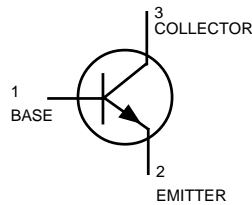


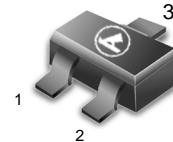
# General Purpose Transistors

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.)

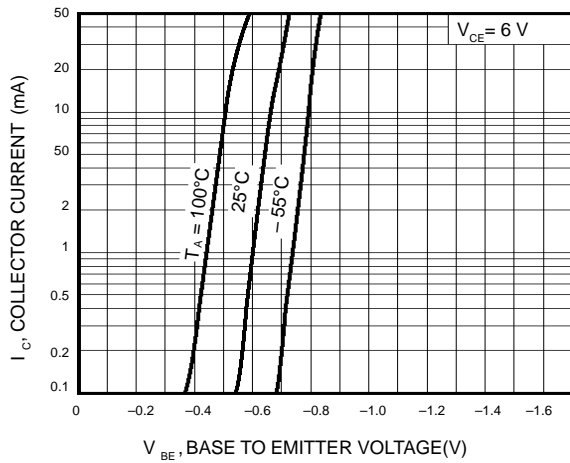
Characteristic	Symbol	Min	Typ	Max	Unit
Collector–Emitter Breakdown Voltage ( $I_C = 1 \text{ mA}$ )	$V_{(BR)CEO}$	50	—	—	V
Emitter–Base Breakdown Voltage ( $I_E = 50 \mu\text{A}$ )	$V_{(BR)EBO}$	7	—	—	V
Collector–Base Breakdown Voltage ( $I_C = 50 \mu\text{A}$ )	$V_{(BR)CBO}$	60	—	—	V
Collector Cutoff Current ( $V_{CB} = 60 \text{ V}$ )	$I_{CBO}$	—	—	0.1	$\mu\text{A}$
Emitter cutoff current ( $V_{EB} = 7 \text{ V}$ )	$I_{EBO}$	—	—	0.1	$\mu\text{A}$
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:

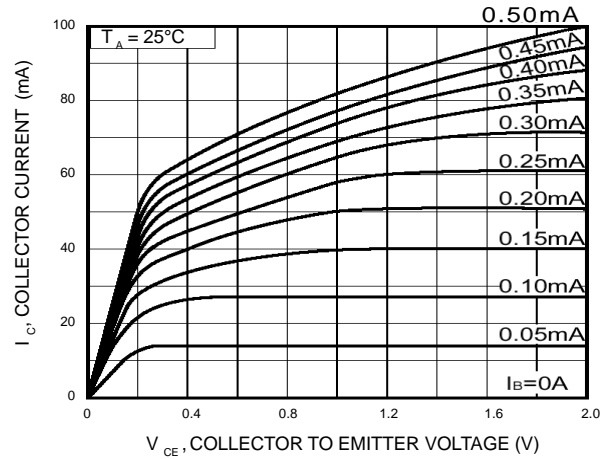
*	Q	R	S
$h_{FE}$	120~270	180~390	270~560

**BC847BRLT1**

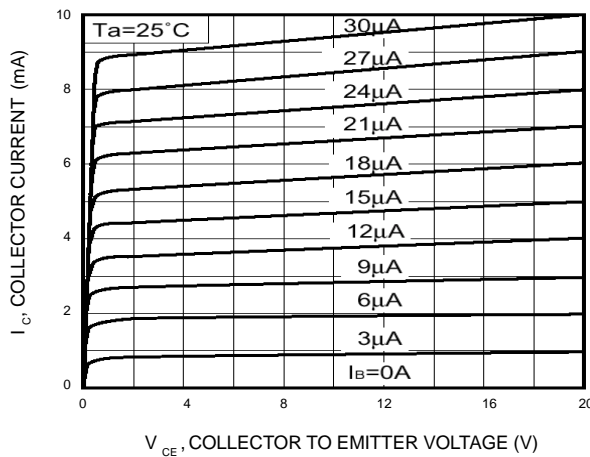
**Fig.1** Grounded emitter propagation characteristics



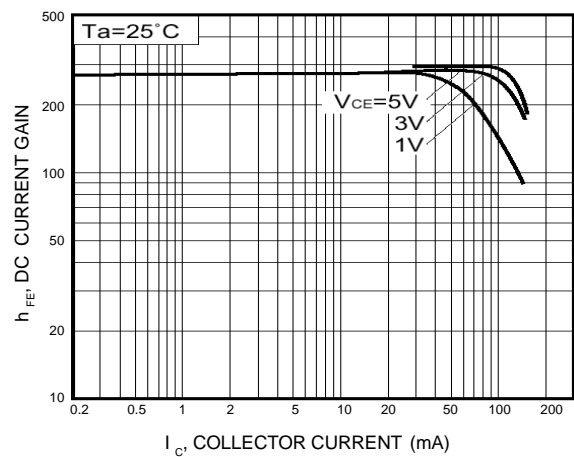
**Fig.2** Grounded emitter output characteristics(I)



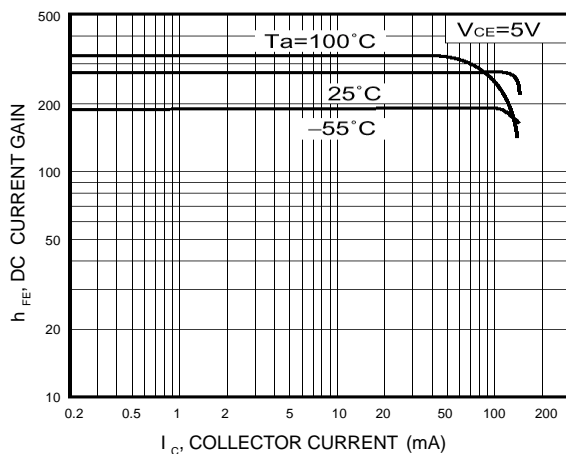
**Fig.3** Grounded emitter output characteristics(II)



