

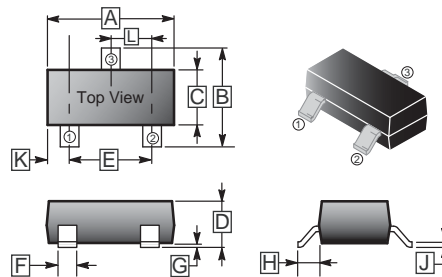
RoHS Compliant Product

A suffix of "-C" specifies halogen & lead-free

## FEATURES

- For general AF applications
- High collector current
- High current gain
- Low collector-emitter saturation voltage

## SOT-323

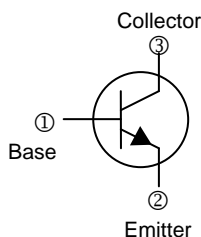


## PACKAGE INFORMATION

Weight: 0.0074 g (approximately)

## MARKING

BC817-16W: **6A**  
 BC817-25W: **6B**  
 BC817-40W: **6C, YM**



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.80	2.20	G	0.100	REF.
B	1.80	2.45	H	0.525	REF.
C	1.15	1.35	J	0.08	0.25
D	0.80	1.10	K	-	-
E	1.20	1.40	L	0.650	TYP.
F	0.20	0.40			

## ABSOLUTE MAXIMUM RATINGS at Ta = 25°C

Parameter	Symbol	Ratings	Unit
Collector to Base Voltage	$V_{CBO}$	50	V
Collector to Emitter Voltage	$V_{CEO}$	45	V
Emitter to Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	500	mA
Collector Power Dissipation	$P_C$	300	mW
Junction, Storage Temperature	$T_J, T_{STG}$	-55 ~ +150	°C

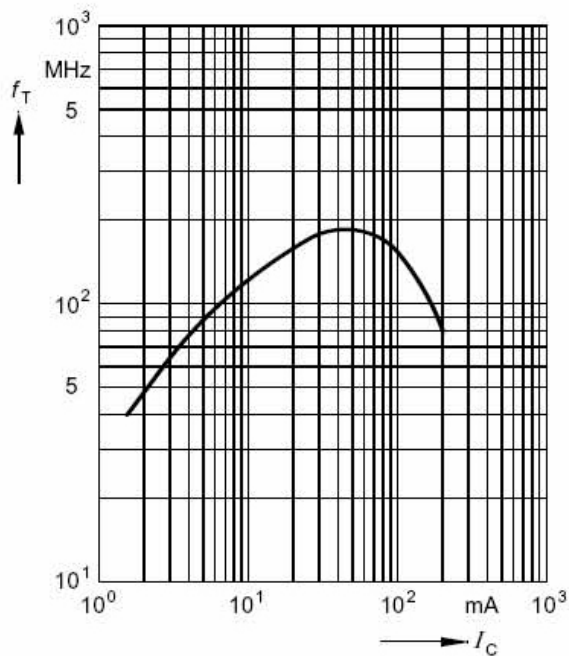
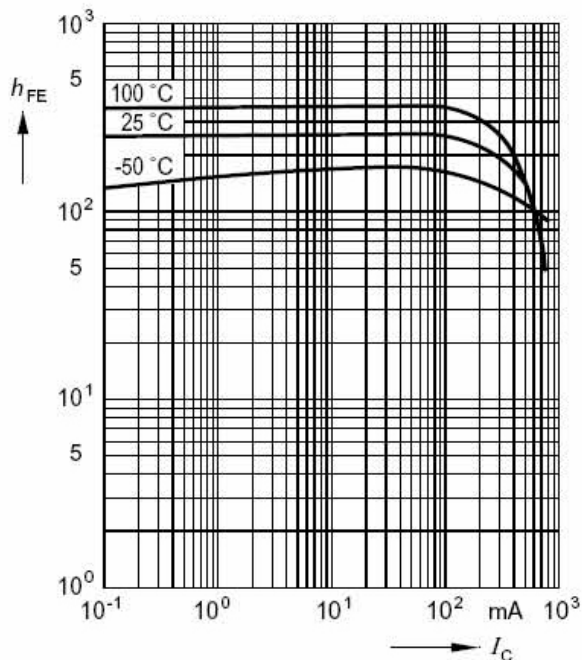
## CHARACTERISTICS at Ta = 25°C

