

# Medium Power Transistor (32V, 0.5A)

## 2SC2411K / 2SC4097 / 2SC1741S

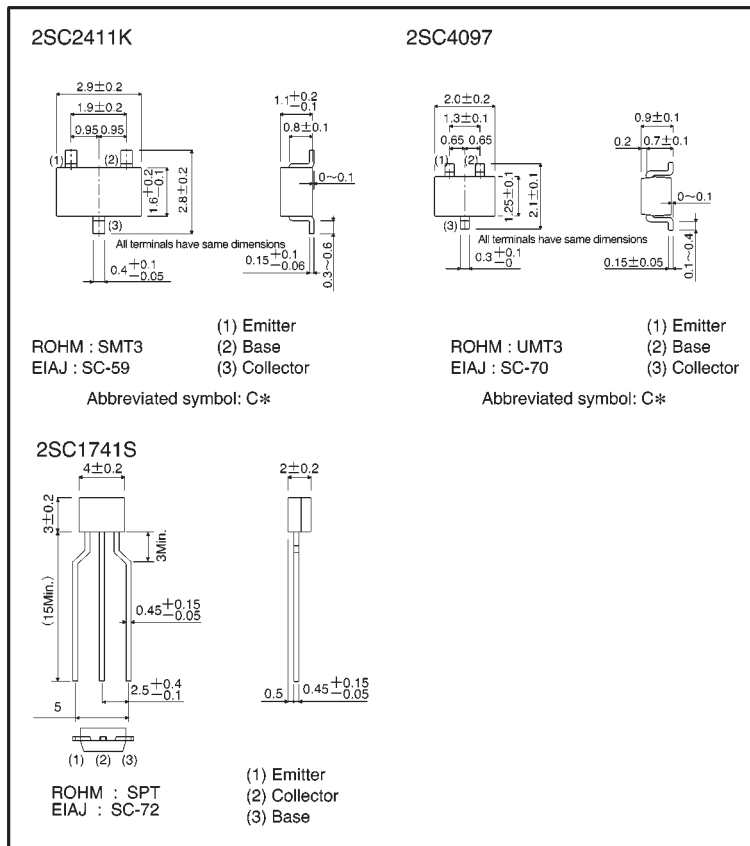
●Features

- 1) High  $I_{c(Max)}$   
 $I_{c(Max)} = 0.5A$
- 2) Low  $V_{CE(sat)}$ , Ideal 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 (Ta = 25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V <sub>CB0</sub>	40	V
Collector-emitter voltage	V <sub>CEO</sub>	32	V
Emitter-base voltage	V <sub>EBO</sub>	5	V
Collector current	I <sub>c</sub>	0.5	A *
Collector power dissipation	P <sub>c</sub>	0.2	W
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55~+150	°C

\* P<sub>c</sub> must not be exceeded.

## ● 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> =100 μA
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> =100 μA
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	2SC2411K, 2SC4097	h <sub>FE</sub>	82	—	390	—	V <sub>CE</sub> =3V, I <sub>c</sub> =100mA
	2SC1741S		120	—	560	—	
Collector-emitter saturation voltage		V <sub>CE(sat)</sub>	—	—	0.4	V	I <sub>c</sub> /I <sub>B</sub> =100mA/10mA
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>	—	6.0	—	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	T106	TP
		Basic ordering unit (pieces)	3000	3000	5000
2SC2411K	PQR		○	—	—
2SC4097	PQR		—	○	—
2SC1741S	QRS		—	—	○

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

Item	P	Q	R	S
h <sub>FE</sub>	82~180	120~270	180~390	270~560

● Electrical characteristic curves

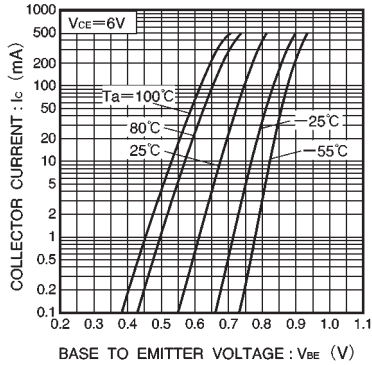


Fig.1 Grounded emitter propagation characteristics

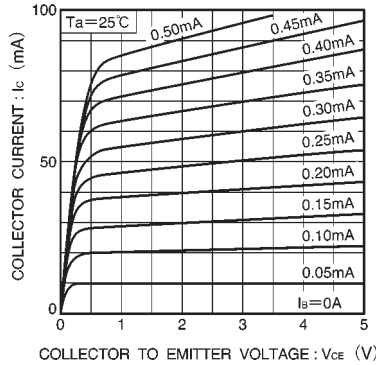


Fig.2 Grounded emitter output characteristics (I)

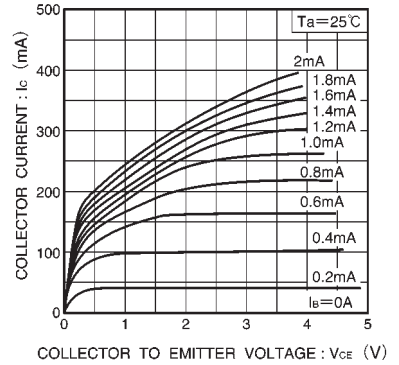


Fig.3 Grounded emitter output characteristics (II)

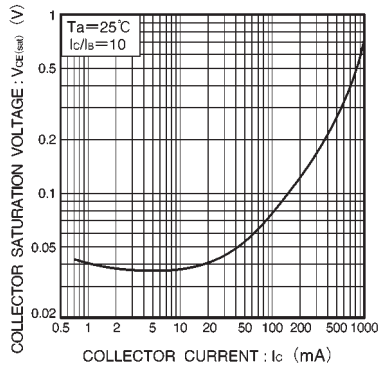


Fig.4 Collector-emitter saturation voltage vs. collector current

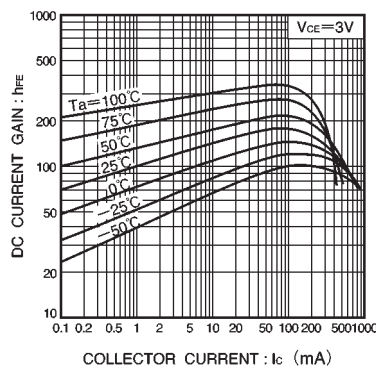


Fig.5 DC current gain vs. collector current

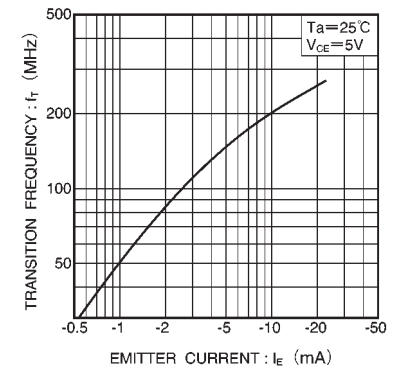


Fig.6 Gain bandwidth product vs. emitter current

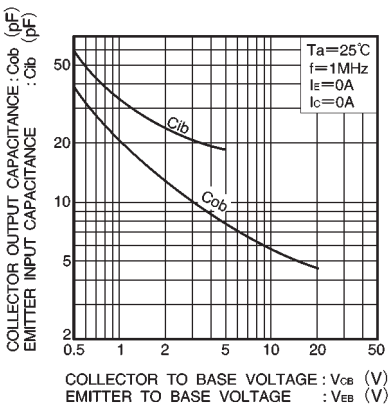


Fig.7 Collector output capacitance vs. collector-base voltage  
Emitter input capacitance vs. emitter-base voltage