

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

## FEATURES

- Low  $V_{CE(sat)}$ - $V_{CE(sat)} \leq -0.5V$  ( $I_C / I_B = -0.5A / -50mA$ )
- $I_C = -0.8A$

## MECHANICAL DATA

- Case: SOT-23

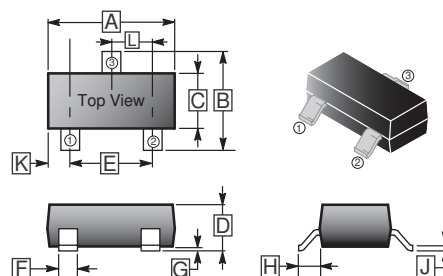
## CLASSIFICATION OF $h_{FE}$

Product-Rank	2SB1197K-Q	2SB1197K-R
Range	120~270	180~390
Marking	AHQ	AHR

## PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-23	3K	7 inch

## SOT-23



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.70	3.10	G	0.09	0.18
B	2.10	2.65	H	0.35	0.65
C	1.20	1.40	J	0.08	0.20
D	0.89	1.17	K	0.6 REF.	
E	1.78	2.04	L	0.95 BSC.	
F	0.30	0.50			

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

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	$V_{CBO}$	-40	V
Collector to Emitter Voltage	$V_{CEO}$	-32	V
Emitter to Base Voltage	$V_{EBO}$	-5	V
Collector Current	$I_C$	-800	mA
Total Power Dissipation	$P_D$	200	mW
Junction and Storage Temperature	$T_J, T_{STG}$	150, -55~150	$^\circ C$

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Collector-Base Breakdown Voltage	$BV_{CBO}$	-40	-	-	V	$I_C = -50\mu A$
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	-32	-	-	V	$I_C = -1mA$
Emitter-Base Breakdown Voltage	$BV_{EBO}$	-5	-	-	V	$I_E = -50\mu A$
Collector Cut-Off Current	$I_{CBO}$	-	-	-0.5	$\mu A$	$V_{CB} = -20V$
Emitter Cut-Off Current	$I_{EBO}$	-	-	-0.5	$\mu A$	$V_{EB} = -4V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	-	-	-0.5	V	$I_C = -500mA, I_B = -50mA$
DC Current Gain	$h_{FE}$	120	-	390		$V_{CE} = -3V, I_C = -100mA$
Transition Frequency	$f_T$	50	200	-	MHz	$V_{CE} = -5V, I_C = -50mA, f = 100MHz$
Collector Output Capacitance	$C_{OB}$	-	12	30	pF	$V_{CB} = -10V, I_E = 0, f = 1MHz$

**CHARACTERISTIC CURVES**

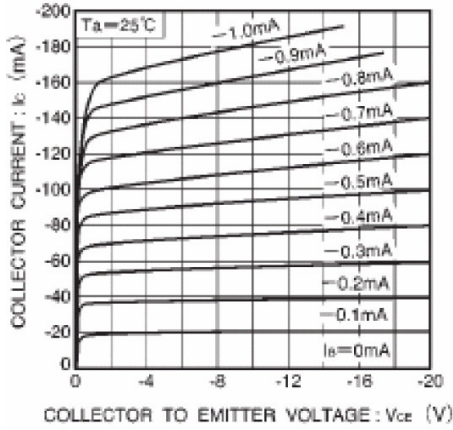


Fig.2 Grounded emitter output characteristics ( I )

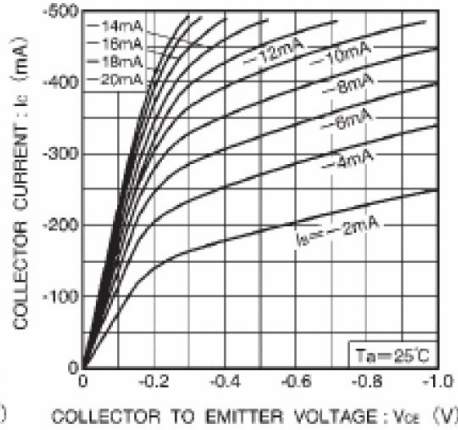


Fig.3 Grounded emitter output characteristics ( II )

