Medium Power Transistor (32V, 0.5A)

2SC2411K / 2SC4097 / 2SC1741S

●Features

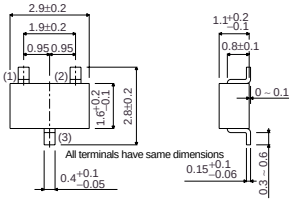
1) High $I_{CMax.}$
   $I_{CMax.}$ = 0.5mA
2) Low $V_{CE(sat)}$.
   Optimal for low voltage operation.
3) Complements the
   2SA1036K / 2SA1577 / 2SA854S.

●Structure

Epitaxial planar type
NPN silicon transistor

●External dimensions (Units : mm)

2SC2411K

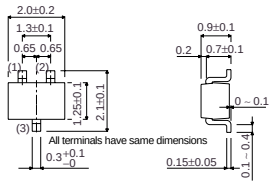


ROHM : SMT3
EIAJ : SC-59

(1) Emitter
(2) Base
(3) Collector

Abbreviated symbol : C*

2SC4097

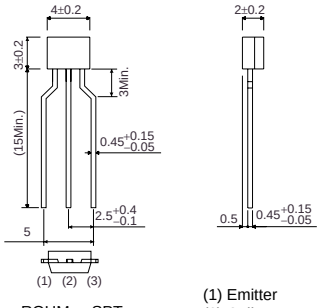


ROHM : UMT3
EIAJ : SC-70

(1) Emitter
(2) Base
(3) Collector

Abbreviated symbol : C*

2SC1741S



ROHM : SPT
EIAJ : SC-72

(1) Emitter
(2) Collector
(3) Base

* Denotes h_{FE}

●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	0.2	W	
Junction temperature	Tj	150	°C	
Storage temperature	Tstg	−55 ~ +150	°C	

* P_C must not be exceeded.

● **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
DC current transfer ratio	2SC2411K, 2SC4097	h_{FE}	82	–	390	–	V_{CE} = 3V, I_C = 100mA
	2SC1741S		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		Cob	–	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**

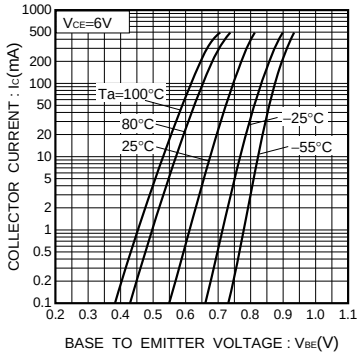


Fig.1 Grounded emitter propagation characteristics

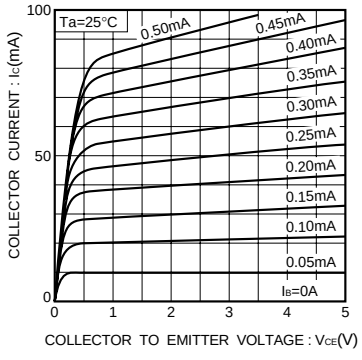


Fig.2 Grounded emitter output characteristics(I)

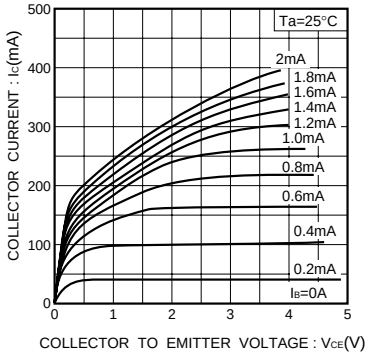


Fig.3 Grounded emitter output characteristics(II)

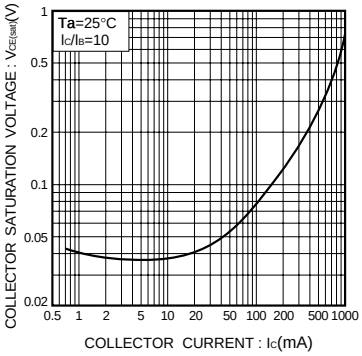


Fig.4 Collector-emitter saturation voltage vs. collector current

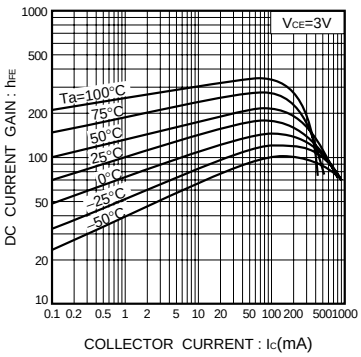


Fig.5 DC current gain vs. collector current

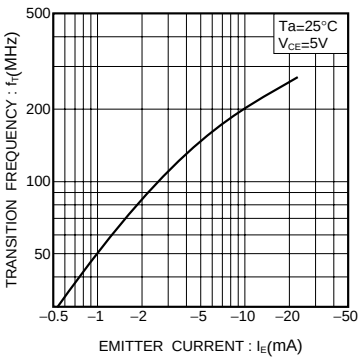


Fig. 6 Gain bandwidth product vs. emitter current

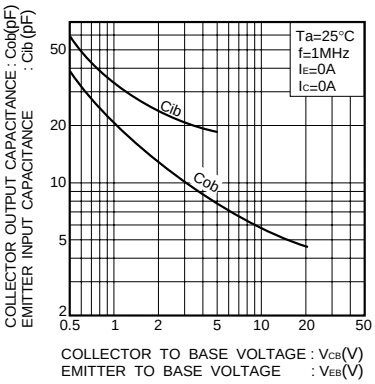


Fig.7 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage