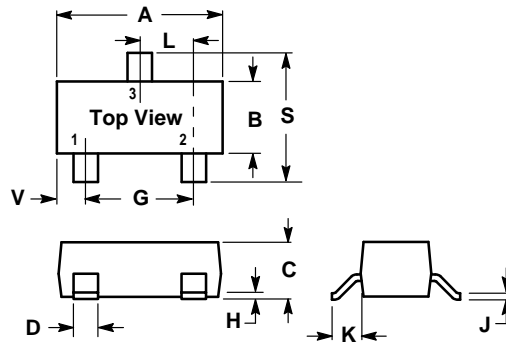
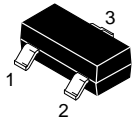


RoHS Compliant Product



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		

FEAT URES

Power dissipation

$$P_{CM} : 200 \text{ mW (Temp.}=25^{\circ}\text{C)}$$

Collector current

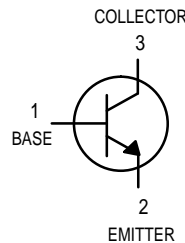
$$I_{CM} : -500 \text{ mA}$$

Collector-base voltage

$$V_{(BR)CBO} : -40 \text{ V}$$

Operating and storage junction temperature range

$$T_J, T_{stg}: -55^{\circ}\text{C to } +150^{\circ}\text{C}$$



ELECTRICAL CHARACTERISTICS Tamb=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -100 \mu\text{A}, I_E = 0$	-40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -1 \text{ mA}, I_B = 0$	-32			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -100 \mu\text{A}, I_C = 0$	-5			V
Collector cut-off current	I_{CBO}	$V_{CB} = -20 \text{ V}, I_E = 0$			-1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -4 \text{ V}, I_C = 0$			-1	μA
DC current gain	$h_{FE(1)}$	$V_{CE} = -3 \text{ V}, I_C = -10 \text{ mA}$	82		390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -100 \text{ mA}, I_B = -10 \text{ mA}$			-0.4	V
Transition frequency	f_T	$V_{CE} = -5 \text{ V}, I_C = -20 \text{ mA}, f = 100 \text{ MHz}$		200		MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		7		pF

CLASSIFICATION OF $h_{FE(1)}$

Rank	P	Q	R
Range	82-180	120-270	180-390
Marking	HP	HQ	HR

Electrical characteristic curves

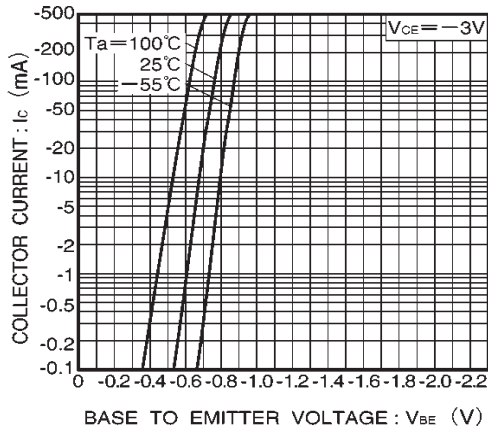


Fig.1 Grounded emitter propagation

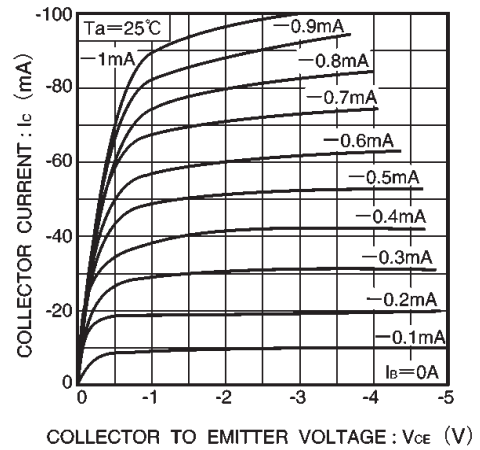


Fig.2 Grounded emitter output characteristics (I)

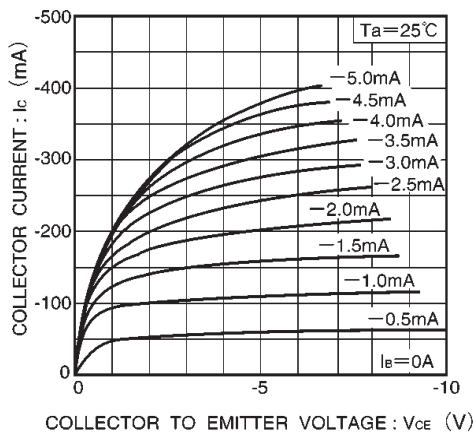


Fig.3 Grounded emitter output characteristics (II)