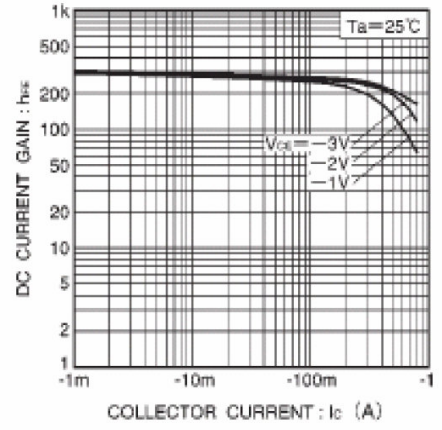


Fig.4 DC current gain vs. collector current

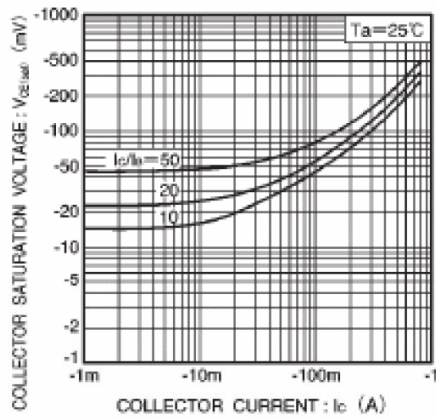


Fig.5 Collector-emitter saturation voltage vs. collector current

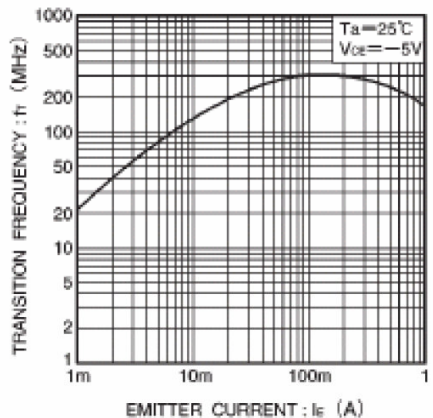


Fig.6 Gain bandwidth product vs. emitter current

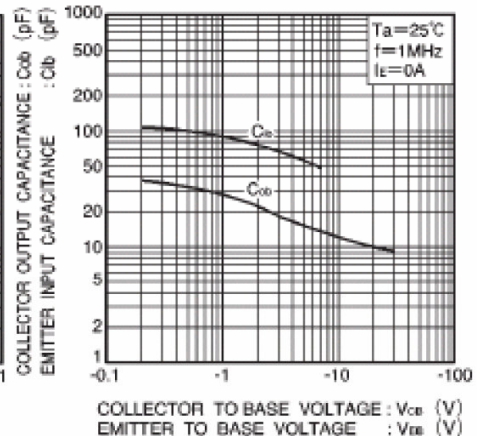


Fig.7 Collector output capacitance vs. collector-base voltage  
Emitter input capacitance vs. emitter-base voltage

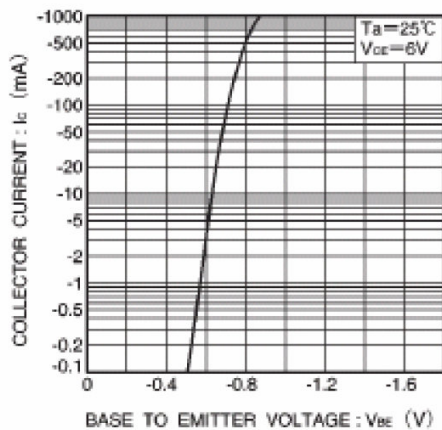


Fig.1 Grounded emitter propagation characteristics