Elektronische Bauelemente

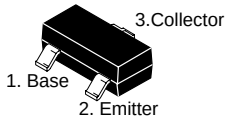
2SA1037

- 0.15A, - 50V

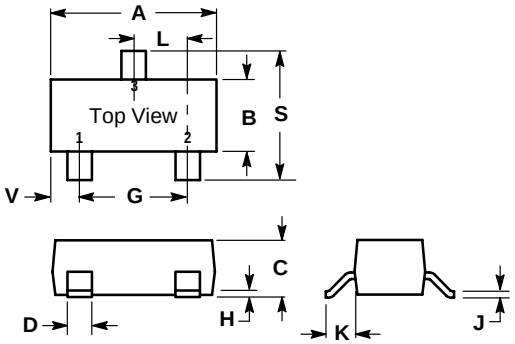
Small Signal Plastic Encapsulate Transistor

RoHS Compliant Product

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



SOT-23



●FEATURES

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

●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

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		

●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	℃

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●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

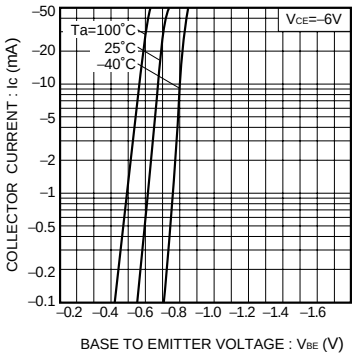

Fig.1 Grounded emitter propagation characteristics

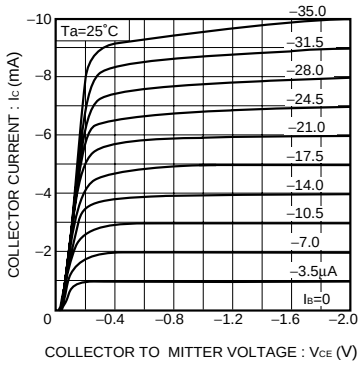

Fig.2 Grounded emitter output characteristics (I)

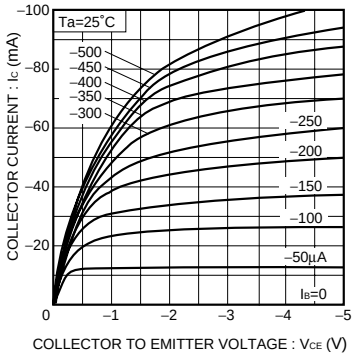

Fig.3 Grounded emitter output characteristics (II)

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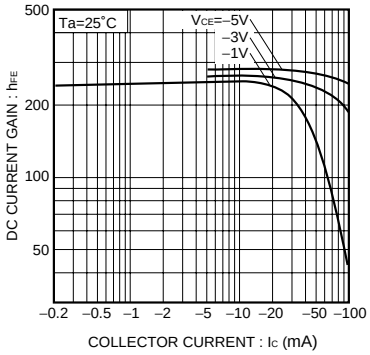

Fig.4 DC current gain vs. collector current (I)

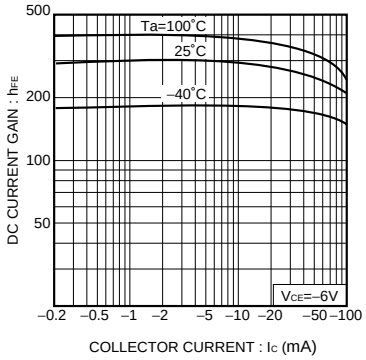

Fig.5 DC current gain vs. collector current (II)

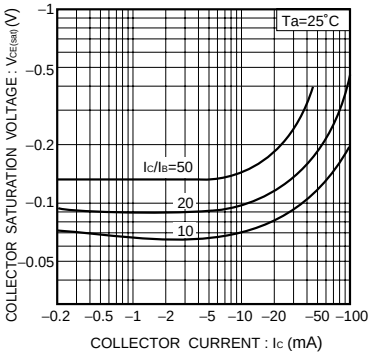

Fig.6 Collector-emitter saturation voltage vs. collector current (I)

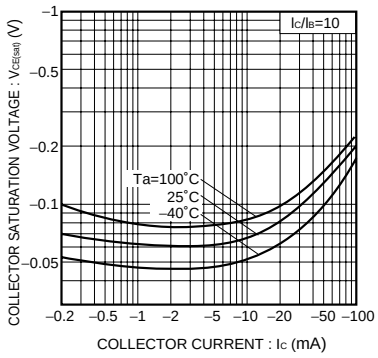

Fig.7 Collector-emitter saturation voltage vs. collector current (II)

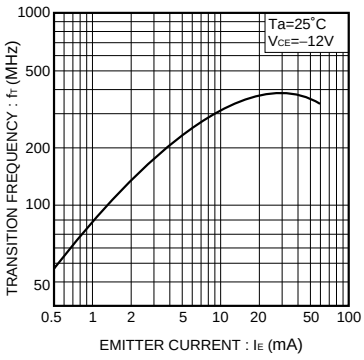

Fig.8 Gain bandwidth product vs. emitter current

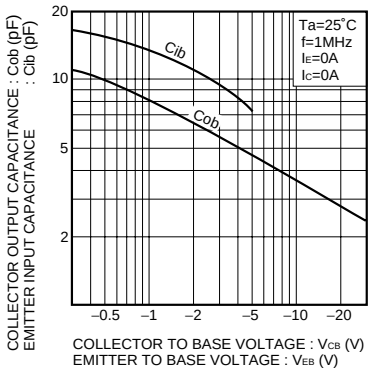

Fig.9 Collector output capacitance vs. collector-base voltage
Emitter inputcapacitance vs. emitter-base voltage