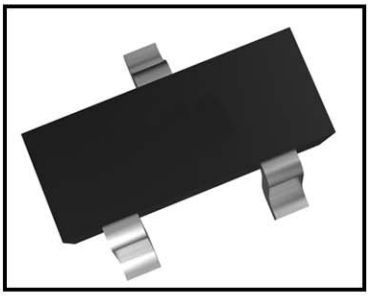
2SA1037

RoHS Compliant Product

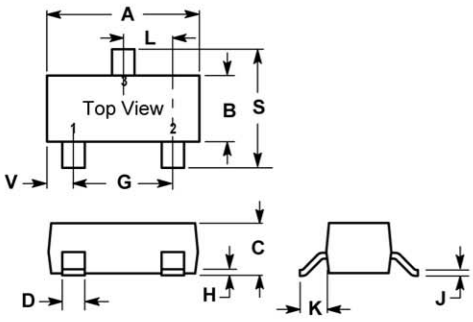
A suffix of "-C" specifies halogen & lead-free

FEATURES

- Excellent h_{FE} linearity.
- Epitaxial planar type.
- PNP silicon transistor.



SOT-23



Dim	Min	Max
A	2.800	3.040
B	1.200	1.400
C	0.890	1.110
D	0.370	0.500
G	1.780	2.040
H	0.013	0.100
J	0.085	0.177
K	0.450	0.600
L	0.890	1.020
S	2.100	2.500
V	0.450	0.600
All Dimension in mm		

MECHANICAL DATA

- Case: SOT-23, Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: See Diagrams Below
- Weight: 0.008 grams (approx.)
- Mounting Position: Any

ABSOLUTE MAXIMUM RATINGS

Rating 25℃ ambient temperature unless otherwise specified.
Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

TYPE NUMBER	SYMBOL	LIMITS	UNIT
Collector-Base Voltage	V_{CBO}	- 60	V
Collector-Emitter Voltage	V_{CEO}	- 50	V
Emitter-Base Voltage	V_{EBO}	- 6	V
Collector Current	I_C	- 0.15	A
Collector Power Dissipation	P_C	0.2	W
Operating Temperature	T_J	150	℃
Storage Temperature Range	T_{STG}	-55 ~ +150	℃

●ELECTRICAL CHARACTERISTICS (Ta = 25℃)

TYPE NUMBER	SYMBOL	Min.	Typ.	Max.	UNIT	TEST CONDITIONS
Collector-Base Breakdown Voltage	BV_{CBO}	- 60	-	-	V	I_C = −50 μA
Collector-Emitter Breakdown Voltage	BV_{CEO}	- 50	-	-	V	I_C = −1 μA
Emitter-Base Breakdown Voltage	BV_{EBO}	- 6	-	-	V	I_E = −50 μA
Collector Cutoff Current	I_{CBO}	-	-	- 0.1	μA	V_{CB} = −60 V
Emitter Cutoff Current	I_{EBO}	-	-	- 0.1	μA	V_{EB} = −6 V
Collector-Emitter Saturation Voltage	$V_{CE\ (sat)}$	-	-	- 0.5	V	I_C / I_B = −50 mA / −5 mA
DC Current Transfer Ratio	h_{FE}	120	-	560	-	V_{CE} = −6 V, I_C = −1 mA
Transition Frequency	f_T	-	140	-	MHz	V_{CE} = −12 V, I_E = 2 mA, f = 30 MHz
Output Capacitance	Cob	-	4.0	5.0	pF	V_{CB} = −12 V, I_E = 0 A, f = 1 MHz

●h_{FE} VALUES ARE CLASSIFIED AS FOLLOWS:

ITEM	Q	R	S
h_{FE}	120 ~ 270	180 ~ 390	270 ~ 560
Marking	FQ	FR	FS

●ELECTRICAL CHARACTERISTIC CURVES

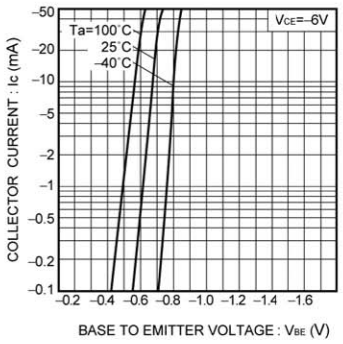


Fig.1 Grounded emitter propagation characteristics

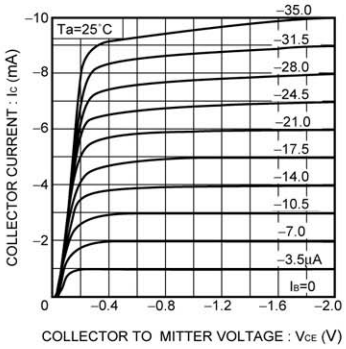


Fig.2 Grounded emitter output characteristics (I)

