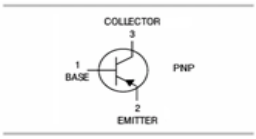
PNP Silicon Epitaxial Planar Transistor

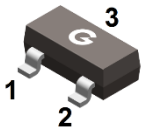
2SA1235A

Features

- Small collector to emitter saturation voltage
- Excellent DC forward current gain

HF





SOT-23

Mechanical Data

- Case: SOT-23
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
2SA1235A	SOT-23	3000 pcs / Tape & Reel	ME/MF/MG

Maximum Ratings (@ T_A = 25℃ unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-50	V
Collector-Emitter Breakdown Voltage	V_{CEO}	-50	V
Emitter-Base Breakdown Voltage	V_{EBO}	-6	V
Collector Current (Continuous)	I_C	-0.2	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	P_D	0.15	W
Thermal Resistance Junction-to-Air	$R_{\theta JA}$	833	°C/W
Power Dissipation *1	P_D	0.45	W
Thermal Resistance Junction-to-Air *1	$R_{\theta JA}$	280	°C/W
Thermal Resistance Junction-to-Case *1	$R_{\theta JC}$	190	°C/W
Thermal Resistance Junction-to-Lead *1	$R_{\theta JL}$	210	°C/W
Junction Temperature	T_J	-55 ~ +150	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C

Note 1: The data tested by surface mounted on a 1 inch^2 FR-4 board with 2OZ copper

Electrical Characteristics (@ T_A = 25℃ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = -100μA, I_E = 0	-50	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = -1mA, I_B = 0	-50	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = -100μA, I_C = 0	-6	-	-	V
Collector Cut-off Current	I_{CBO}	V_{CB} = -50V, I_E = 0	-	-	-0.1	μA
Emitter Cut-off Current	I_{EBO}	V_{EB} = -6V, I_C = 0			-0.1	μA
DC Current Gain	h_{FE}	V_{CE} = -6V, I_C = -1mA	150	-	800	-
		V_{CE} = -6V, I_C = -0.1mA	90	-	-	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	I_C = -100mA, I_B = -10mA	-	-	-0.3	V
Current-Gain—Bandwidth Product	f_T	V_{CE} = -6V, I_C = -10mA	-	200	-	MHz
Collector output capacitance	C_{ob}	V_{CB} = -6V, I_E = 0, f = 1MHz	-	2.5	-	pF
Noise Figure	N_F	V_{CE} = -6V, I_E = 0.3mA f = 100MHz, R_G = 10kΩ	-	-	20	dB

Classification of h_{FE}

Rank	E	F	G
Range	150-300	250-500	400-800
Marking	ME	MF	MG

Ratings and Characteristics Curves (@ T_A = 25°C unless otherwise specified)

