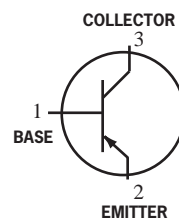


Epitaxial Planar Transistor PNP Silicon



MAXIMUM RATINGS (Ta=25 °C)

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V _{CEO}	-20	Vdc
Collector-Base Voltage	V _{CBO}	-30	Vdc
Emitter-Base Voltage	V _{EBO}	-6.0	Vdc
Collector Current-Continuous	I _C		mAdc

THERMAL CHARACTERISTICS

Characteristics	Symbol	Value	Unit
Total Device Dissipation FR-5 Board ⁽¹⁾ T _A =25 °C	P _D	150	mW
Derate above 25 °C		0.5	mW/°C
Thermal Resistance, Junction Ambient	R _{θJA}	833	°C/W
Junction and Storage, Temperature	T _J , T _{stg}	-55 to +150	°C

Device Marking

2SB1386=

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min	Max	Unit
Collector-Emitter Breakdown Voltage(I _C =-1 mAdc, I _B =0)	V _{(BR)CEO}	-20	-	Vdc
Collector-Base Breakdown Voltage(I _C =-50 uAdc, I _E =0)	V _{(BR)CBO}	-30	-	Vdc
Emitter-Base Breakdown Voltage(I _E =-50 uAdc, I _C =0)	V _{(BR)EBO}	-6.0	-	Vdc
Collector Cutoff Current(V _{CB} =-20Vdc, I _E =0)	I _{CBO}	-	-0.5	uAdc
Emitter Cutoff Current(V _{EB} =-5Vdc, I _C =0)	I _{EBO}	-	-0.5	uAdc

1. FR-5=1.0×0.75×0.062 in

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted) (Continued)

Characteristics	Symbol	Min	TYP	Max	Unit
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ON CHARACTERISTICS

DC Current Gain ($I_C = -0.5 \text{ Adc}, V_{CE} = -2.0 \text{ Vdc}$)	hFE	82	-	390	-
Transition Frequency ($I_E = 50 \text{ mAdc}, V_{CE} = -6.0 \text{ Vdc}, f=30\text{MHz}$)	fT	-	120	-	Vdc
Output Capacitance ($I_E = 0 \text{ Adc}, V_{CB} = -20 \text{ Vdc}, f=1\text{MHz}$)	Cob	-	60	-	pF

Classification of hFE

Rank	P	Y	G
Range	82-180	120-270	180-390
Marking			

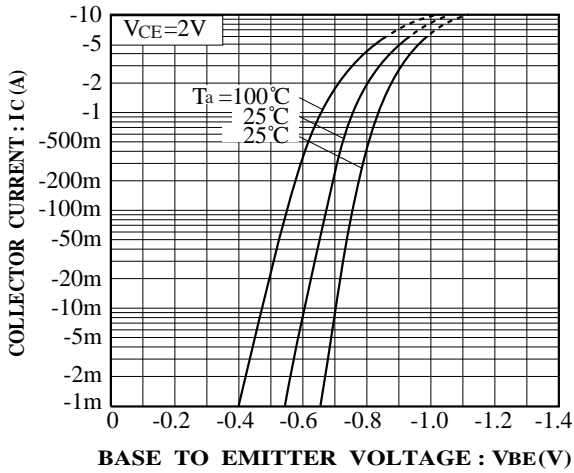


FIG.1 Grounded Emitter Propagation Characteristics

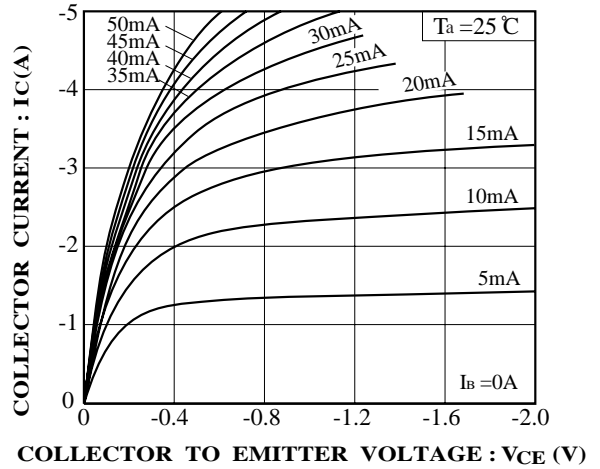


FIG.2 Grounded Emitter Output Characteristics

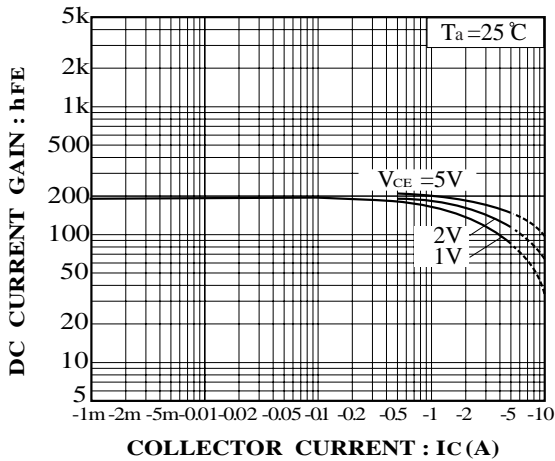


FIG.3 DC Current Gain vs. Collector Current

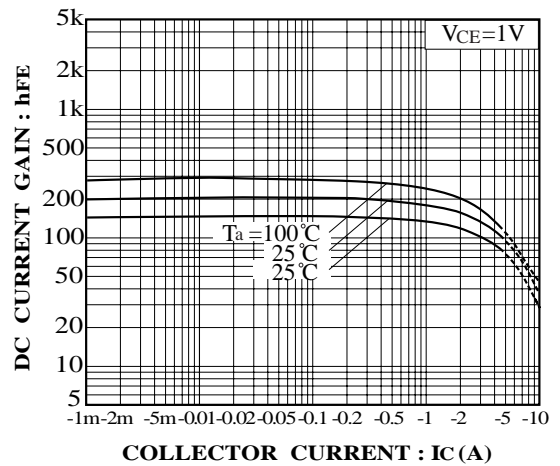


FIG.4 DC Current Gain vs. Collector Current

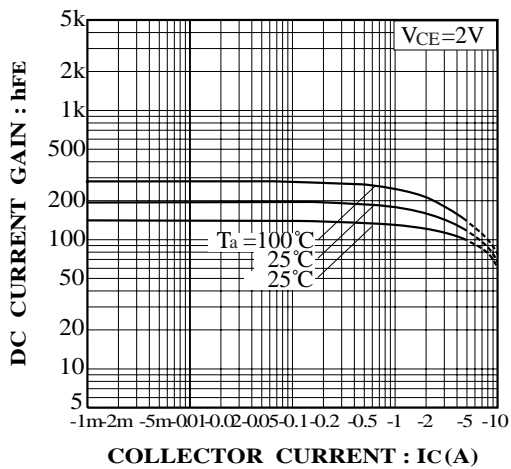


FIG.5 DC Current Gain vs. Collector Current

