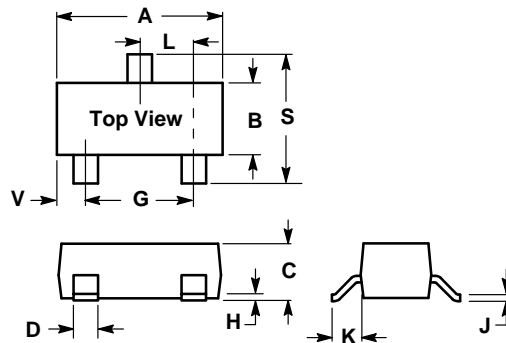
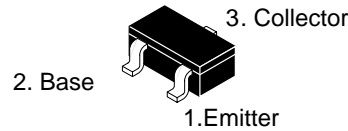


RoHS Compliant Product

● FEATURES

- High I_{CMax} (= 0.5mA).
- Low $V_{CE(sat)}$.
Optimal for low voltage operation.
- Epitaxial planar type.
- NPN silicon transistor.



SOT-323		
Dim	Min	Max
A	1.800	2.200
B	1.150	1.350
C	0.800	1.000
D	0.300	0.400
G	1.200	1.400
H	0.000	0.100
J	0.100	0.250
K	0.350	0.500
L	0.590	0.720
S	2.000	2.400
V	0.280	0.420
All Dimension in mm		

● MECHANICAL DATA

- Case: SOT-323, Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: See Diagrams Below
- Mounting Position: Any

● ABSOLUTE MAXIMUM RATINGS

Rating 25°C 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}	40	V
Collector-Emitter Voltage	V_{CEO}	32	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	0.5	A (Note)
Collector Power Dissipation	P_C	0.2	W
Operating Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C

Note: P_C must not be exceeded.

● ELECTRICAL CHARACTERISTICS (Ta = 25°C)

TYPE NUMBER	SYMBOL	Min.	Typ.	Max.	UNIT	TEST CONDITIONS
Collector-Base Breakdown Voltage	BV_{CBO}	40	-	-	V	$I_C = 100 \mu A$
Collector-Emitter Breakdown Voltage	BV_{CEO}	32	-	-	V	$I_C = 1 \text{ mA}$
Emitter-Base Breakdown Voltage	BV_{EBO}	5	-	-	V	$I_E = 100 \mu A$
Collector Cutoff Current	I_{CBO}	-	-	1	μA	$V_{CB} = 20 \text{ V}$
Emitter Cutoff Current	I_{EBO}	-	-	1	μA	$V_{EB} = 4 \text{ V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	-	-	0.4	V	$I_C / I_B = 500 \text{ mA} / 50 \text{ mA}$
DC Current Transfer Ratio	h_{FE}	82	-	390	-	$V_{CE} = 3 \text{ V}, I_C = 100 \text{ mA}$
Transition Frequency	f_T	-	250	-	MHz	$V_{CE} = 5 \text{ V}, I_E = -20 \text{ mA}, f = 100 \text{ MHz}$
Output Capacitance	C_{ob}	-	6.0	-	pF	$V_{CB} = 10 \text{ V}, I_E = 0 \text{ A}, f = 1 \text{ MHz}$

● h_{FE} VALUES ARE CLASSIFIED AS FOLLOWS:

ITEM	P	Q	R
h_{FE}	82 ~ 180	120 ~ 270	180 ~ 390
Marking	CP	CQ	CR

● ELECTRICAL CHARACTERISTIC CURVES

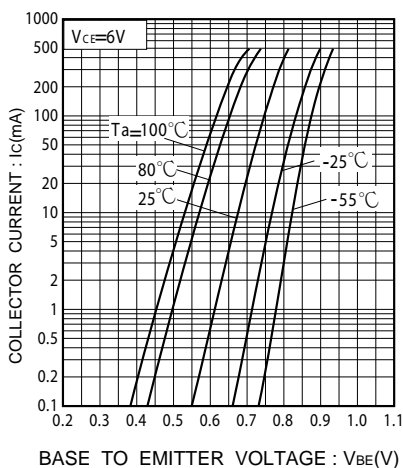


Fig.1 Grounded emitter propagation characteristics

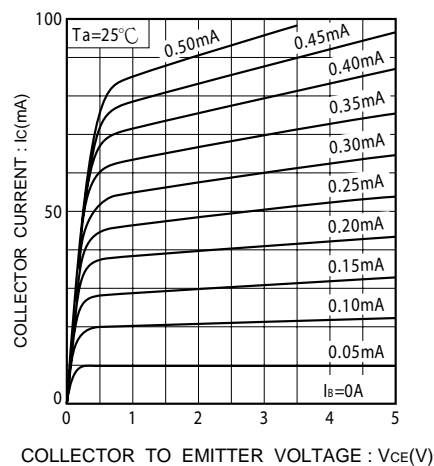


Fig.2 Grounded emitter output characteristics ()

