

## Medium Power Transistor (-32V,-05A)

# 2SA1577

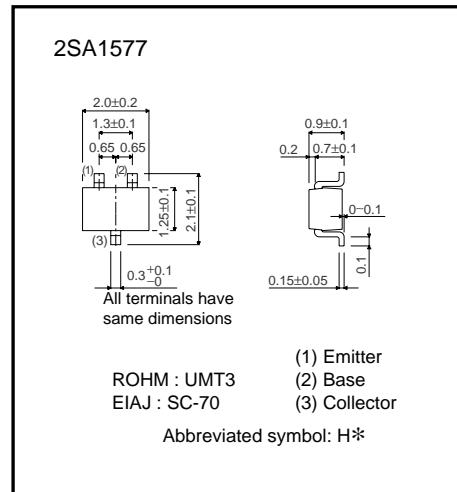
## ● Features

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

## ● Structure

Epitaxial planer type  
PNP silicon transistor

● **External dimensions** (Unit : mm)



- **Absolute maximum ratings (Ta=25°C)**

Parameter	Symbol	Limits	Unit
Collector-base voltage	$V_{CBO}$	-40	V
Collector-emitter voltage	$V_{CEO}$	-32	V
Emitter-base voltage	$V_{EBO}$	-5	V
Collector current	$I_C$	-0.5	A *
Collector power dissipation	$P_C$	0.2	W
Junction temperature	$T_J$	150	°C
Storage temperature	$T_{STG}$	-55 to +150	°C

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\*Pc MAX. must not be exceeded.

## Transistors

## ●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV <sub>CBO</sub>	-40	-	-	V	I <sub>C</sub> = -100μA
Collector-emitter breakdown voltage	BV <sub>CEO</sub>	-32	-	-	V	I <sub>C</sub> = -1mA
Emitter-base breakdown voltage	BV <sub>EBO</sub>	-5	-	-	V	I <sub>E</sub> = -100μA
Collector cutoff current	I <sub>CBO</sub>	-	-	-1	μA	V <sub>CB</sub> = -20V
Emitter cutoff current	I <sub>EBO</sub>	-	-	-1	μA	V <sub>EB</sub> = -4V
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	-	-	-0.6	V	I <sub>C</sub> /I <sub>B</sub> = -300mA/-30mA
DC current transfer ratio	h <sub>FE</sub>	82	-	390	-	V <sub>CE</sub> = -3V, I <sub>C</sub> = -100mA
Transition frequency	f <sub>T</sub>	-	200	-	MHz	V <sub>CE</sub> = -5V, I <sub>E</sub> =20mA, f=100MHz
Output capacitance	C <sub>OB</sub>	-	7	-	pF	V <sub>CB</sub> = -10V, I <sub>E</sub> =0A, f=1MHz

## ●Packaging specifications

Type	h <sub>FE</sub>	Package	Taping
		Code	T106
2SA1577		Basic ordering unit (pieces)	3000
2SA1577	PQR	○	

h<sub>FE</sub> values are classifies as follows.

Item	P	Q	R
h <sub>FE</sub>	82 to 180	120 to 270	180 to 390

## ●Electrical characteristic curves

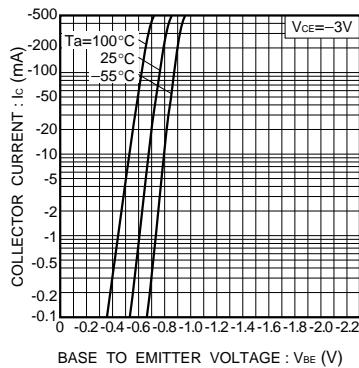


Fig.1 Grounded emitter propagation

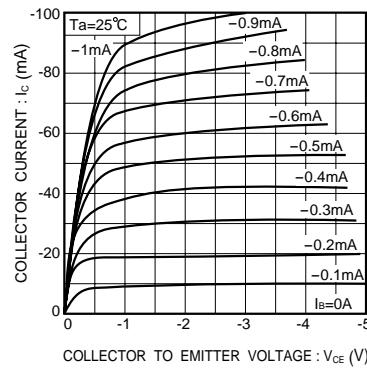


Fig.2 Grounded emitter output characteristics (I)

