

# Medium Power Transistor (32V, 0.5A)

## 2SC1741S

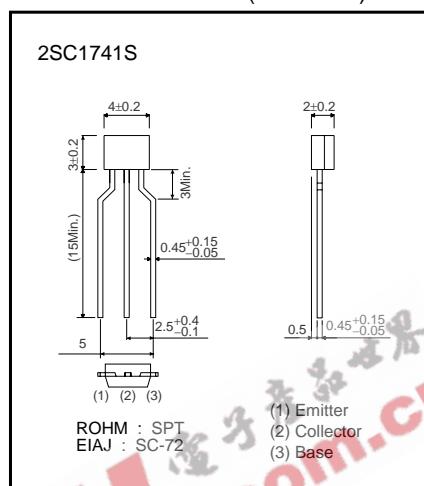
### ●Features

- 1) High  $I_{CMax.}$   
 $I_{CMax.} = 0.5A$
- 2) Low  $V_{CE(sat)}$ .  
Optimal for low voltage operation.
- 3) Complements the  
2SA1036K / 2SA1577 / 2SA854S.

### ●Structure

Epitaxial planar type  
NPN silicon transistor

### ●External dimensions (Units : mm)



\* Denotes  $h_{FE}$

### ●Absolute maximum ratings ( $T_a = 25^\circ C$ )

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	$^\circ C$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ C$

\*  $P_C$  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
DC current transfer ratio	h <sub>FE</sub>	120	—	390	—	V <sub>CE</sub> = 3V, I <sub>C</sub> = 100mA
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	—	—	0.6	V	I <sub>C</sub> /I <sub>B</sub> = 500mA/50mA
Transition frequency	f <sub>T</sub>	—	250	—	MHz	V <sub>CE</sub> = 5V, I <sub>E</sub> = -20mA, f = 100MHz
Output capacitance	C <sub>ob</sub>	—	6.5	—	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	TP
		Basic ordering unit (pieces)	5000
2SC1741S	QR		○

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

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

## ●Electrical characteristic curves

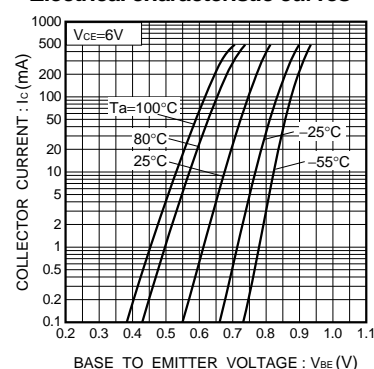


Fig.1 Grounded emitter propagation characteristics

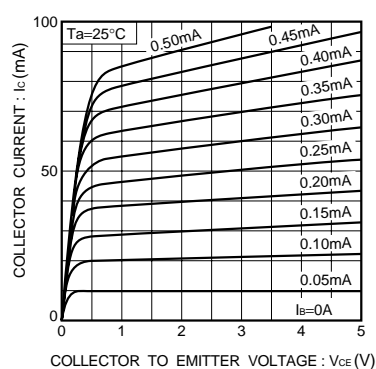


Fig.2 Grounded emitter output characteristics (I)

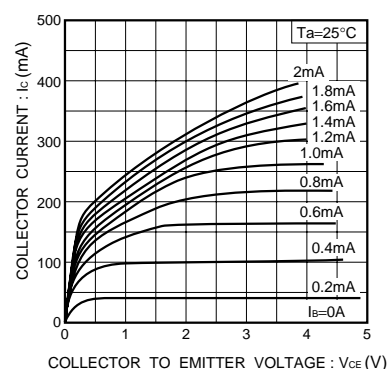


Fig.3 Grounded emitter output characteristics (II)

## Transistors

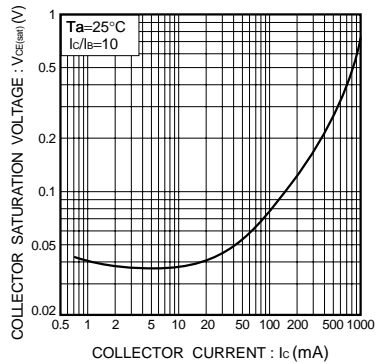


Fig.4 Collector-emitter saturation voltage vs. collector current

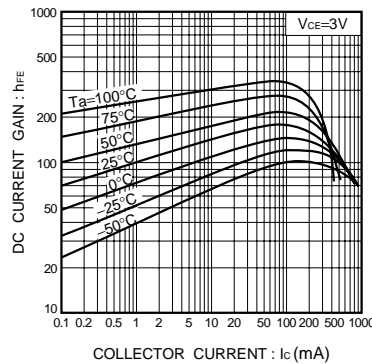


Fig.5 DC current gain vs. collector current

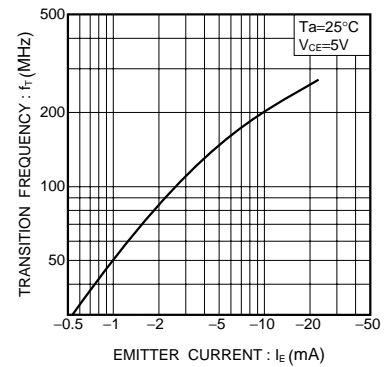


Fig.6 Gain bandwidth product vs. emitter current

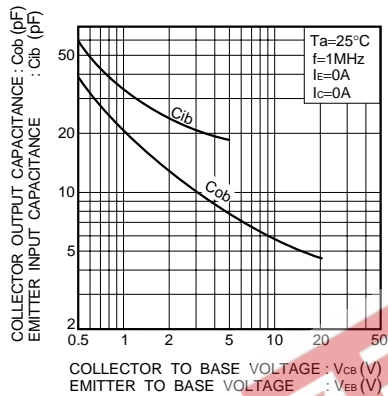


Fig.7 Collector output capacitance vs. collector-base voltage  
Emitter input capacitance vs. emitter-base voltage

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