

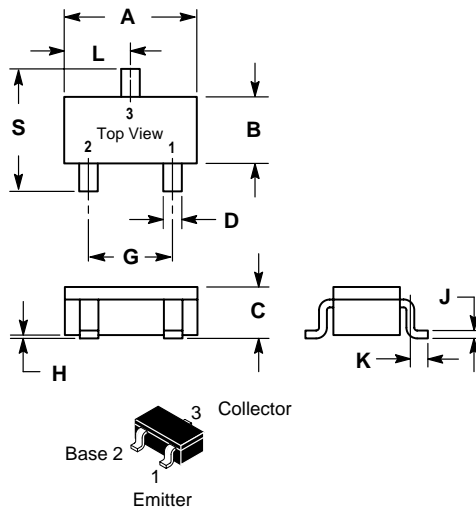
A suffix of "-C" specifies halogen & lead-free

FEATURES

- Low Cob.
- Cob=2.0pF
- Complements the 2SA1037K
- RoHS Compliant Product

STRUCTURE

- Epitaxial planar type
- NPN Silicon Transistor



SC-59		
Dim	Min	Max
A	2.70	3.10
B	1.30	1.70
C	1.00	1.30
D	0.35	0.50
G	1.70	2.30
H	0.00	0.10
J	0.10	0.26
K	0.20	0.60
L	1.25	1.65
S	2.25	3.00
All Dimension in mm		

● **Absolute maximum** (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V _{CB0}	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	0.2	W
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	-55~+150	°C

● **Electrical characteristics** (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV _{CB0}	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 _{CB0}	-	-	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 _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

h_{FE} values are classified as follows :

Item	Q	R	S
h _{FE}	120~270	180~390	270~560
Marking	BQ	BR	BS

Typical Characteristics

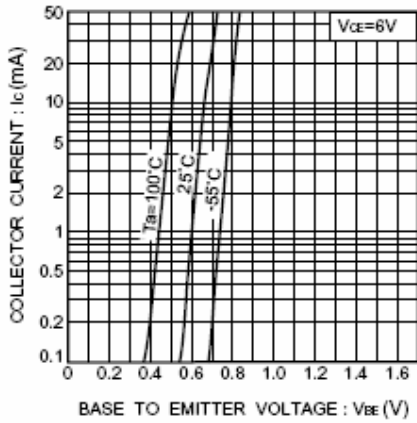


Fig.1 Grounded emitter propagation characteristics

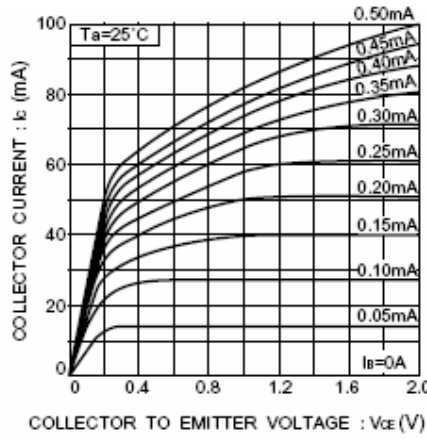


Fig.2 Grounded emitter output characteristics (I)

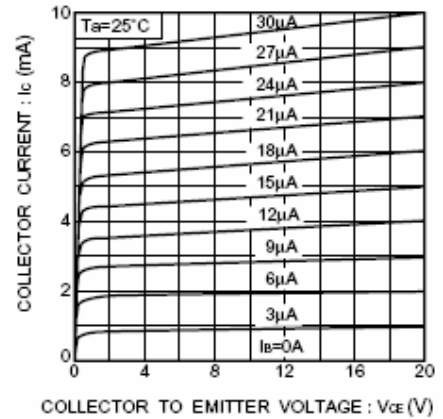


Fig.3 Grounded emitter output characteristics (II)

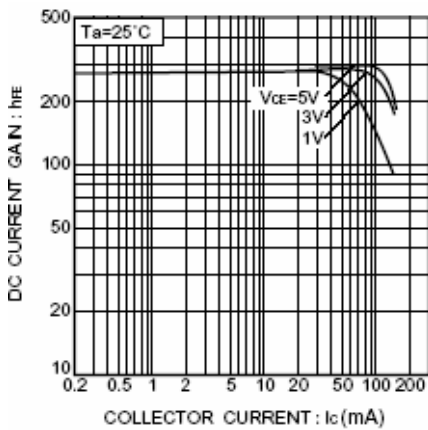


Fig.4 DC current gain vs. collector current (I)

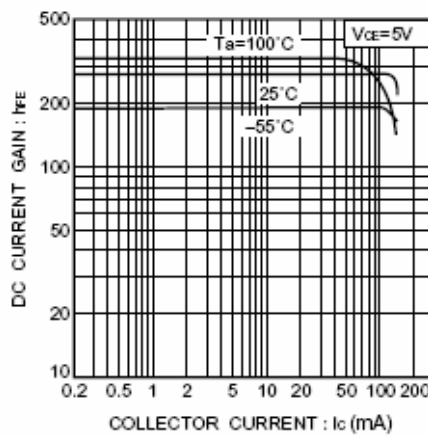


Fig.5 DC current gain vs. collector current (II)

