

Medium Power Transistor

(-32V, -0.5A)

2SA854S

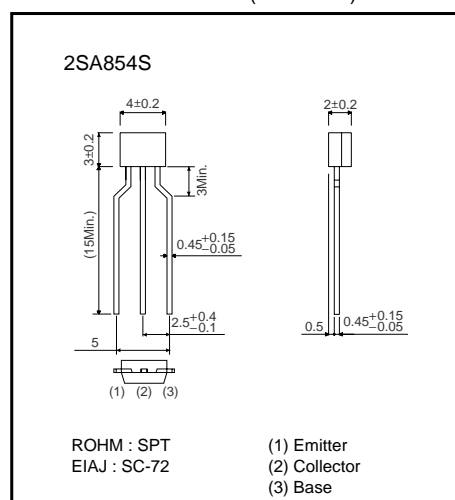
●Features

- 1) Large I_C .
 $I_{C\text{MAX}} = -500\text{mA}$
- 2) Low $V_{CE(\text{sat})}$. Idea for low-voltage operation.
- 3) Complements the 2SC1741S.

●Structure

Epitaxial planar type
PNP silicon transistor

●External dimensions (Unit : mm)



* Denotes h_{FE}

●Absolute maximum ratings ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CB0}	-40	V
Collector-emitter voltage	V_{CE0}	-32	V
Emitter-base voltage	V_{EB0}	-5	V
Collector current	I_C	-0.5	A *
Collector power dissipation	P_C	0.3	W
Junction temperature	T_J	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

* $P_{C\text{MAX}}$ must not be exceeded.

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●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV _{CBO}	-40	-	-	V	I _C =-100μA
Collector-emitter breakdown voltage	BV _{CEO}	-32	-	-	V	I _C =-1mA
Emitter-base breakdown voltage	BV _{EBO}	-5	-	-	V	I _E =-100μA
Collector cutoff current	I _{CBO}	-	-	-1	μA	V _{CB} =-20V
Emitter cutoff current	I _{EBO}	-	-	-1	μA	V _{EB} =-4V
Collector-emitter saturation voltage	V _{CE (sat)}	-	-	-0.6	V	I _C /I _B =-500mA/-50mA
DC current transfer ratio	h _{FE}	120	-	390	-	V _{CE} =-3V, I _C =-100mA
Transition frequency	f _T	-	200	-	MHz	V _{CE} =-5V, I _E =20mA, f=100MHz
Output capacitance	C _{ob}	-	8	-	pF	V _{CB} =-10V, I _E =0A, f=1MHz

●Packaging specifications and h_{FE}

Type	h _{FE}	Package	Taping
		Code	T146
		Basic ordering unit (pieces)	3000
2SA854S	QR		-

h_{FE} values are classified as follows :

Item	Q	R
h _{FE}	120~270	180~390

●Electrical characteristic curves

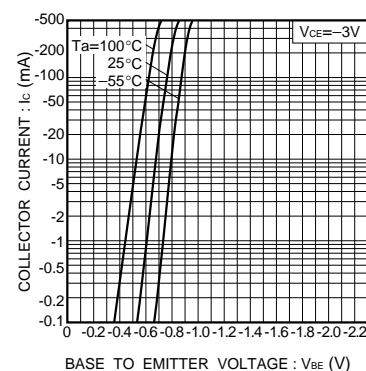


Fig.1 Grounded emitter propagation

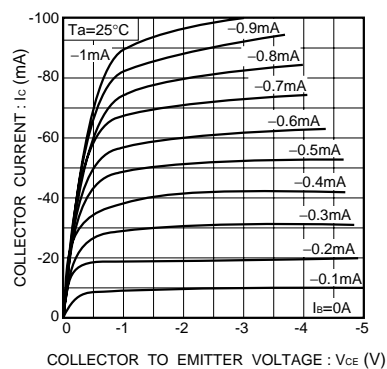


Fig.2 Grounded emitter output characteristics (I)