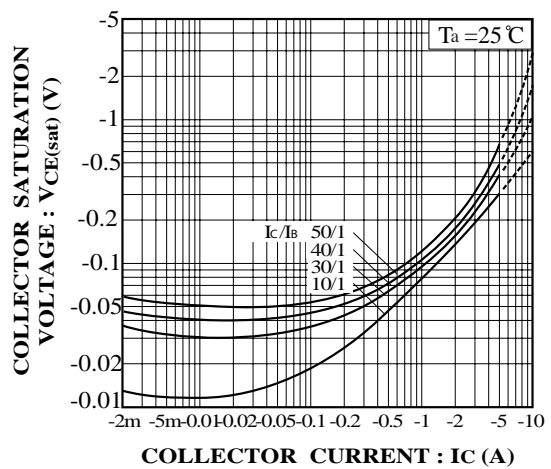


FIG.6 Collector-Emitter Saturation Voltage vs. Collector Current

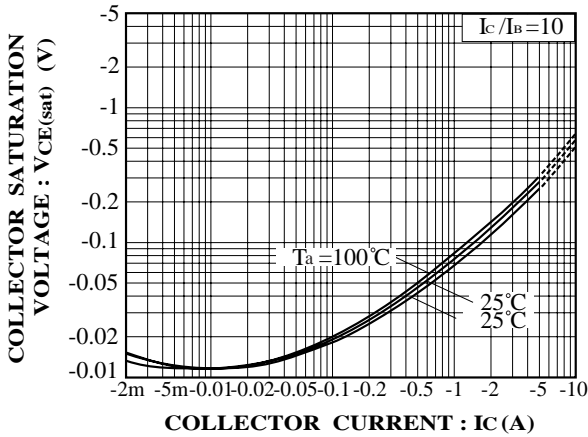


FIG.7 Collector-Emitter Saturation Voltage vs. Collector Current

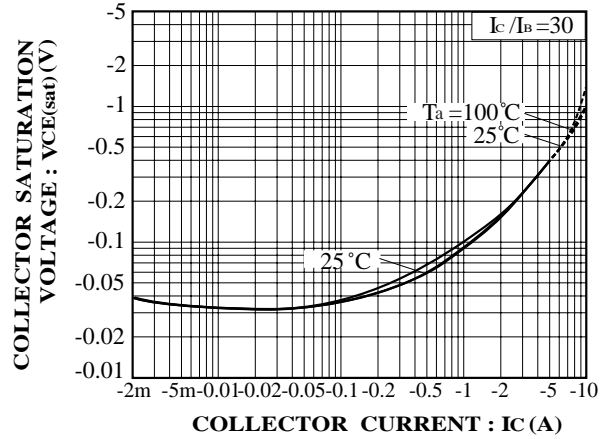


FIG.8 Collector-Emitter Saturation Voltage vs. Collector Current

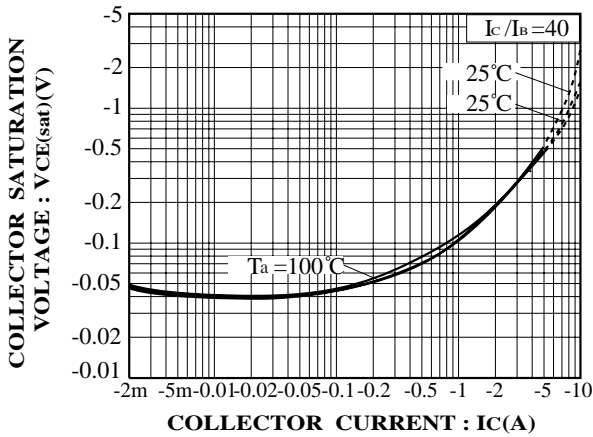


FIG.9 Collector-Emitter Saturation Voltage vs. Collector Current

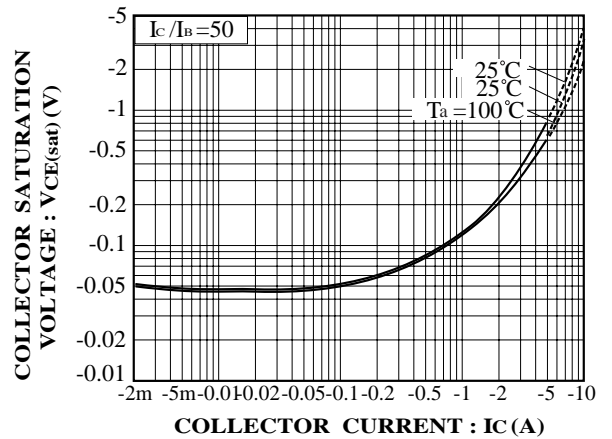


FIG.10 Collector-Emitter Saturation Voltage vs. Collector Current