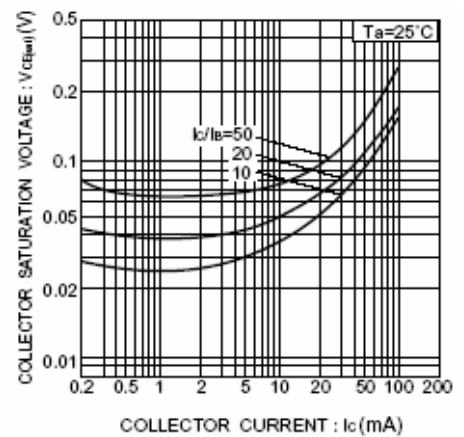


Fig.6 Collector-emitter saturation voltage vs. collector current

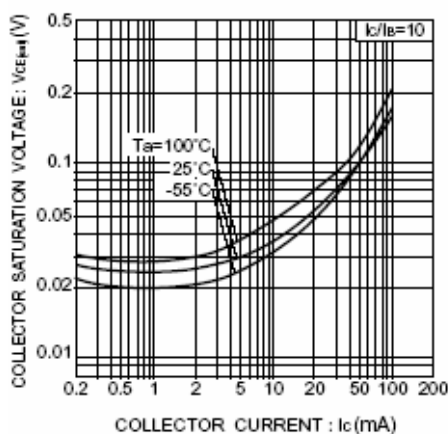


Fig.7 Collector-emitter saturation voltage vs. collector current (I)

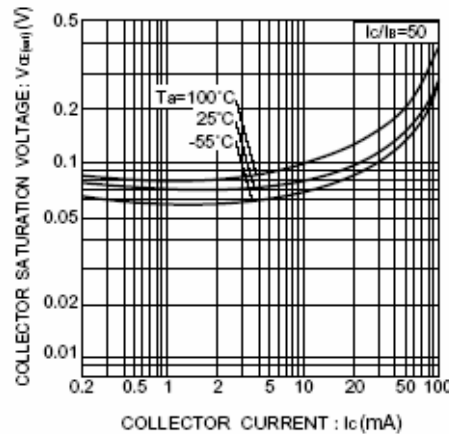


Fig.8 Collector-emitter saturation voltage vs. collector current (II)

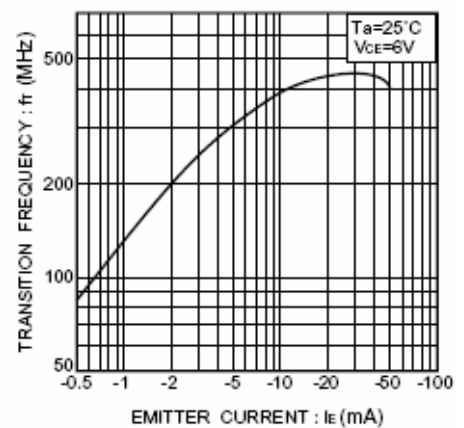


Fig.9 Gain bandwidth product vs. emitter current

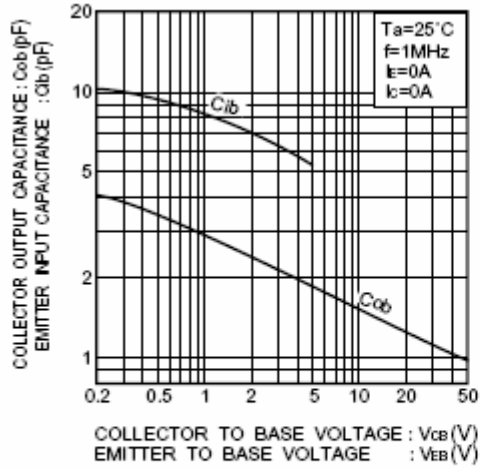


Fig.10 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

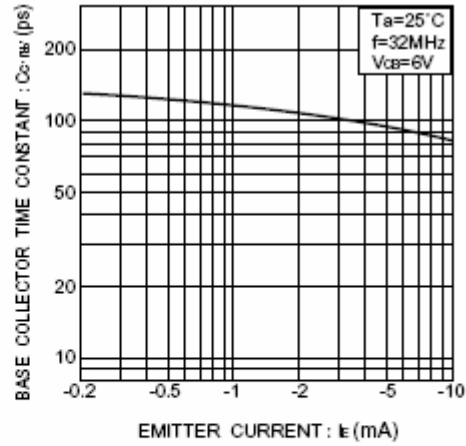


Fig.11 Base-collector time constant vs. emitter current