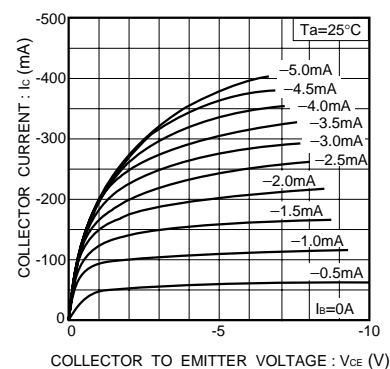


Fig.3 Grounded emitter output characteristics (II)

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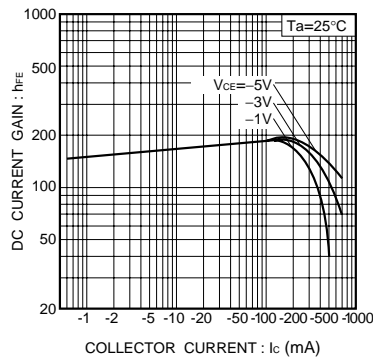


Fig.4 DC current gain vs. collector current (I)

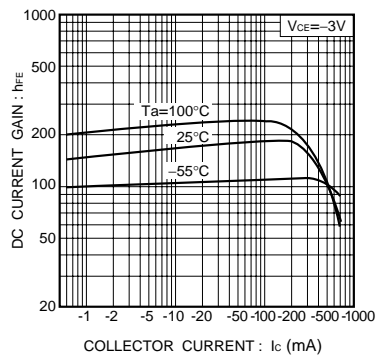


Fig.5 DC current gain vs. collector current (II)

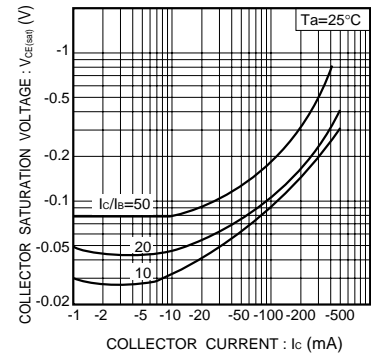


Fig.6 Collector-emitter saturation voltage vs. collector current (II)

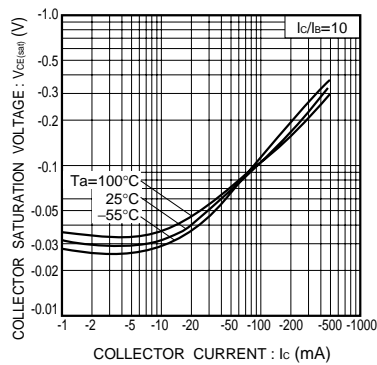


Fig.7 Collector-emitter saturation voltage vs. collector current (I)

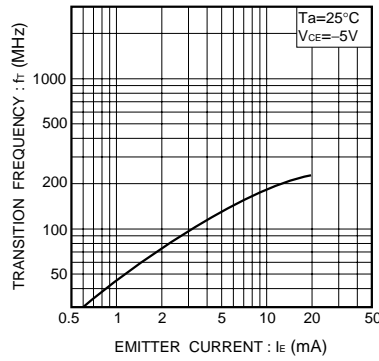


Fig.8 Gain bandwidth product vs. emitter current

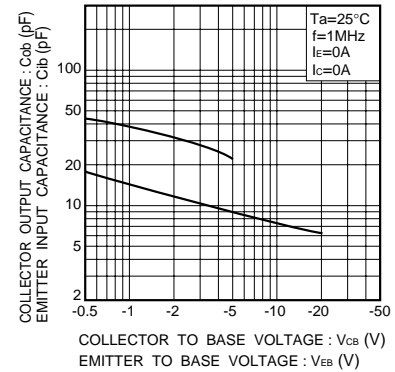


Fig.9 Collector output capacitance vs. collector-base voltage. Emitter input capacitance vs. emitter-base voltage

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