

Medium Power Transistor (32V, 0.5A)

2SC2411K / 2SC4097 / 2SC1741S

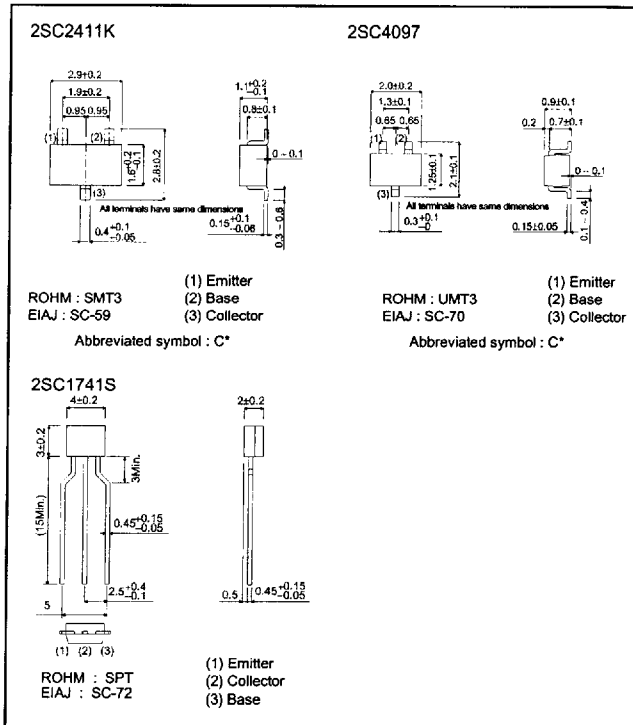
●Features

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

●Structure

Epitaxial planar type
NPN silicon transistor

●External dimensions (Units : mm)



* Denotes hFE

●Absolute maximum ratings (Ta = 25°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	0.2	W
Junction temperature	T_J	150	°C
Storage temperature	T_{stg}	-55 - +150	°C

* P_C must not be exceeded.

ROHM

Transistors

●Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV _{CB0}	40	—	—	V	I _C = 100μA
Collector-emitter breakdown voltage	BV _{CE0}	32	—	—	V	I _C = 1mA
Emitter-base breakdown voltage	BV _{EB0}	5	—	—	V	I _E = 100μA
Collector cutoff current	I _{CB0}	—	—	1	μA	V _{CB} = 20V
Emitter cutoff current	I _{EB0}	—	—	1	μA	V _{EB} = 4V
DC current transfer ratio	h _{FE}	82	—	390	—	V _{CE} = 3V, I _C = 100mA
		120	—	560	—	
Collector-emitter saturation voltage	V _{CE(sat)}	—	—	0.4	V	I _C /I _B = 500mA/50mA
Transition frequency	f _T	—	250	—	MHz	V _{CE} = 5V, I _E = -20mA, f = 100MHz
Output capacitance	C _{ob}	—	6.0	—	pF	V _{CB} = 10V, I _E = 0A, f = 1MHz

●Packaging Specifications and h_{FE}

Type	h _{FE}	Package	Taping		
		Code	T146	T106	TP
		Basic ordering unit (pieces)	3000	3000	5000
2SC2411K	PQR		○	—	—
2SC4097	PQR		—	○	—
2SC1741S	QRS		—	—	○

h_{FE} values are classified as follows:

Item	P	Q	R	S
h _{FE}	82 ~ 180	120 ~ 270	180 ~ 390	270 ~ 560

●Electrical characteristic curves

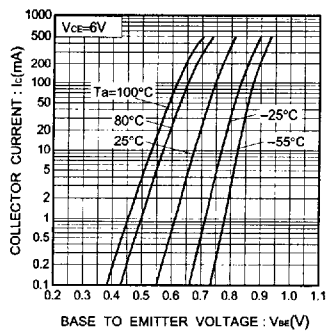


Fig.1 Grounded emitter propagation characteristics

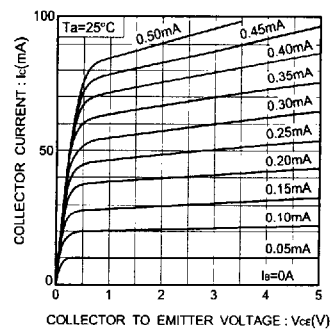


Fig.2 Grounded emitter output characteristics(I)

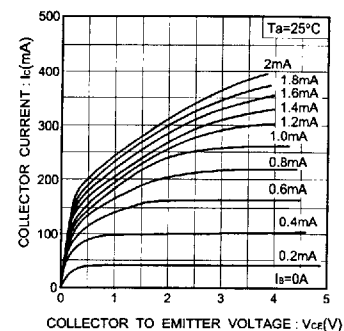


Fig.3 Grounded emitter output characteristics(II)

ROHM

Transistors

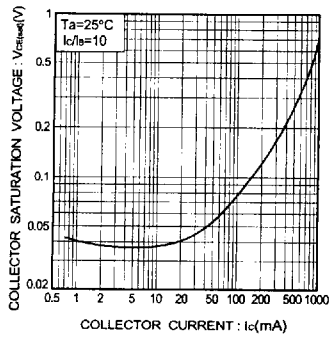


Fig. 4 Collector-emitter saturation voltage vs. collector current

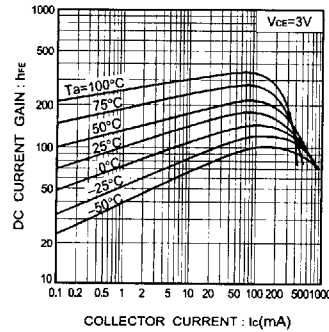


Fig. 5 DC current gain vs. collector current

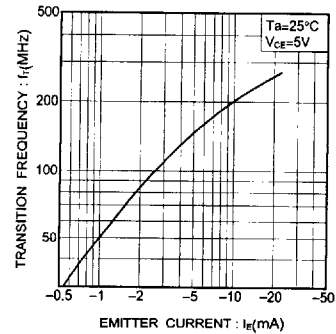


Fig. 6 Gain bandwidth product vs. emitter current

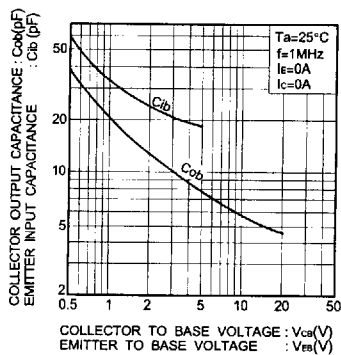


Fig. 7 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

ROHM