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General purpose transistor (50V, 0.15A)

2SC2412K / 2SC4081 / 2SC4617 / 2SC5658 / 2SC1740S

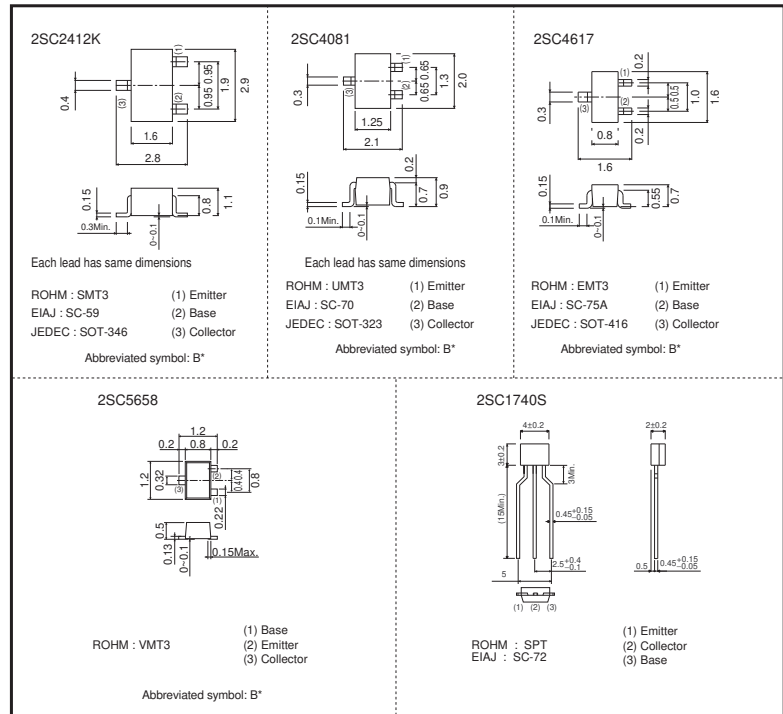
●Features

1. Low Cob. Cob=2.0pF (Typ.)Cob=2.0pF (Typ.)
2. Complements the 2SA1037AK / 2SA1576A / 2SA1774H / 2SA2029 / 2SA933AS.

●Structure

Epitaxial planar type
NPN silicon transistor

●Dimensions (Unit : mm)



* Denotes hFE

●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	P _c	2SC2412K, 2SC4081	0.2
		2SC4617, 2SC5658	0.15
		2SC1740S	0.3
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

●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	-	390	-	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 _r	-	180	-	MHz	V _{CE} =12V, I _E =-2mA, f=100MHz
Output capacitance	Cob	-	2	3.5	pF	V _{CE} =12V, I _E =0A, f=1MHz

●Packaging specifications and h_{FE}

Type	h_{FE}	Package	Taping				
		Code	T146	T106	TL	T2L	TP
		Basic ordering unit (pieces)	3000	3000	3000	8000	5000
2SC2412K	QR		○	-	-	-	-
2SC4081	QR		-	○	-	-	-
2SC4617	QR		-	-	○	-	-
2SC5658	QR		-	-	-	○	-
2SC1740S	QR		-	-	-	-	○

h_{FE} values are classified as follows :

Item	Q	R
h_{FE}	120 to 270	180 to 390

●Electrical characteristic curves

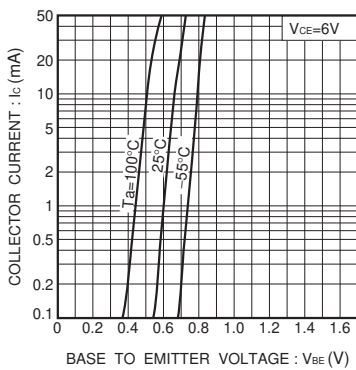


Fig.1 Grounded emitter propagation characteristics

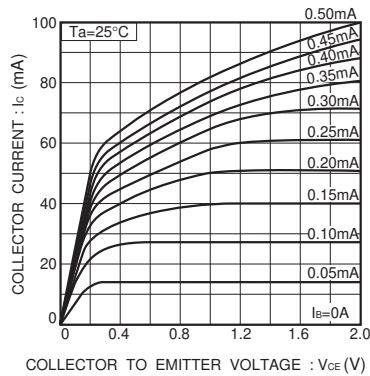


Fig.2 Grounded emitter output characteristics (I)

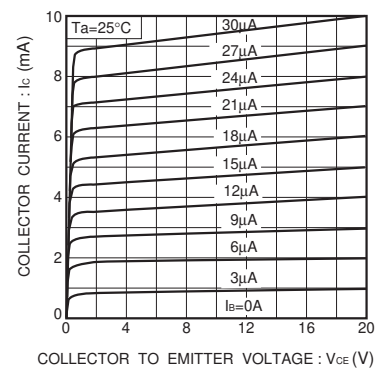


Fig.3 Grounded emitter output characteristics (II)

