

RoHS Compliant Product  
A suffix of "-C" specifies halogen & lead-free

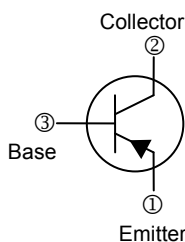
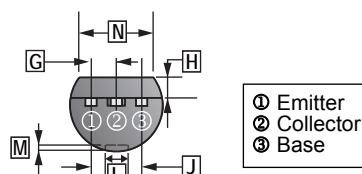
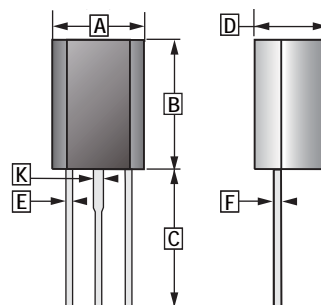
## FEATURES

- Power Amplifier Applications .
- Low Frequency Power Amplifier

## CLASSIFICATION OF $h_{FE}$

Product-Rank	2SB647A-B	2SB647A-C
Range	60~120	100~200

## TO-92MOD



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	5.50	6.50	H	1.70	2.05
B	8.00	9.00	J	2.70	3.20
C	12.70	14.50	K	0.85	1.15
D	4.50	5.30	L	1.60 Max	
E	0.35	0.65	M	0.00	0.40
F	0.30	0.51	N	4.00 Min	
G	1.50 TYP.				

