

# Medium Power Transistor (-32V, -0.5A)

## 2SA854S

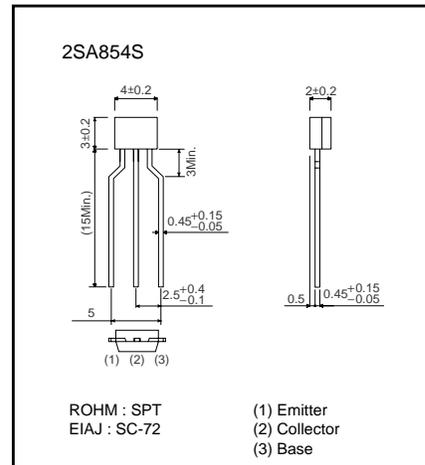
### ●Features

- 1) Large  $I_c$ .  
 $I_{cMAX} = -500mA$
- 2) Low  $V_{CE(sat)}$ . Idea for low-voltage operation.
- 3) Complements the 2SC1741S.

### ●Structure

Epitaxial planar type  
PNP silicon transistor

### ●External dimensions (Unit : mm)



\* Denotes hFE

### ●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	$P_c$	0.3	W
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

\*  $P_{cMAX}$ . 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 <sub>CB0</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>CB0</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> =-500mA/-50mA
DC current transfer ratio	h <sub>FE</sub>	120	-	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>	-	8	-	pF	V <sub>CB</sub> =-10V, I <sub>E</sub> =0A, f=1MHz

●Packaging specifications and h<sub>FE</sub>

Type	h <sub>FE</sub>	Package	Taping
		Code	T146
		Basic ordering unit (pieces)	3000
2SA854S	QR		-

h<sub>FE</sub> values are classified as follows :

Item	Q	R
h <sub>FE</sub>	120~270	180~390

●Electrical characteristic curves

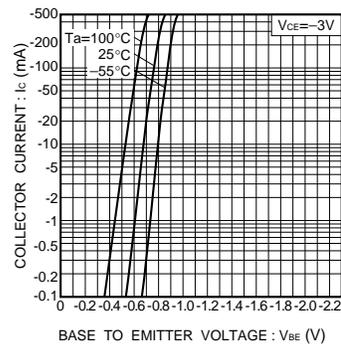


Fig.1 Grounded emitter propagation

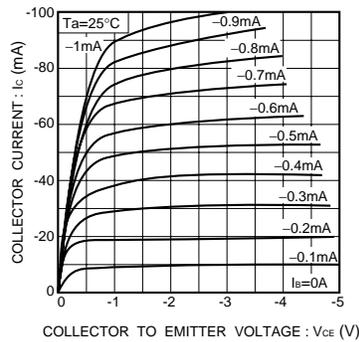


Fig.2 Grounded emitter output characteristics (I)

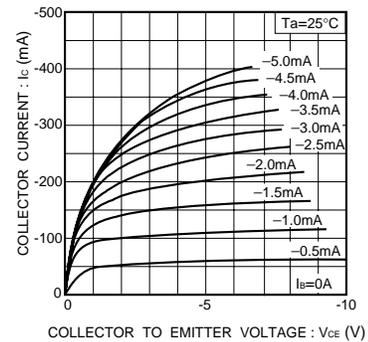


Fig.3 Grounded emitter output characteristics (II)

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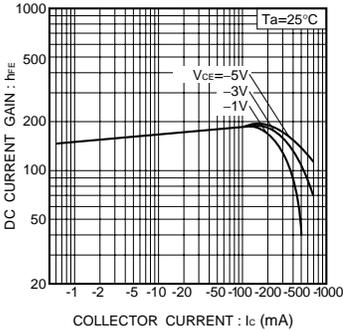


Fig.4 DC current gain vs. collector current (I)

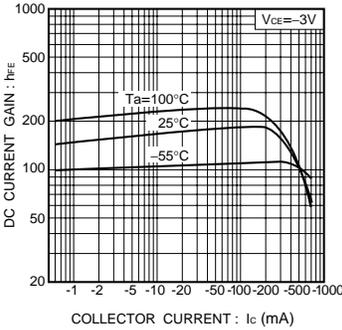


Fig.5 DC current gain vs. collector current (II)

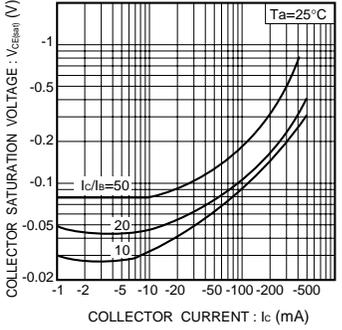


Fig.6 Collector-emitter saturation voltage vs. collector current (II)

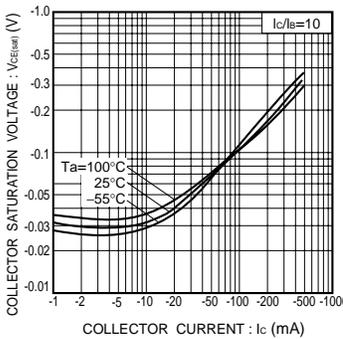


Fig.7 Collector-emitter saturation voltage vs. collector current (II)

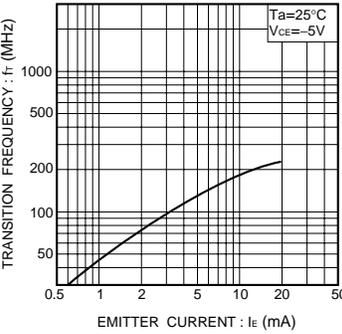


Fig.8 Gain bandwidth product vs. emitter current

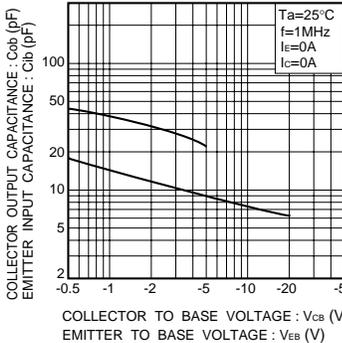


Fig.9 Collector output capacitance vs. collector-base voltage. Emitter input capacitance vs. emitter-base voltage

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