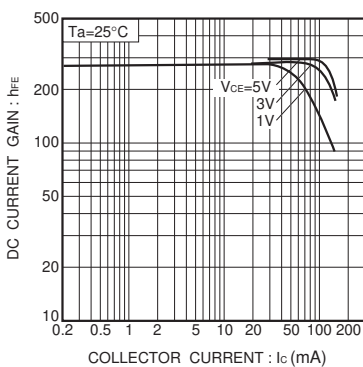


Fig.4 DC current gain vs. collector current (I)

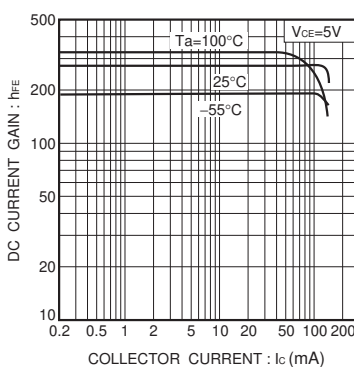


Fig.5 DC current gain vs. collector current (II)

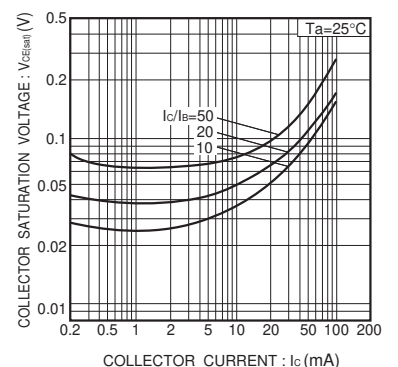


Fig.6 Collector-emitter saturation voltage vs. collector current

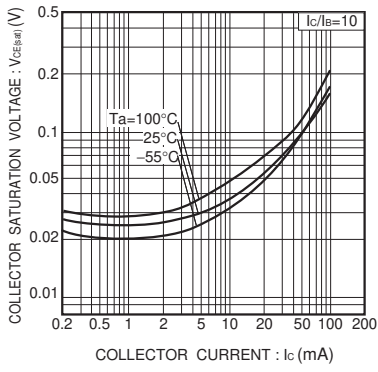


Fig.7 Collector-emitter saturation voltage vs. collector current (I)

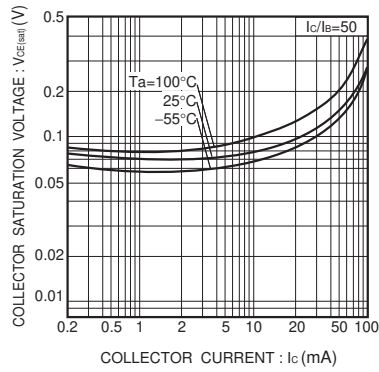


Fig.8 Collector-emitter saturation voltage vs. collector current (II)

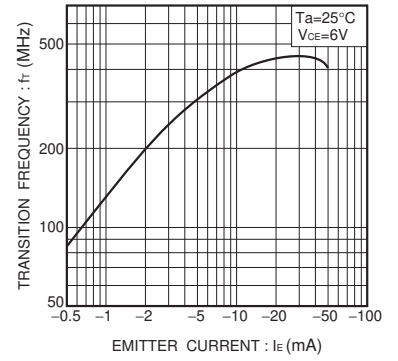


Fig.9 Gain bandwidth product vs. emitter current

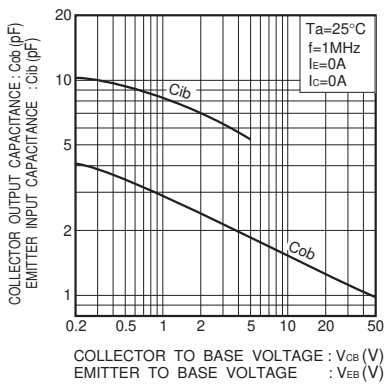


Fig.10 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

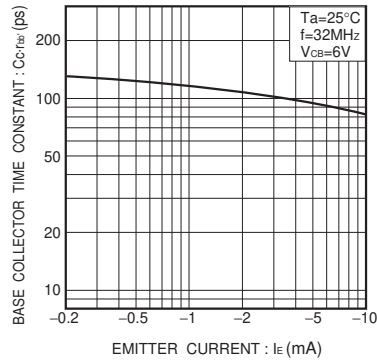


Fig.11 Base-collector time constant vs. emitter current

Notes

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