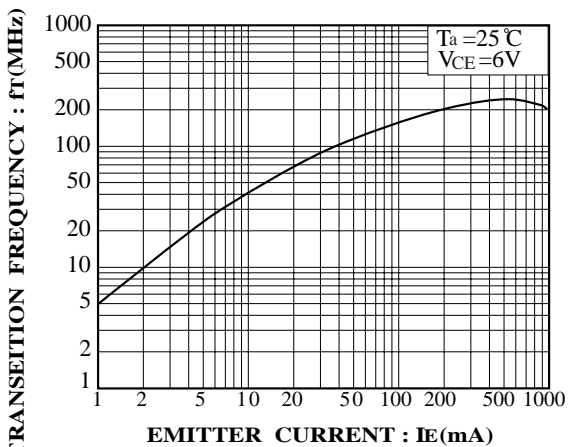


FIG.11 Gain Bandwidth Product vs. Emitter Current

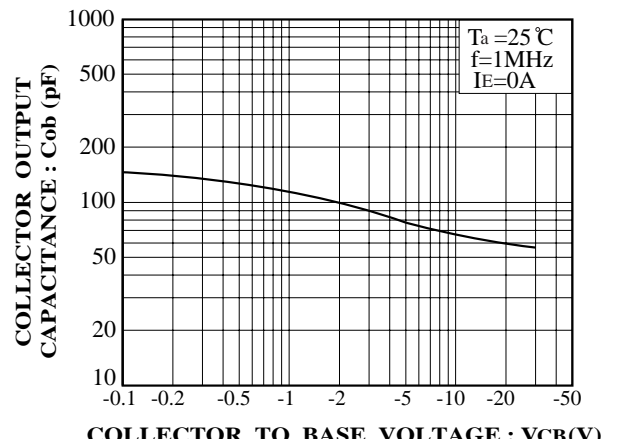


FIG.12 Collector Output Capacitance vs. Collector-Base Voltage

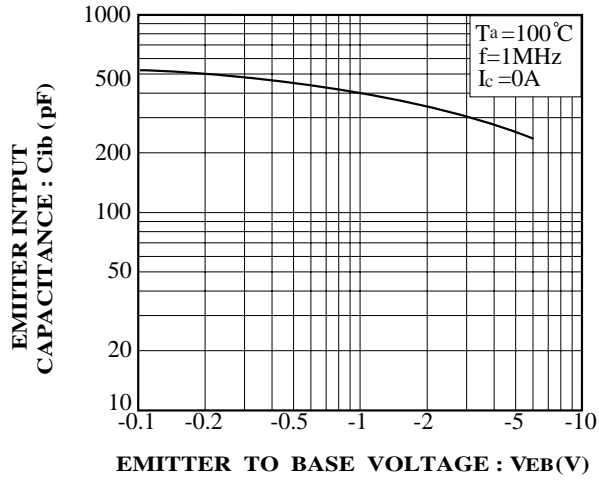
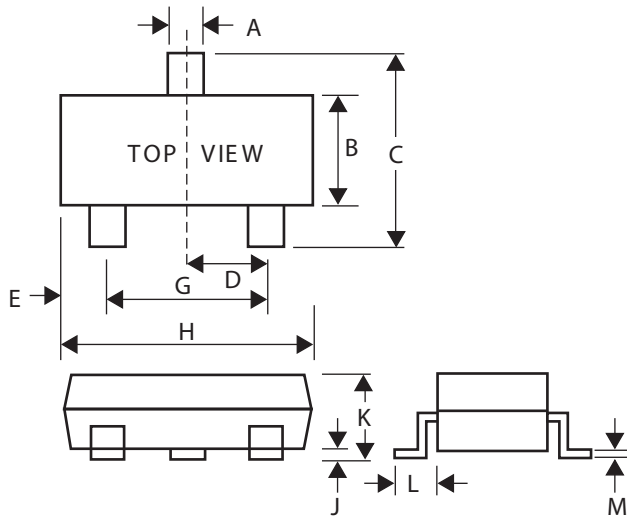


FIG.13 Emitter Input Capacitance vs. Emitter-Base Voltage

SOT-23 Package Outline Dimensions

Unit:mm



Dim	Min	Max
A	0.35	0.51
B	1.19	1.40
C	2.10	3.00
D	0.85	1.05
E	0.46	1.00
G	1.70	2.10
H	2.70	3.10
J	0.01	0.13
K	0.89	1.10
L	0.30	0.61
M	0.076	0.25