

Silicon Epitaxial Planar Transistor

2SB1197

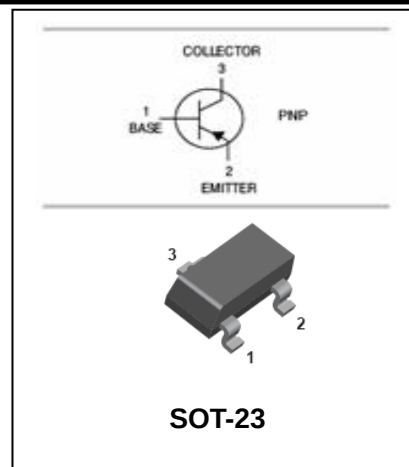
FEATURES

- Small surface mounting type.
- Corrector peak current(Max.=1000mA).
- Suitable for high packing density.
- Low voltage(Max.=40v).
- High saturation current capability.
- Voltage controlled small signal switch.



APPLICATIONS

- Telephone and professional communication equipment.
- Other switching applications.



ORDERING INFORMATION

Type No.	Marking	Package Code
2SB1197	AHP/AHQ/AHR	SOT-23

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-32	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current DC	-800	mA
I_{CM}	Peak Collector Current	-1	A
I_{BM}	Peak Base Current	-80	mA
P_C	Collector Dissipation	200	mW
$R_{\theta JA}$	Thermal resistance, Junction-to-Ambient	625	°C/W
T_j, T_{stg}	Junction and Storage Temperature	-55 to +150	°C



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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -50\mu A, I_E = 0$	-40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -1mA, I_B = 0$	-32			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -50\mu A, I_C = 0$	-5			V
Collector cut-off current	I_{CBO}	$V_{CB} = -20V, I_E = 0$			-0.5	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -4V, I_C = 0$			-0.5	μA
DC current gain	h_{FE}	$V_{CE} = -3V, I_C = -100mA$	82		390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -500mA, I_B = -50mA$			-0.5	V
Transition frequency	f_T	$V_{CE} = -20V, I_C = -10mA$ $f = 100MHz$	50	200		MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10V, I_E = 0, f = 1MHz$		12	30	pF

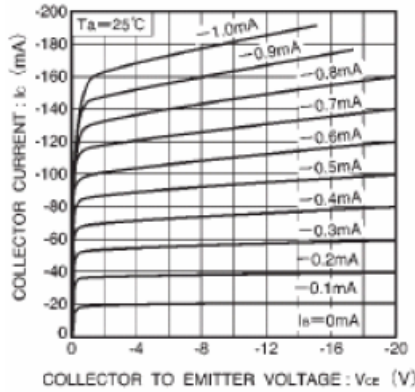
CLASSIFICATION OF $h_{FE(1)}$

Range	82-180	120-270	180-390
Marking	P	Q	R

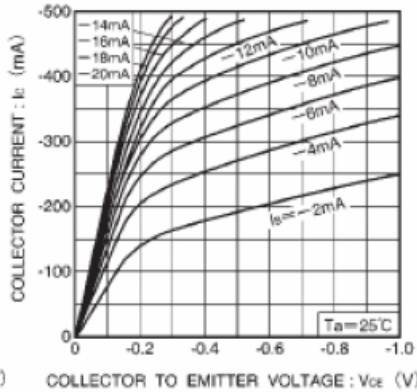
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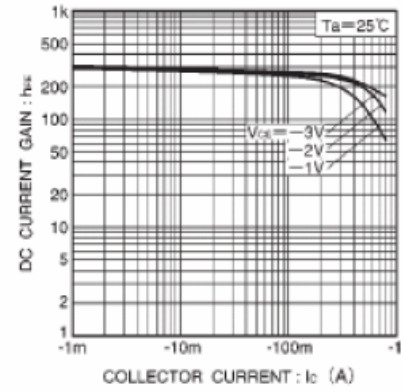
TYPICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified



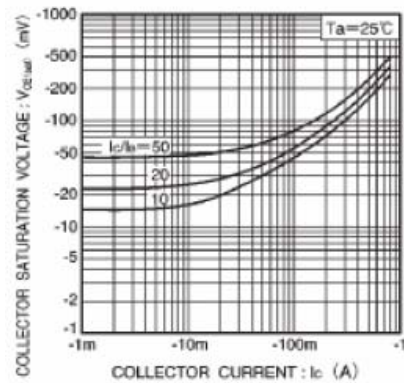
Grounded emitter output characteristics (I)



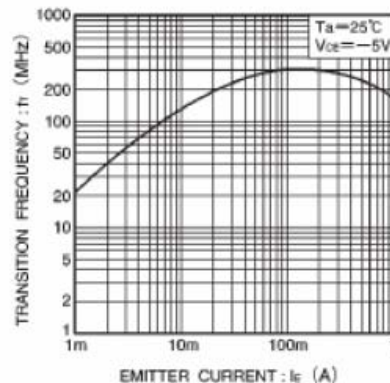
Grounded emitter output characteristics (II)