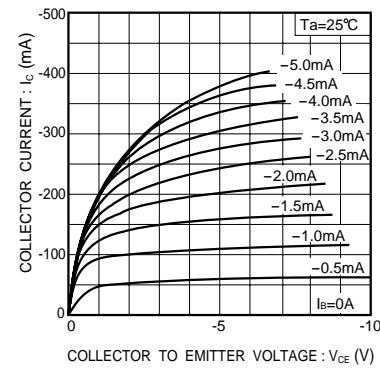


Fig.3 Grounded emitter output characteristics (II)

## Transistors

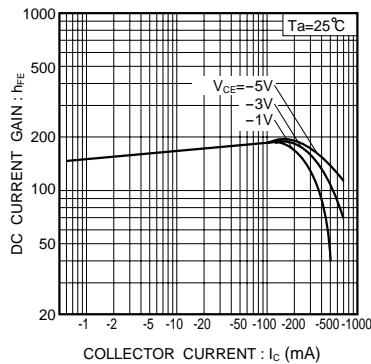


Fig.4 DC current gain vs. collector current (I)

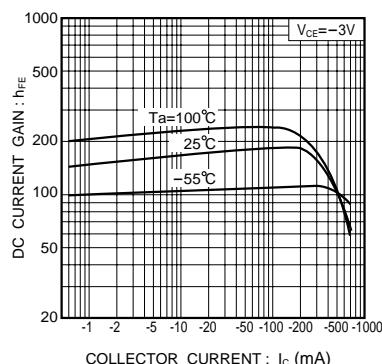


Fig.5 DC current gain vs. collector current (II)

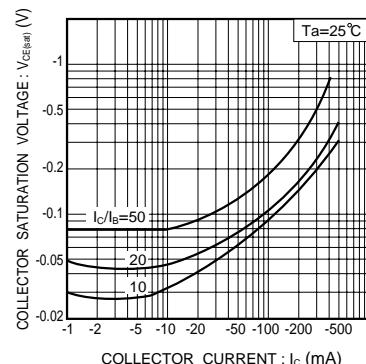


Fig.6 Collector emitter saturation voltage vs. collector current (I)

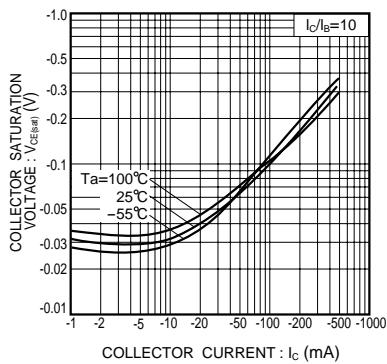


Fig.7 Collector-emitter saturation voltage vs. collector current (II)

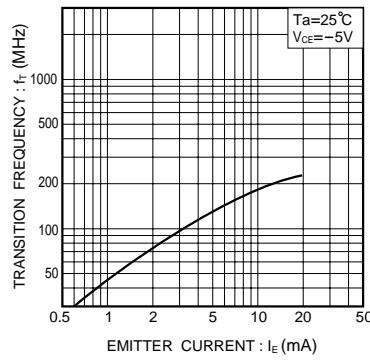


Fig.8 Gain bandwidth product vs. emitter current

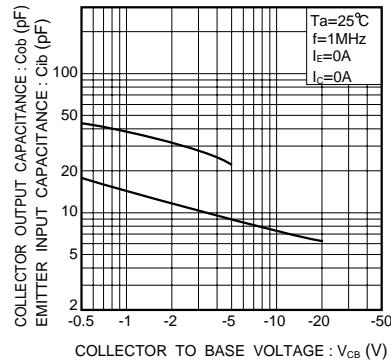


Fig.9 Collector output capacitance vs. collector-base voltage. Emitter input capacitance vs. emitter-base voltage

## Appendix

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