Parameter	Symbol	Min.	Max.	Unit	Test Conditions
Collector-base Breakdown Voltage	$BV_{CBO}$	50	-	V	$I_C = 10 \mu A, I_E = 0$
Collector-emitter Breakdown Voltage	$BV_{CEO}$	45	-	V	$I_C = 10 \text{ mA}, I_B = 0$
Emitter-base Breakdown Voltage	$BV_{EBO}$	5	-	V	$I_E = 1 \mu A, I_C = 0$
Collector Cut-off Current	$I_{CBO}$	-	0.1	$\mu A$	$V_{CB} = 20V, I_E = 0$
Emitter Cut-off Current	$I_{EBO}$	-	0.1	$\mu A$	$V_{EB} = 5V, I_C = 0$
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	-	0.7	V	$I_C = 500\text{mA}, I_B = 50 \text{ mA}$
Base-emitter Saturation Voltage	$V_{BE(sat)}$	-	1.2	V	$I_C = 500\text{mA}, I_B = 50 \text{ mA}$
Base-emitter Voltage	$V_{BE(on)}$	-	1.2	V	$V_{CE} = 1V, I_C = 500\text{mA}$
DC Current Gain	$h_{FE(1)}$	100	600		$V_{CE} = 1 \text{ V}, I_C = 100 \text{ mA}$
DC Current Gain	$h_{FE(2)}$	40	-		$V_{CE} = 1 \text{ V}, I_C = 500 \text{ mA}$
Transition Frequency	$f_T$	100	-	MHz	$V_{CE} = 5 \text{ V}, I_C = 10 \text{ mA}, f = 100\text{MHz}$
Collector Capacitance	$C_C$	-	5	pF	$V_{CB} = 10V, f = 1\text{MHz}$

## CLASSIFICATION OF $h_{FE(1)}$

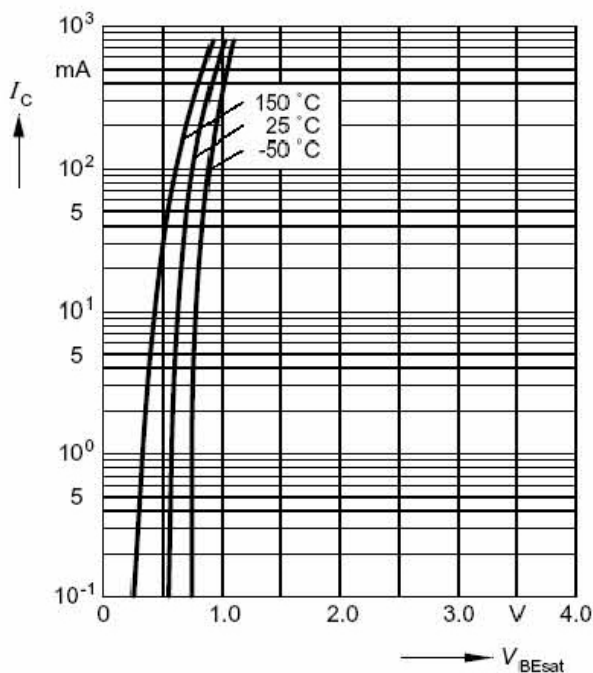
Rank	BC817-16W	BC817-25W	BC817-40W
Range	100 - 250	160 - 400	250 - 600

**CHARACTERISTIC CURVES**



**Base-emitter saturation voltage**

$I_C = f(V_{BEsat}), h_{FE} = 10$



**Collector-emitter saturation voltage**

$I_C = f(V_{CEsat}), h_{FE} = 10$

