

PNP Silicon Epitaxial Planar Transistor

2SA1577

FEATURES

- Large I_C . $I_{C\text{MAX}} = -500\text{mA}$
- Low $V_{CE(\text{sat})}$. Ideal for low-voltage operation.
- Complements the 2SC4097.



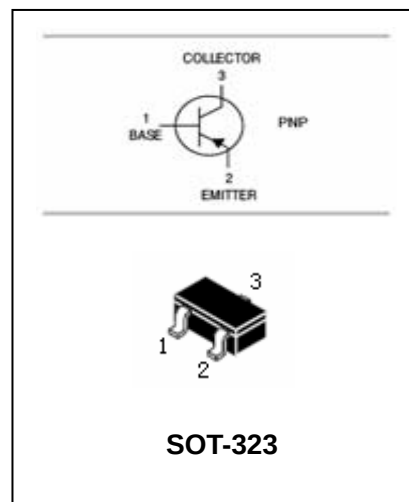
Lead-free

APPLICATIONS

- General purpose application.

ORDERING INFORMATION

Type No.	Marking	Package Code
2SA1577	HP/HQ/HR	SOT-323



MAXIMUM RATING @ $T_a = 25^\circ\text{C}$ 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 -Continuous	-500	mA
P_C	Collector Dissipation	200	mW
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55 to +150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -100\mu A, I_E = 0$	-40	-	-	V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -1mA, I_B = 0$	-32	-	-	V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -100\mu A, I_C = 0$	-5	-	-	V
Collector cut-off current	I_{CBO}	$V_{CB} = -20V, I_E = 0$	-	-	-1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -4V, I_C = 0$	-	-	-1	μA
DC current gain	h_{FE}	$V_{CE} = -3V, I_C = -100mA$	82	-	390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -300mA, I_B = -30mA$	-	-	-0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -300mA, I_B = -300mA$	-	-	-1.1	V
Transition frequency	f_T	$V_{CE} = -5V, I_E = 20mA$ $f = 100MHz$	-	200	-	MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10V, I_E = 0, f = 1MHz$	-	7	-	pF

CLASSIFICATION OF h_{FE}

Rank	P	Q	R
Range	82-120	120-270	180-390
marking	HP	HQ	HR

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

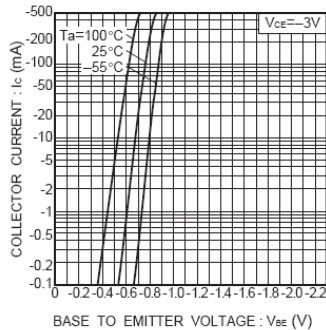


Fig.1 Grounded emitter propagation

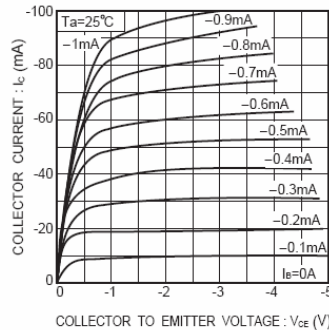


Fig.2 Grounded emitter output characteristics (I)

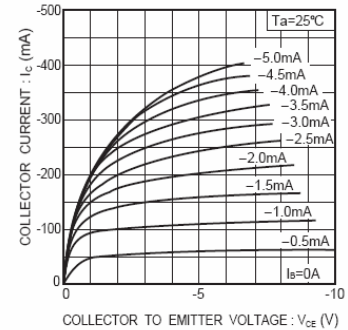


Fig.3 Ground emitter output characteristics (II)

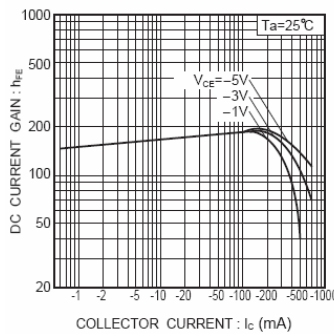


Fig.4 DC current gain vs. collector current (I)

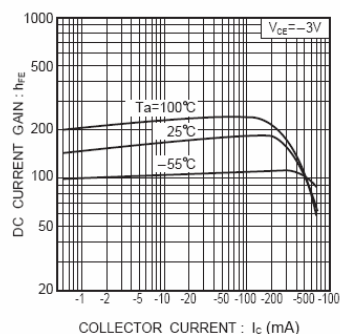


Fig.5 DC current gain vs. collector current (II)

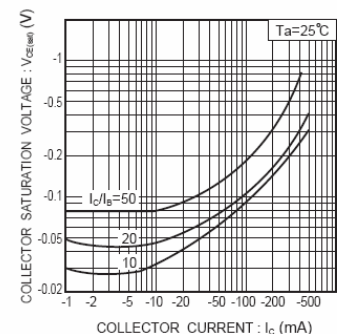


Fig.6 Collector emitter saturation voltage vs. collector current (I)

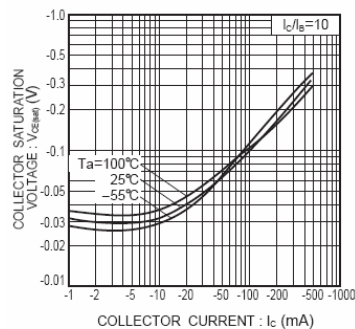


Fig.7 Collector-emitter saturation voltage vs. collector current (II)

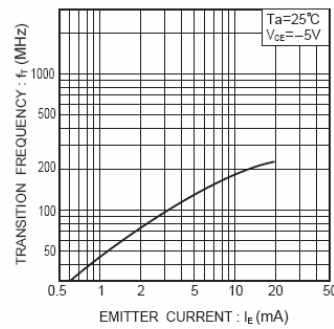


Fig.8 Gain bandwidth product vs. emitter current

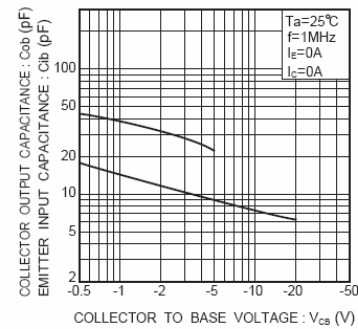


Fig.9 Collector output capacitance vs. collector-base voltage. Emitter input

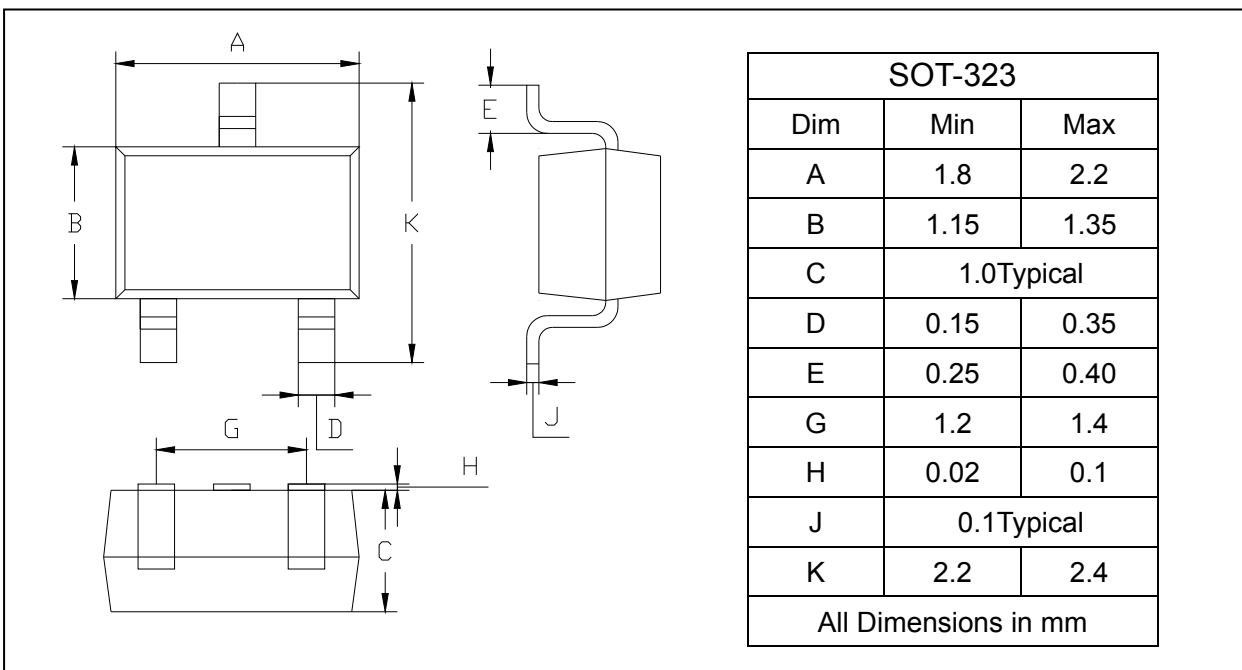
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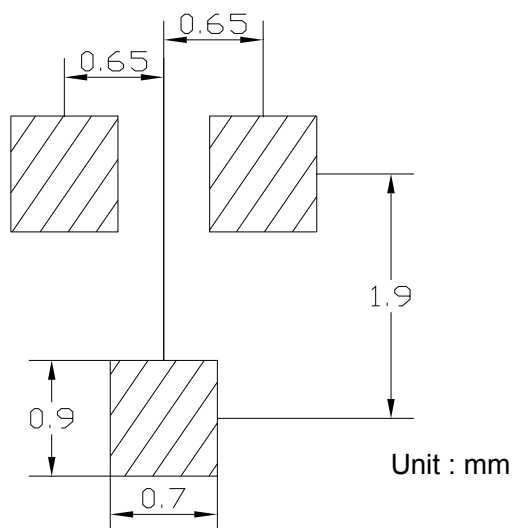
PACKAGE OUTLINE

Plastic surface mounted package

SOT-323



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
2SA1577	SOT-323	3000/Tape&Reel