



## DESCRIPTION

The 2SB1197KX is available in SOT-23 package.

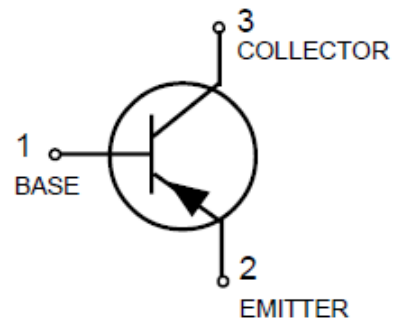
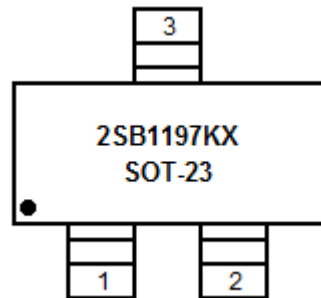
## FEATURES

- High current capacity in compact package.  
 $I_C = -0.8A$
- Epitaxial planar type
- NPN complement: 2SD1781KX
- RoHS Compliant
- Available in SOT-23 package

## ORDERING INFORMATION

Package Type	Part Number
SOT-23	2SB1197KQ
	2SB1197KR
Note	3,000pcs/ Reel
AiT provides all RoHS Compliant Products	

## PIN DESCRIPTION





## ABSOLUTE MAXIMUM RATINGS

$T_A = 25^\circ\text{C}$

$V_{CB0}$ , Collector-base voltage	-40V
$V_{CEO}$ , Collector-emitter voltage	-32V
$V_{EBO}$ , Emitter-base voltage	-5V
$I_C$ , Collector current	-0.8A
$P_C$ , Collector power dissipation	0.2W
$T_J$ , Junction temperature	150°C
$T_{STG}$ , Storage temperature	-55°C ~ 150°C

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.



## ELECTRICAL CHARACTERISTICS

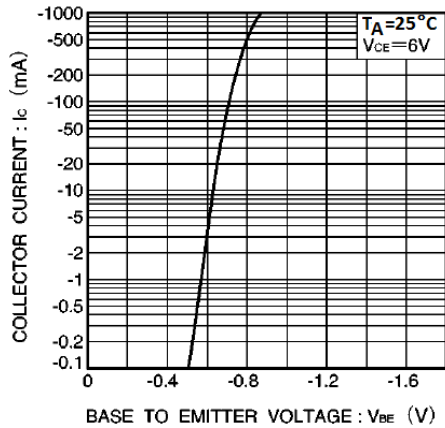
$T_A = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit	
Collector-base breakdown voltage	$BV_{CBO}$	$I_C = -50\mu\text{A}$	-40	-	-	V	
Collector-emitter breakdown voltage	$BV_{CEO}$	$I_C = -1\text{mA}$	-32	-	-	V	
Emitter-base breakdown voltage	$BV_{EBO}$	$I_E = -50\mu\text{A}$	-5	-	-	V	
Collector cutoff current	$I_{CBO}$	$V_{CB} = -20\text{V}$	-	-	-0.5	$\mu\text{A}$	
Emitter cutoff current	$I_{EBO}$	$V_{EB} = -4\text{V}$	-	-	-0.5	$\mu\text{A}$	
Collector-emitter saturation voltage	$V_{CE(SAT)}$	$I_C / I_B = -0.5\text{A} / -50\text{mA}$	-	-	-0.5	V	
DC current transfer ratio	$h_{FE}$	$V_{CE} = -3\text{V},$ $I_C = -100\text{mA}$	Q	120	-	270	-
			R	180	-	390	-
Transition frequency	$f_r$	$V_{CE} = -5\text{V}, I_E = 50\text{mA},$ $f = 100\text{MHz}$	-	200	-	MHz	
Output capacitance	$C_{ob}$	$V_{CB} = -10\text{V}, I_E = 0\text{A},$ $f = 1\text{MHz}$	-	12	30	pF	

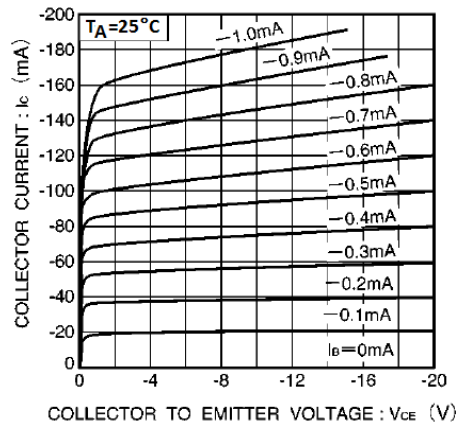


## TYPICAL PERFORMANCE CHARACTERISTICS

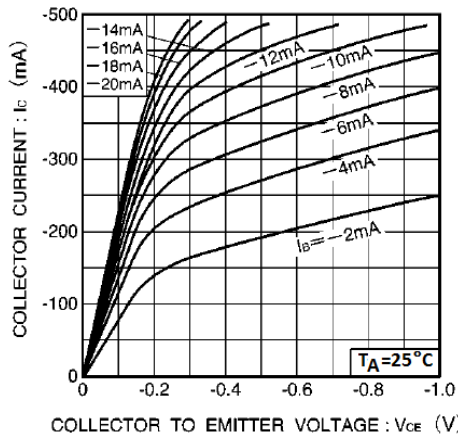
Figuer1. Grounded emitter propagation characteristics



