

2SC2412K / 2SC4081 / 2SC4617 / 2SC4617H / 2SC1740S

Transistors

General Purpose Transistor (50V, 0.15A)

**2SC2412K / 2SC4081 / 2SC4617 / 2SC4617H /
2SC1740S**

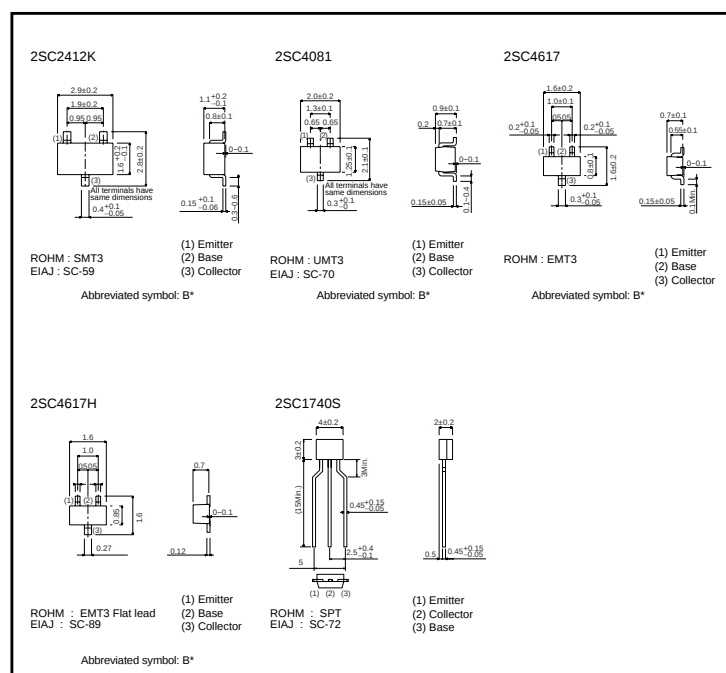
●Features

- 1) Low Cob.
Cob=2.0pF (Typ.)
- 2) Complements the 2SA1037AK /
2SA1576A / 2SA1774 /
2SA1774H / 2SA933AS.

●Structure

Epitaxial planar type
NPN silicon transistor

●External dimensions (Units : mm)



* Denotes h_{FE}

●Absolute maximum (Ta=25°C)

Parameter		Symbol	Limits	Unit
Collector-base voltage		V _{CBO}	60	V
Collector-emitter voltage		V _{CEO}	50	V
Emitter-base voltage		V _{EBO}	7	V
Collector current		I _c	0.15	A
Collector power dissipation	2SC2412K, 2SC4081	P _c	0.2	mW
	2SC4617, 2SC4617H		0.15	
	2SC1740S		0.3	
Junction temperature		T _j	150	°C
Storage temperature		T _{stg}	-55~+150	°C

ROHM

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Transistors

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV _{CBO}	60	-	-	V	I _C =50μA
Collector-emitter breakdown voltage	BV _{CEO}	50	-	-	V	I _C =1mA
Emitter-base breakdown voltage	BV _{EBO}	7	-	-	V	I _E =50μA
Collector cutoff current	I _{CBO}	-	-	0.1	μA	V _{CB} =60V
Emitter cutoff current	I _{EBO}	-	-	0.1	μA	V _{EB} =7V
DC current transfer ratio	h _{FE}	120	-	560	-	V _{CE} =6V, I _C =1mA
Collector-emitter saturation voltage	V _{CE(sat)}	-	-	0.4	V	I _C /I _B =50mA/5mA
Transition frequency	f _T	-	180	-	MHz	V _{CE} =12V, I _E =-2mA, f=100MHz
Output capacitance	C _{ob}	-	2	3.5	pF	V _{CE} =12V, I _E =0A, f=1MHz

●Packaging specifications and h_{FE}

Type	h _{FE}	Package	Taping				Bulk
		Code	T146	T106	TL	T2L	TP
		Basic ordering unit (pieces)	3000	3000	3000	8000	5000
2SC2412K	QRS		○	-	-	-	-
2SC4081	QRS		-	○	-	-	-
2SC4617	QRS		-	-	○	-	-
2SC4617H	QRS		-	-	-	○	-
2SC1740S	QRS		-	-	-	-	○

h_{FE} values are classified as follows :

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

●Electrical characteristic curves

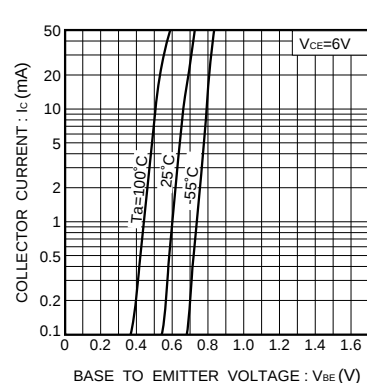


Fig.1 Grounded emitter propagation characteristics

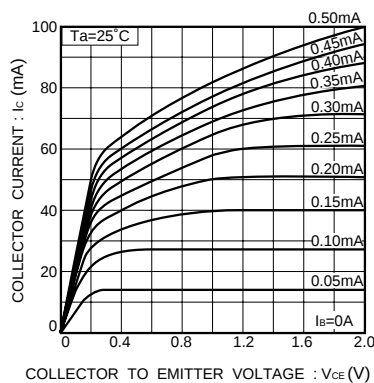


Fig.2 Grounded emitter output characteristics (I)