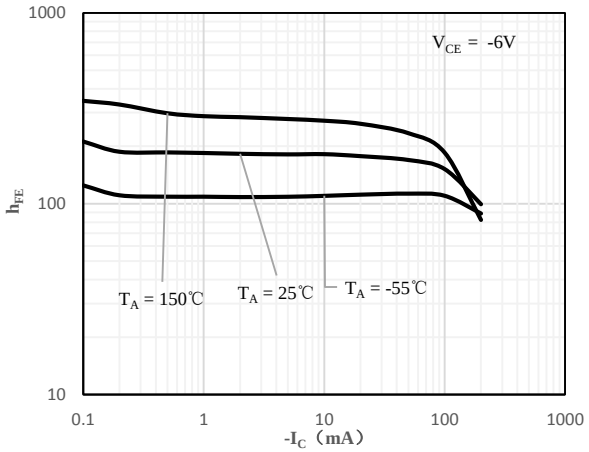


Fig 1 h_{FE} vs. I_C

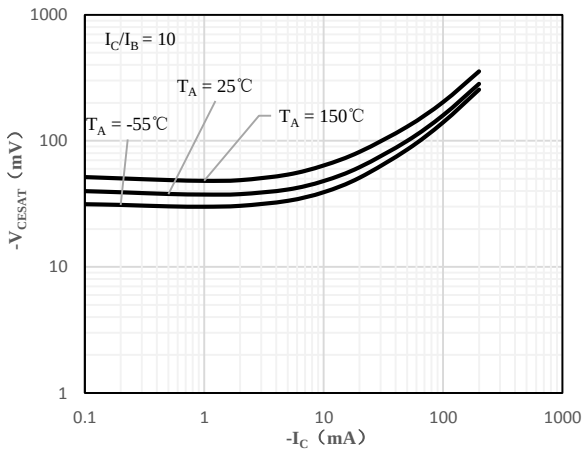


Fig 2 $V_{CE(sat)}$ vs. I_C

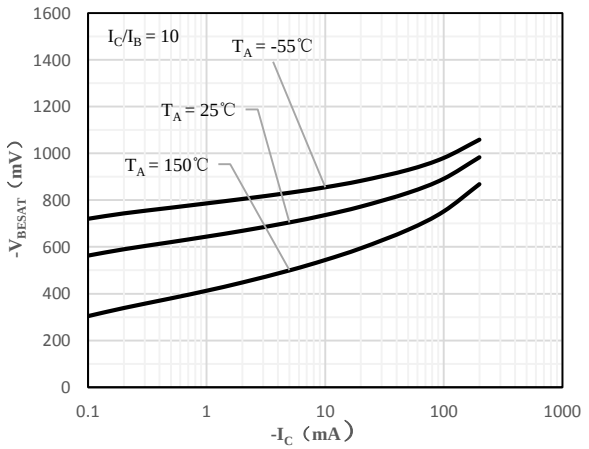


Fig 3 $V_{BE(sat)}$ vs. I_C

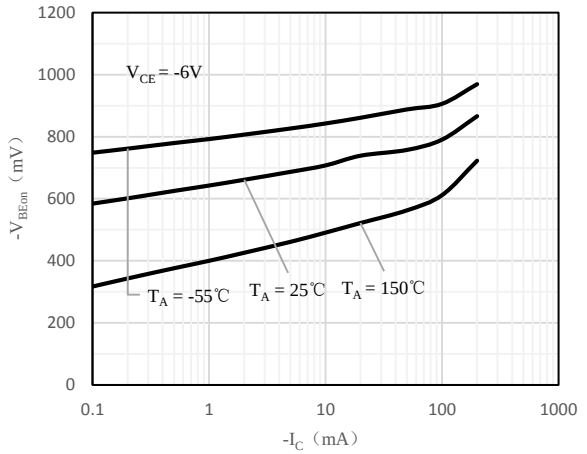


Fig 4 $V_{BE(ON)}$ vs. I_C

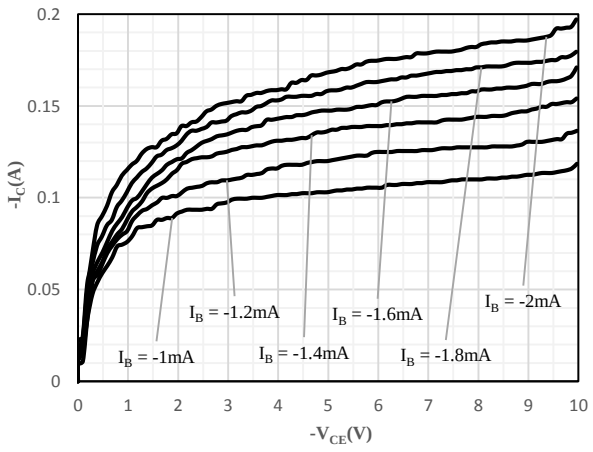


Fig 5 I_C vs. V_{CE}

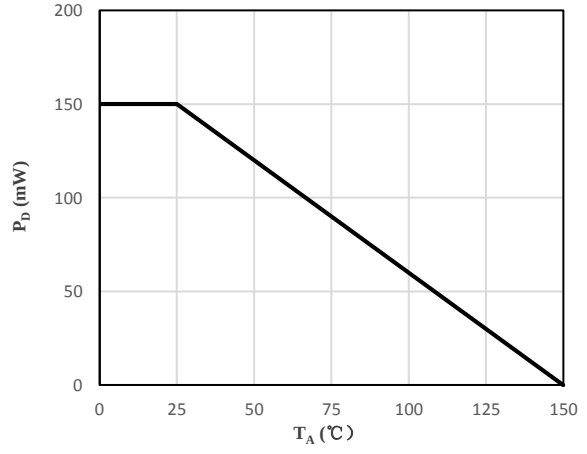


Fig 6 P_D vs. T_A

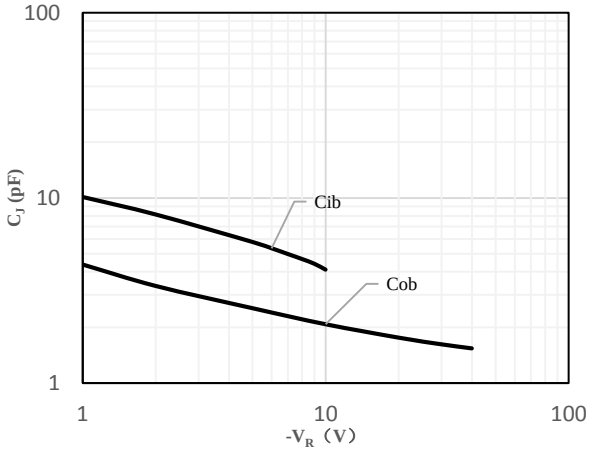
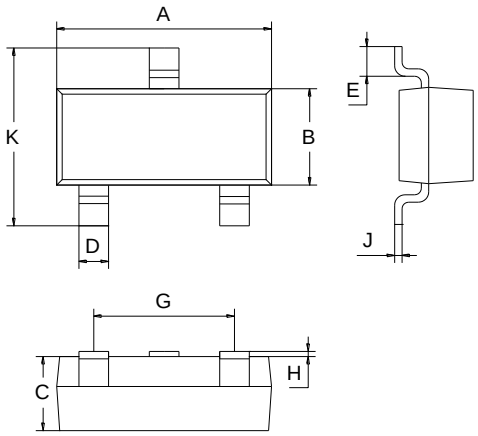


Fig 7 C_J vs. V_R

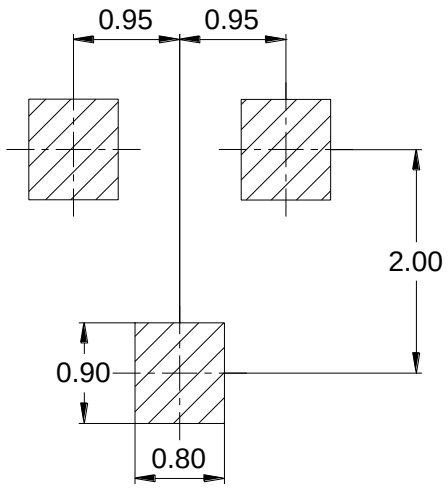
Package Outline Dimensions (Unit: mm)



SOT-23		
Dimension	**Min.**	**Max.**
A	2.70	3.10
B	1.10	1.50
C	0.9	1.1
D	0.3	0.5
E	0.35	0.48
G	1.80	2.00
H	0.02	0.1
J	0.05	0.15
K	2.20	2.60

Package Outline Dimensions (Unit: mm)

SOT-23



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