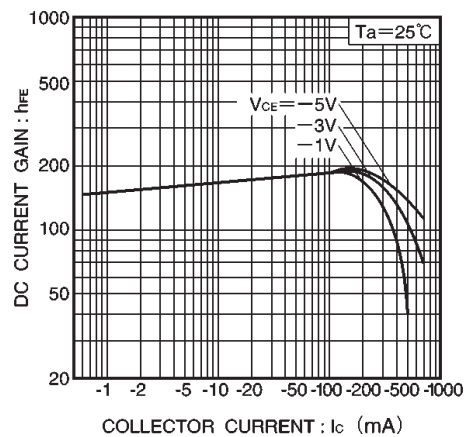


Fig.4 DC current gain vs. collector current (I)

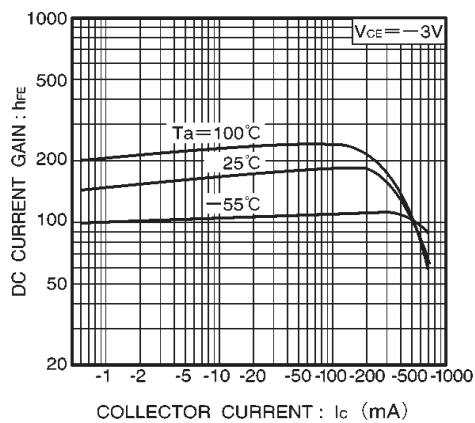


Fig.5 DC current gain vs. collector current (II)

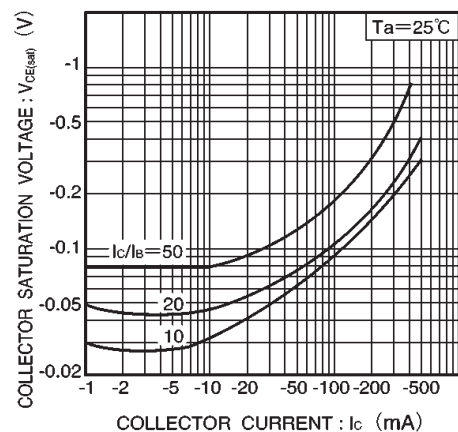


Fig.6 Collector-emitter saturation voltage vs. collector current (I)

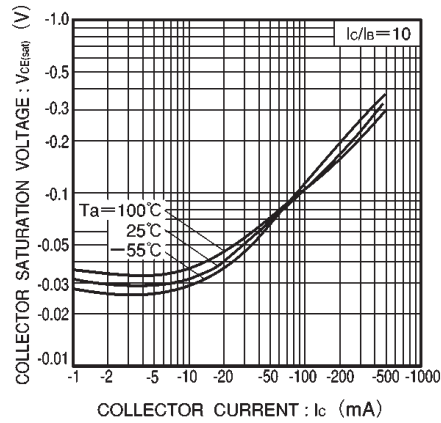


Fig.7 Collector-emitter saturation voltage vs. collector current (II)

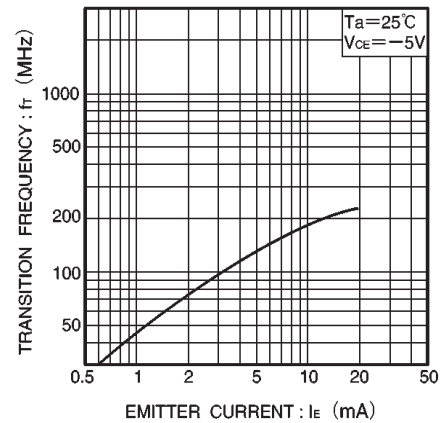


Fig.8 Gain bandwidth product vs. emitter current

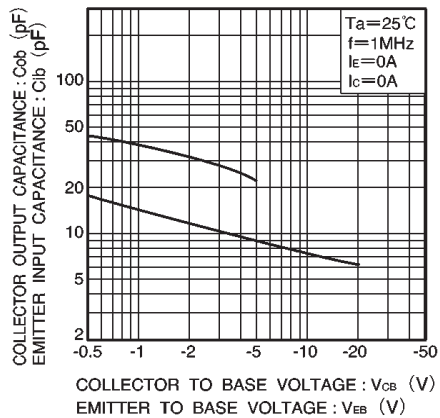


Fig.9 Collector output capacitance vs. collector-base voltage. Emitter input capacitance vs. emitter-base voltage