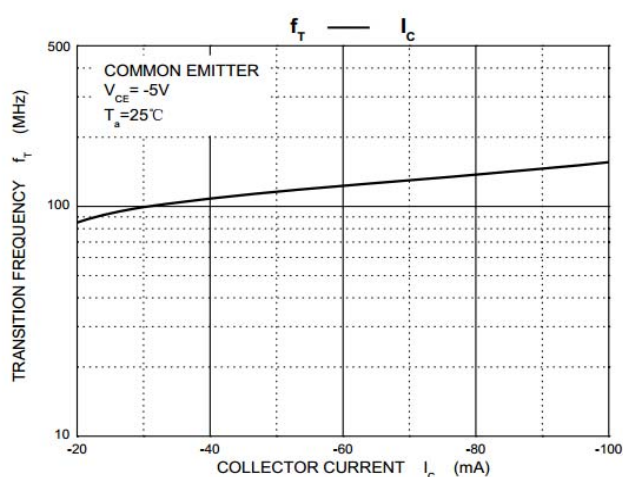
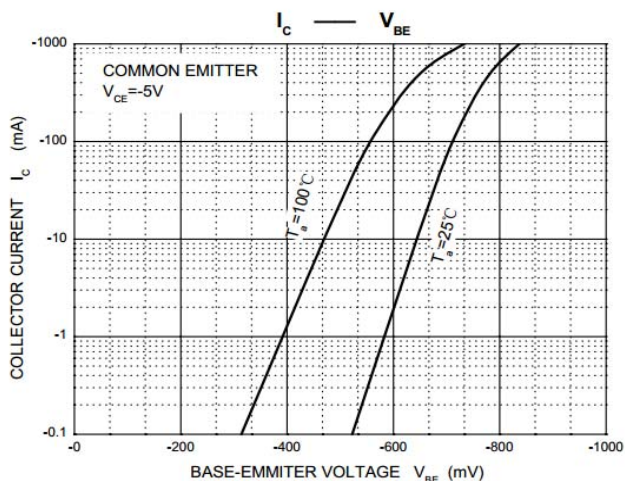
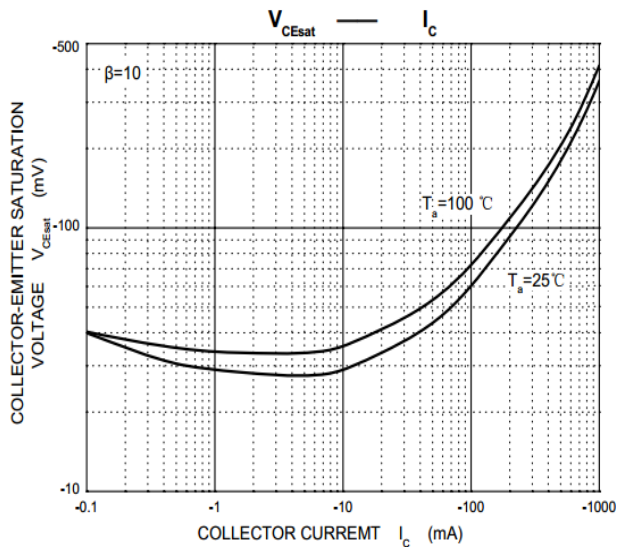
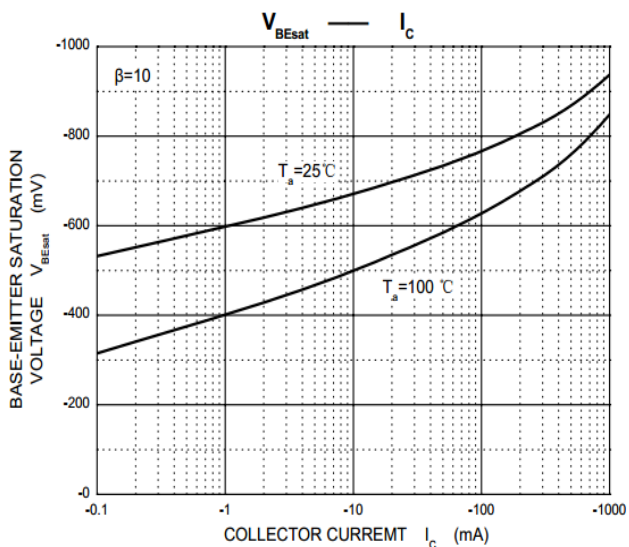
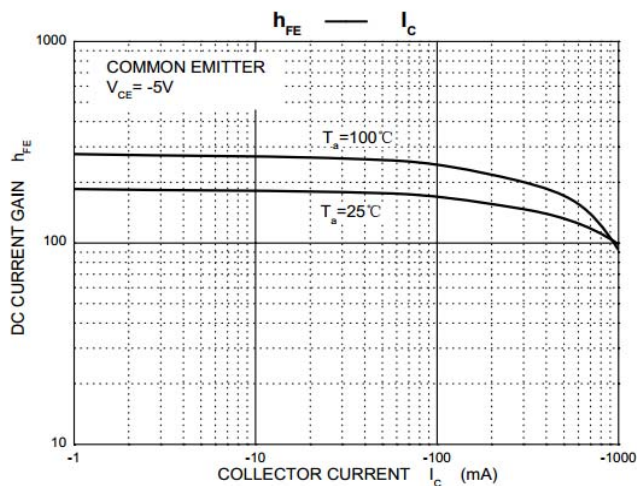
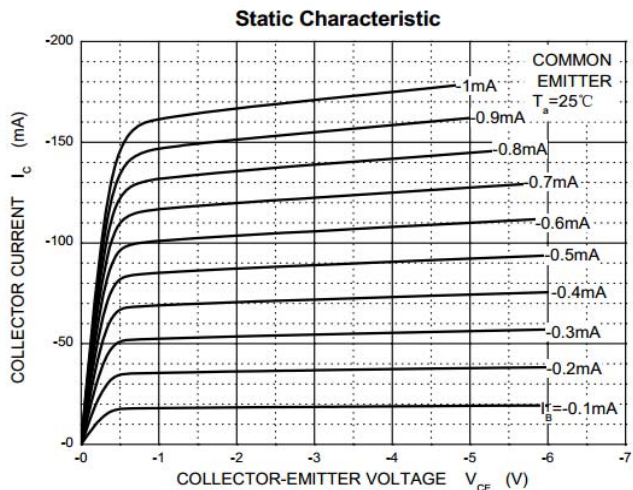
## ABSOLUTE MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	$V_{CBO}$	-120	V
Collector to Emitter Voltage	$V_{CEO}$	-100	V
Emitter to Base Voltage	$V_{EBO}$	-5	V
Collector Current - Continuous	$I_C$	-1	A
Collector Power Dissipation	$P_C$	0.9	W
Thermal Resistance, Junction To Ambient	$R_{\theta JA}$	139	$^\circ\text{C/W}$
Junction, Storage Temperature	$T_J, T_{STG}$	150, -55~150	$^\circ\text{C}$

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	-120	-	-	V	$I_C = -10\mu\text{A}, I_E = 0$
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	-100	-	-	V	$I_C = -1\text{mA}, I_B = 0$
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	-5	-	-	V	$I_E = -10\mu\text{A}, I_C = 0$
Collector Cut-Off Current	$I_{CBO}$	-	-	-10	$\mu\text{A}$	$V_{CB} = -100\text{V}, I_E = 0$
DC Current Gain	$h_{FE}$	60	-	200		$V_{CE} = -5\text{V}, I_C = -150\text{mA}$
		30	-	-		$V_{CE} = -5\text{V}, I_C = -500\text{mA}$
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	-	-	-1	V	$I_C = -500\text{mA}, I_B = -50\text{mA}$
Base to Emitter Saturation Voltage	$V_{BE}$	-	-	-1.5	V	$V_{CE} = -5\text{V}, I_C = -150\text{mA}$
Transition Frequency	$f_T$	-	140	-	MHz	$V_{CE} = -5\text{V}, I_C = -150\text{mA}$
Collector Output Capacitance	$C_{ob}$	-	20	-	pF	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$

**CHARACTERISTIC CURVES**



**CHARACTERISTIC CURVES**