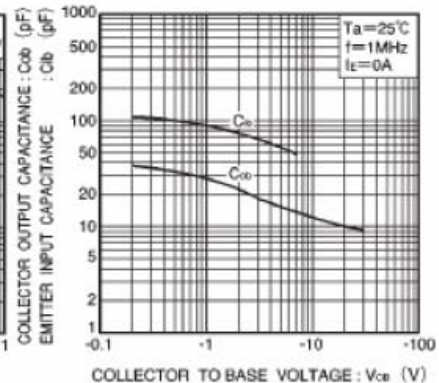
DC current gain vs. collector current



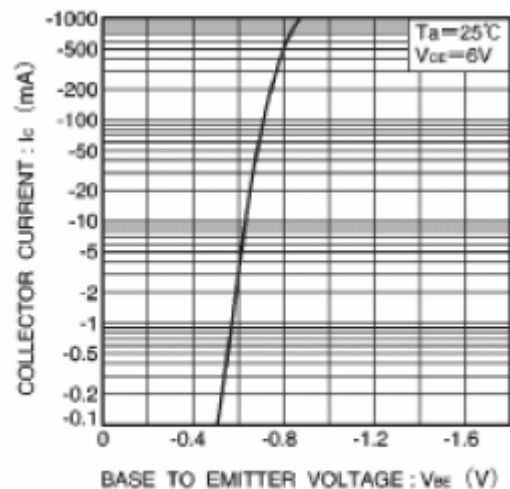
Collector-emitter saturation voltage vs. collector current



Gain bandwidth product vs. emitter current



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



Grounded emitter propagation characteristics

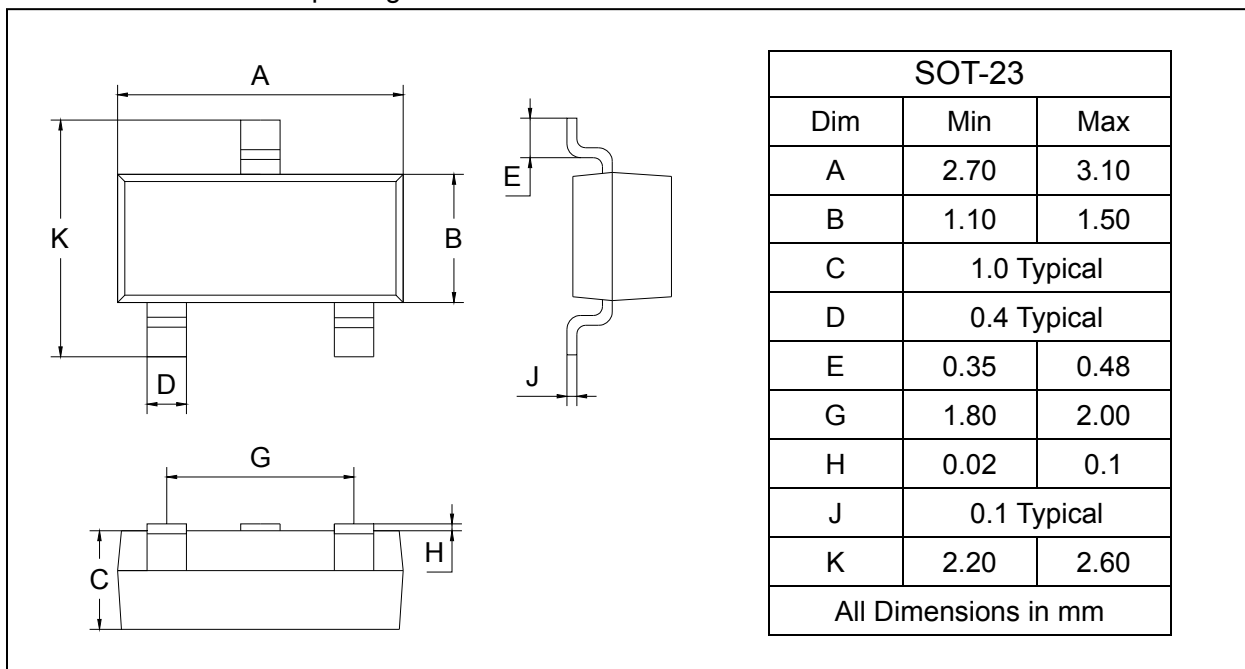
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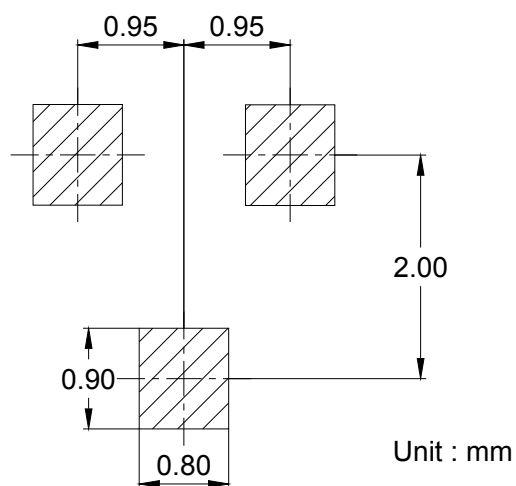
PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
2SB1197	SOT-23	3000/Tape&Reel