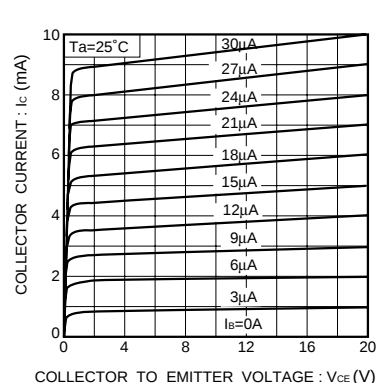


Fig.3 Grounded emitter output characteristics (II)

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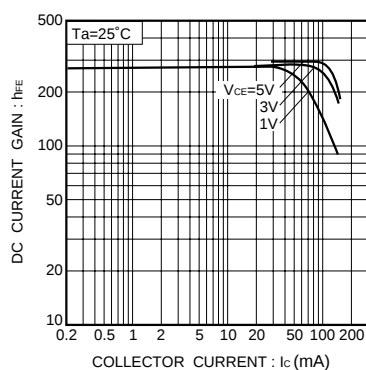


Fig.4 DC current gain vs. collector current (I)

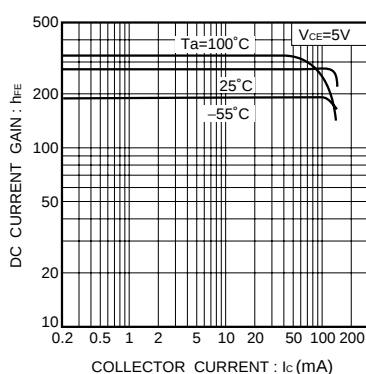


Fig.5 DC current gain vs. collector current (II)

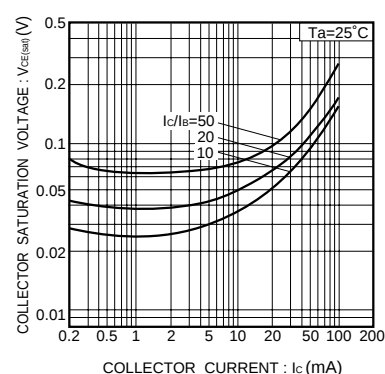


Fig. 6 Collector-emitter saturation voltage vs. collector current

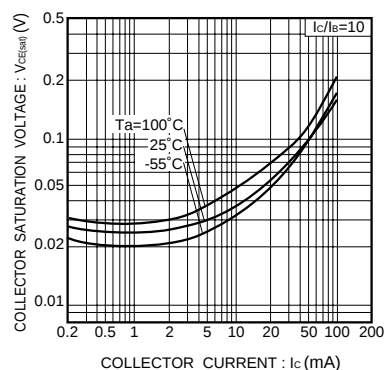


Fig.7 Collector-emitter saturation voltage vs. collector current (I)

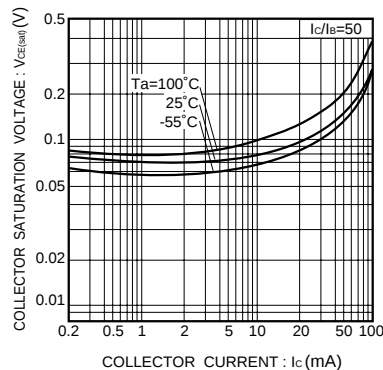


Fig.8 Collector-emitter saturation voltage vs. collector current (II)

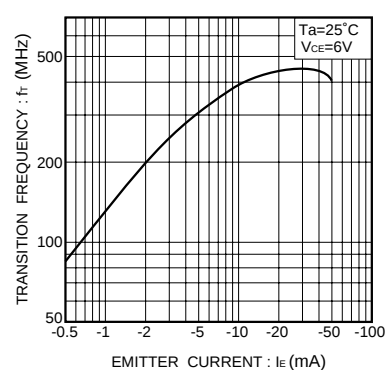


Fig.9 Gain bandwidth product vs. emitter current

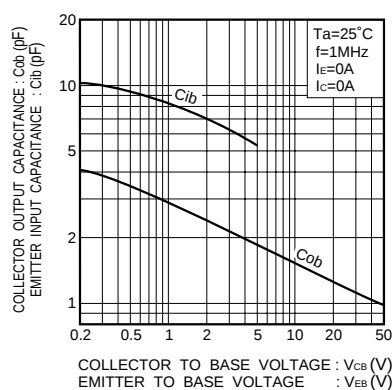


Fig.10 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

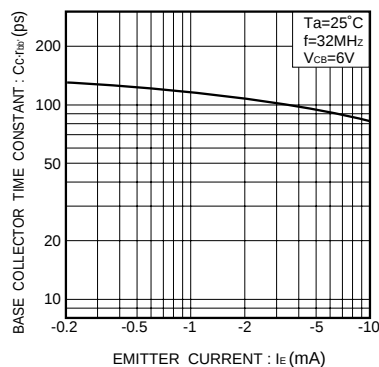


Fig.11 Base-collector time constant vs. emitter current