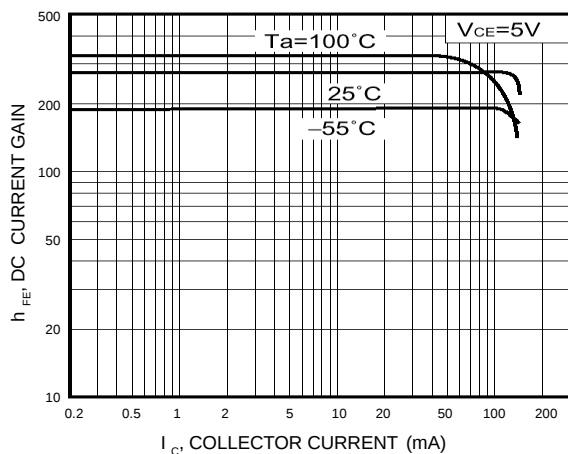
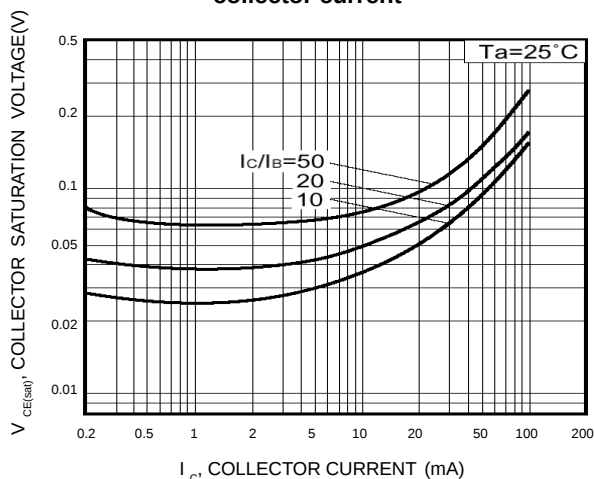


Fig.6 Collector-emitter saturation voltage vs. collector current



BC847BRLT1

Fig.7 Collector-emitter saturation voltage vs. collector current (I)

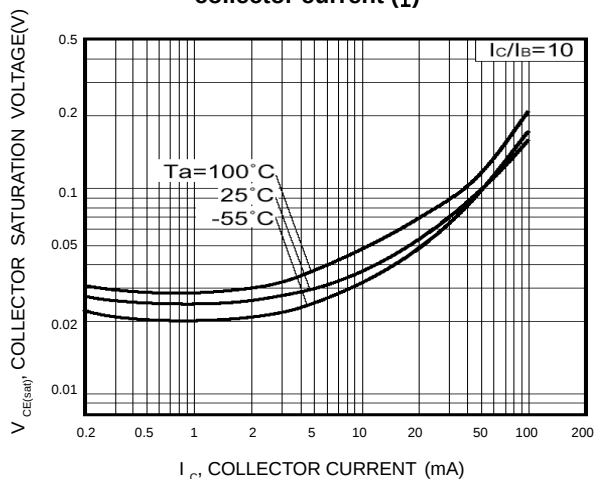


Fig.8 Collector-emitter saturation voltage vs. collector current (II)

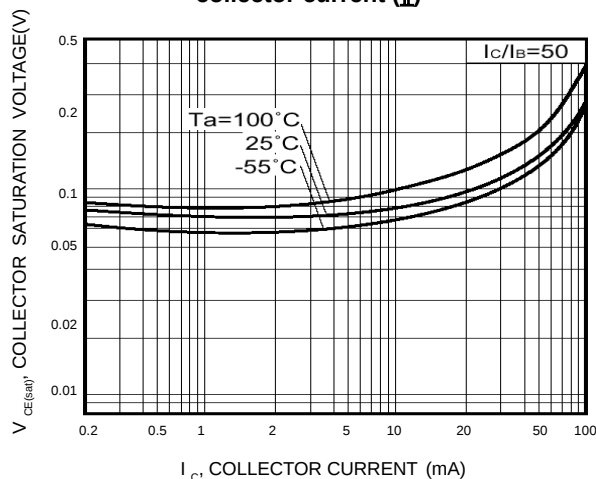


Fig.9 Gain bandwidth product vs. emitter current

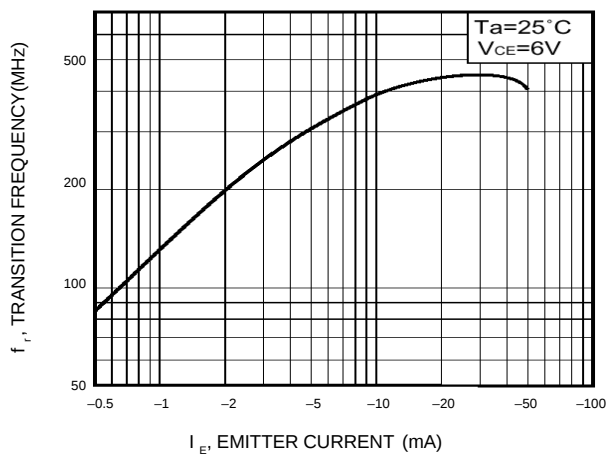


Fig.10 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

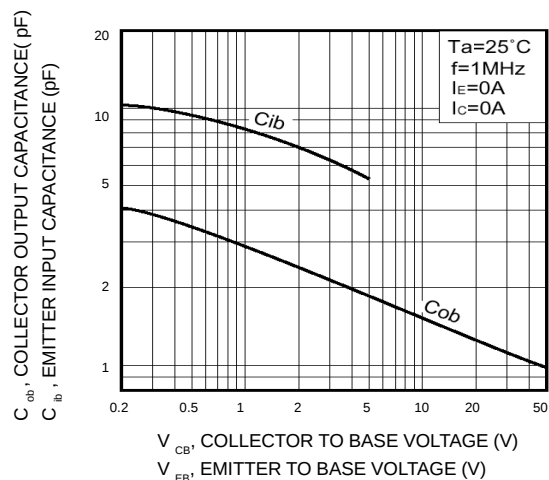


Fig.11 Base-collector time constant vs. emitter current