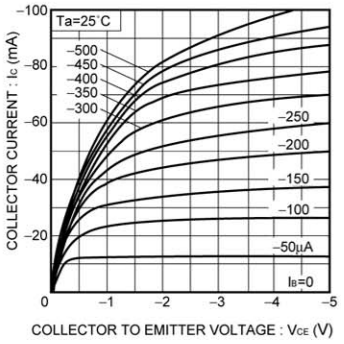


Fig.3 Grounded emitter output characteristics (II)

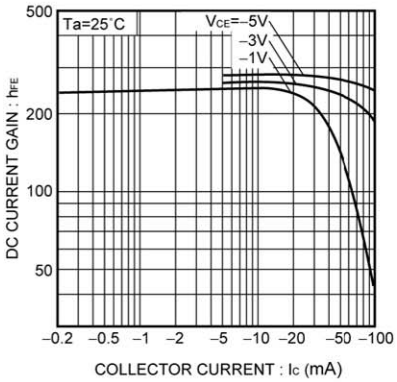


Fig.4 DC current gain vs. collector current (I)

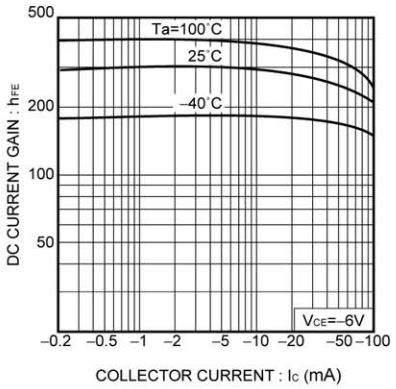


Fig.5 DC current gain vs. collector current (II)

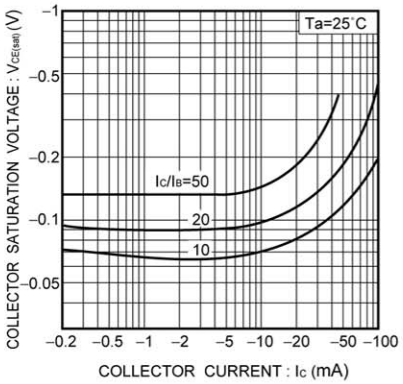


Fig.6 Collector-emitter saturation voltage vs. collector current (I)

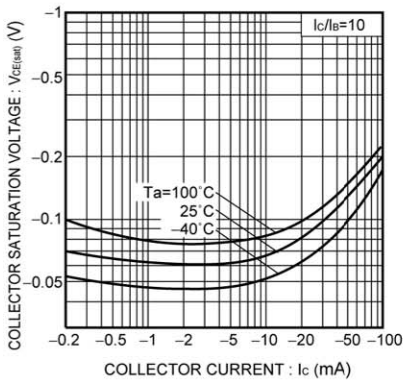


Fig.7 Collector-emitter saturation voltage vs. collector current (II)

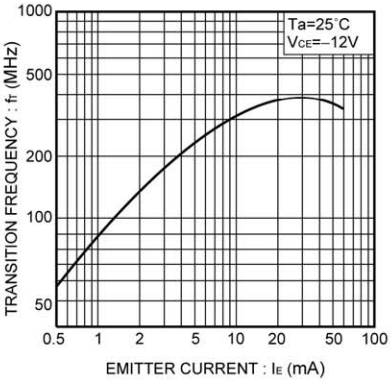


Fig.8 Gain bandwidth product vs. emitter current

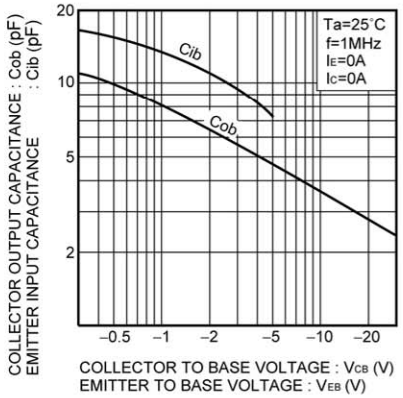


Fig.9 Collector output capacitance vs. collector-base voltage
Emitter inputcapacitance vs. emitter-base voltage