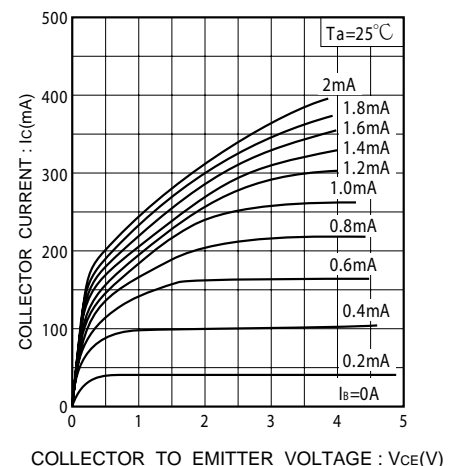


Fig.3 Grounded emitter output characteristics ()

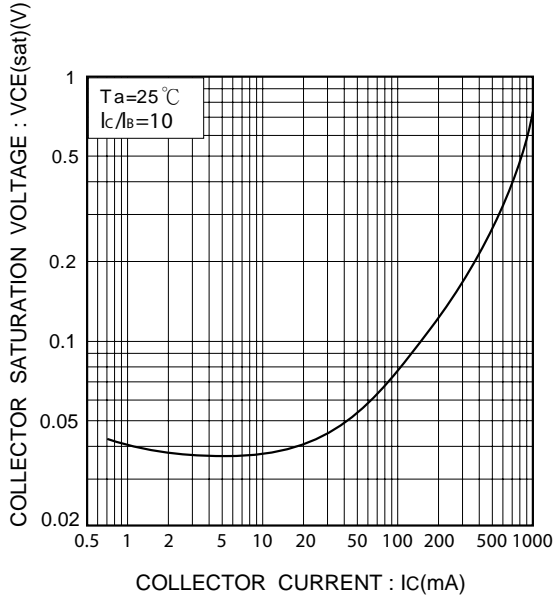


Fig.4 Collector-emitter saturation voltage vs. collector current

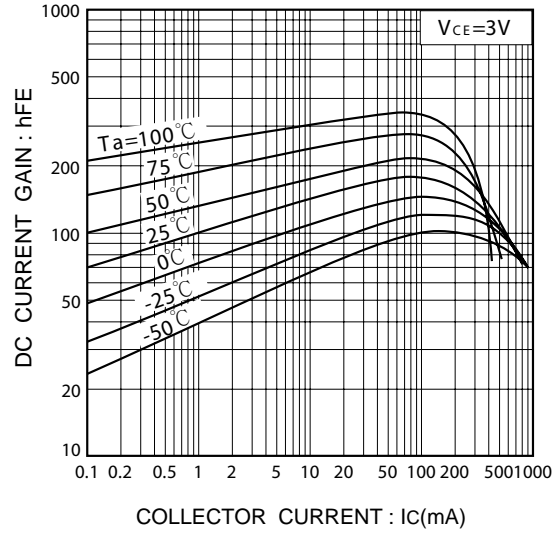


Fig.5 DC current gain vs. collector current

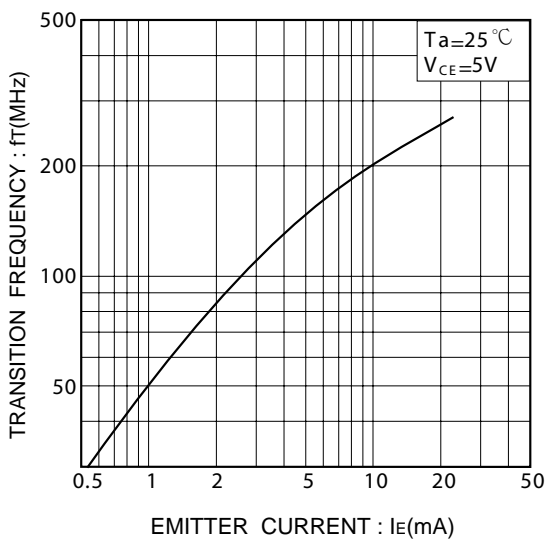


Fig. 6 Gain bandwidth product vs. emitter current

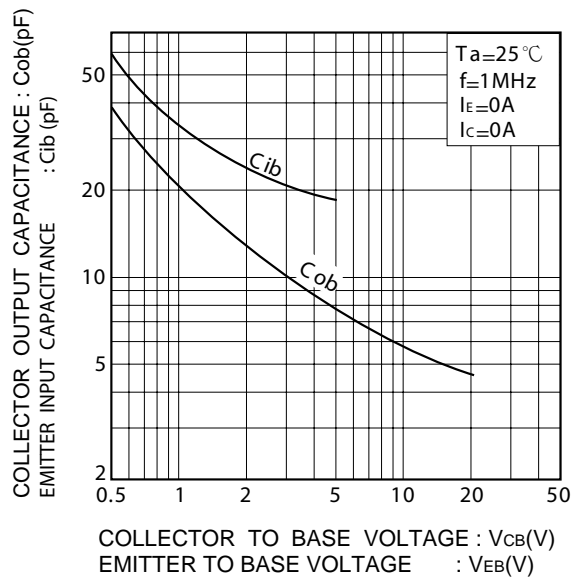


Fig.7 Collector output capacitance vs. collector-base voltage
E mitter input capacitance vs. emitter-base voltage