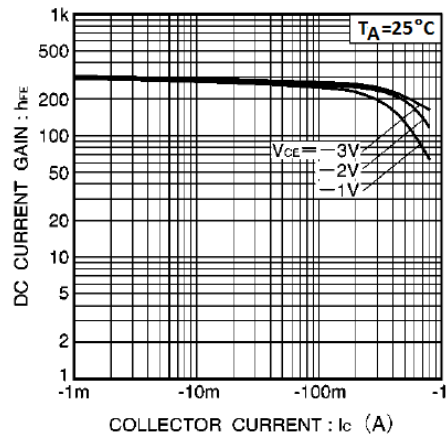
Figuer2. Grounded emitter output characteristics(I)



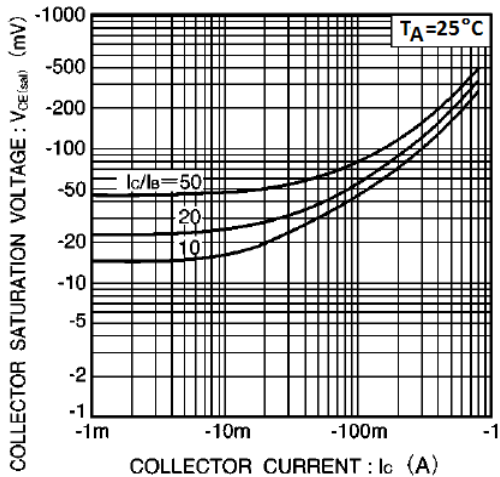
Figuer3. Grounded emitter output characteristics(II)



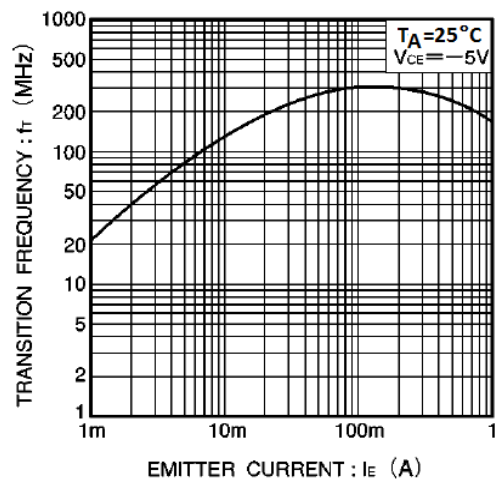
Figuer4. DC current gain vs. collector current



Figuer5. Collector-emitter saturation voltage vs. collector current



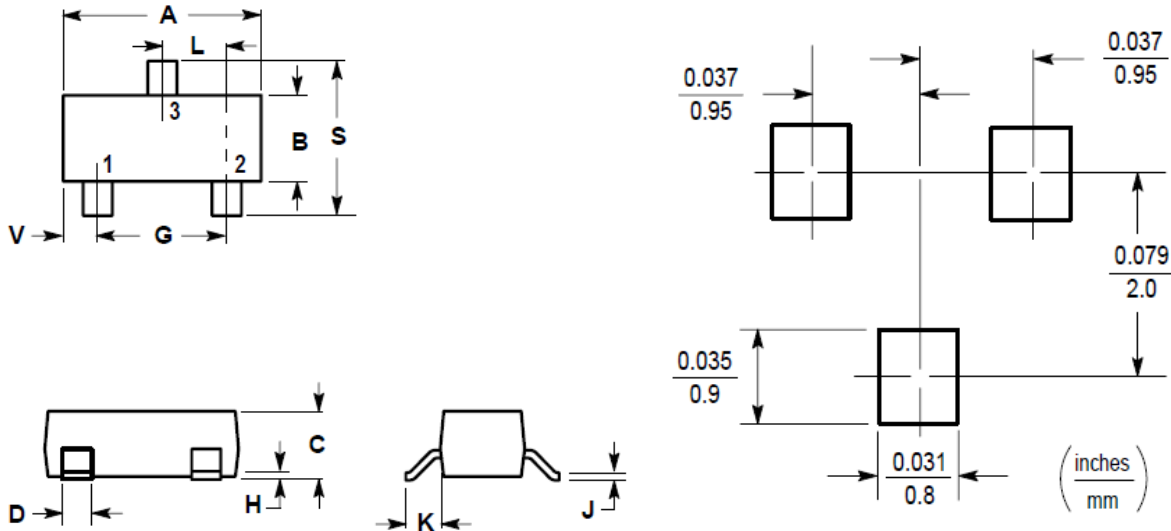
Figuer6. Gain bandwidth product vs. emitter current





**PACKAGE INFORMATION**

Dimension in SOT-23 Package (Unit: mm)



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.80	3.04	0.1102	0.1197
B	1.20	1.40	0.0472	0.0551
C	0.89	1.11	0.0350	0.0440
D	0.37	0.50	0.0150	0.0200
G	1.78	2.04	0.0701	0.0807
H	0.013	0.100	0.0005	0.0040
J	0.085	0.177	0.0034	0.0070
K	0.35	0.69	0.0140	0.0285
L	0.89	1.02	0.0350	0.0401
S	2.10	2.64	0.0830	0.1039
V	0.45	0.60	0.0177	0.0236



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