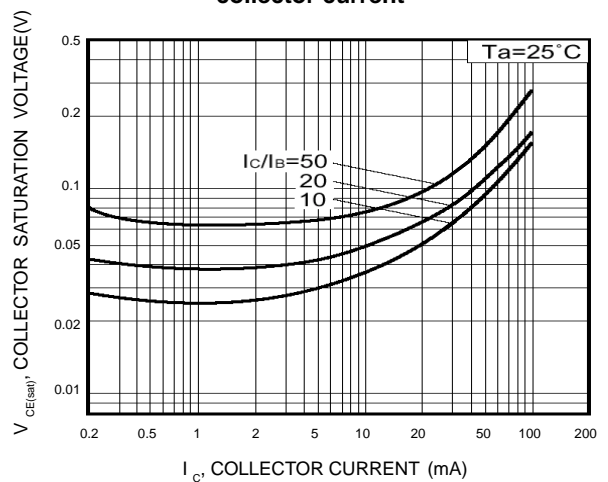
**Fig.4** DC current gain vs. collector current (I)



**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)

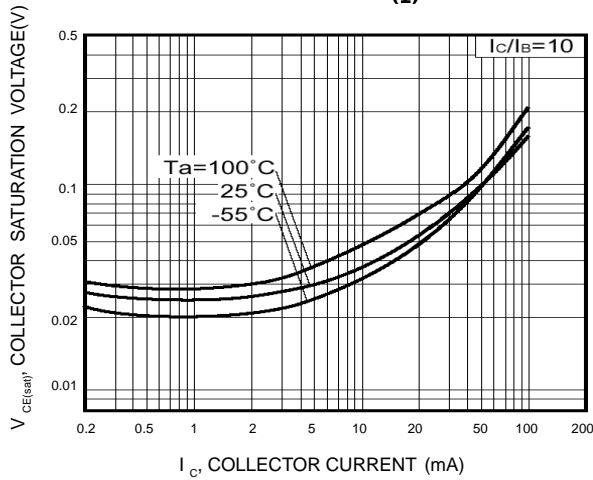


Fig.8 Collector-emitter saturation voltage vs. collector current (II)

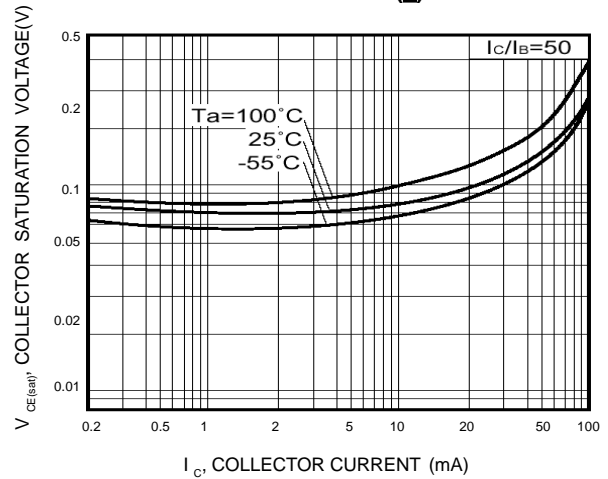


Fig.9 Gain bandwidth product vs. emitter current

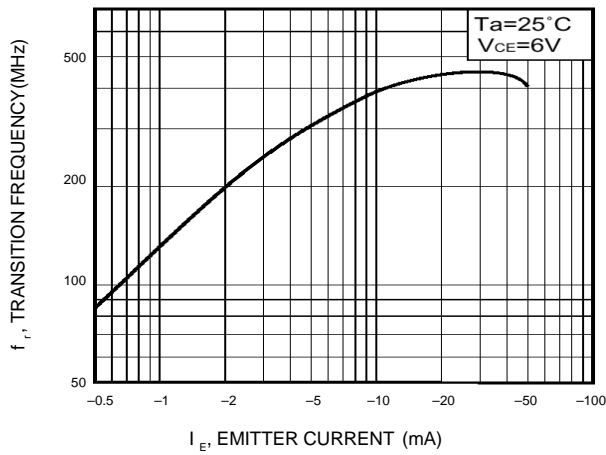


Fig.10 Collector output capacitance vs. collector-base voltage  
Emitter input capacitance vs. emitter-base voltage

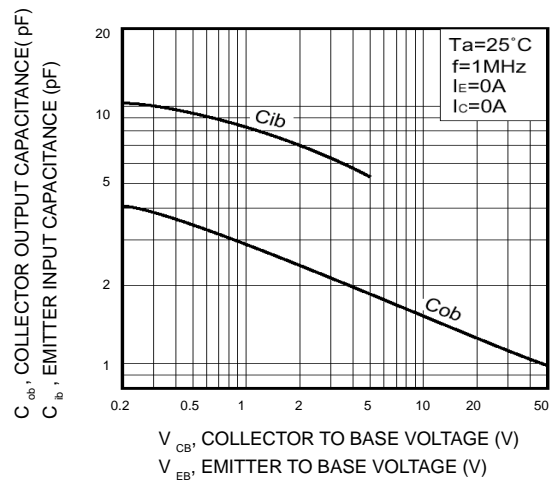


Fig.11 Base-collector time constant vs. emitter current

