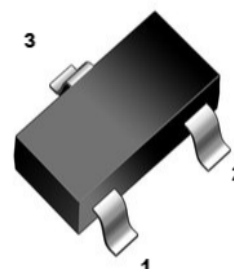




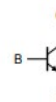
1. Features

- High DC current gain : $h_{FE}=200$ (Typ) $V_{CE}=6V$, $I_C=1mA$.
- High voltage: $V_{CEO}=50V$.

SOT-23



1 base
2 emitter
3 collector



2. Mechanical Data

- Case:Molded Plastic,SOT-23 .
- Epoxy:UL 94V-0 rate flame retardant.
- Terminals:Plated Leads Solderable per MIL-STD-750,Method-2026.
- Marking:CLASSIFICATION OF h_{FE} .
- Mounting Position : Any.

3. Maximum Ratings

Electrical Characteristics Rating at 25°C ambient temperature unless otherwise specified.

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current -Continuous	I_C	100	mA
Collector Power dissipation	P_C	200	mW
Junction Temperature	T_j	-55~+150	°C
Storage Temperature	T_{stg}	-55~+150	°C

4. Electrical Characteristics ($T_A=25^{\circ}C$ unless otherwise noted)

Characteristics	Symbol	Condition	Min	TYP	Max	Unit
Collector Base Breakdown Voltage	BV_{CBO}	$I_C=100\mu A, I_E=0$	60	-	-	V
Collector Emitter Breakdown Voltage	BV_{CEO}	$I_C=1mA, I_B=0$	50	-	-	V
Emitter Base Breakdown Voltage	BV_{EBO}	$I_E=100\mu A, I_C=0$	5	-	-	V
Collector cut-off current	I_{CBO}	$V_{CB}=60V, I_E=0$	-	-	100	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=5V, I_C=0$	-	-	100	nA
DC current gain	h_{FE}	$V_{CE}=6V, I_C=1mA$	90	200	600	-
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=100mA, I_B=10mA$	-	-	0.3	V
Base -emitter saturation voltage	$V_{BE(sat)}$	$I_C=100mA, I_B=10mA$	-	-	1	V
Transition frequency	f_T	$V_{CE}=6V, I_C=10mA$	-	250	-	MHz

CLASSIFICATION OF h_{FE}

Rank	L4	L5	L6	L7
Range	90-180	135-270	200-400	300-600
Marking	L4	L5	L6	L7



5. Rating And Characteristic Curves

Fig.1 Static Characteristic

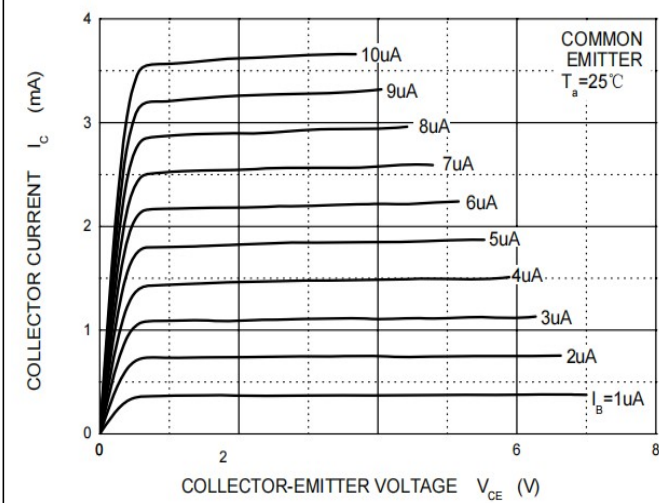


Fig.2 $h_{FE} - I_C$

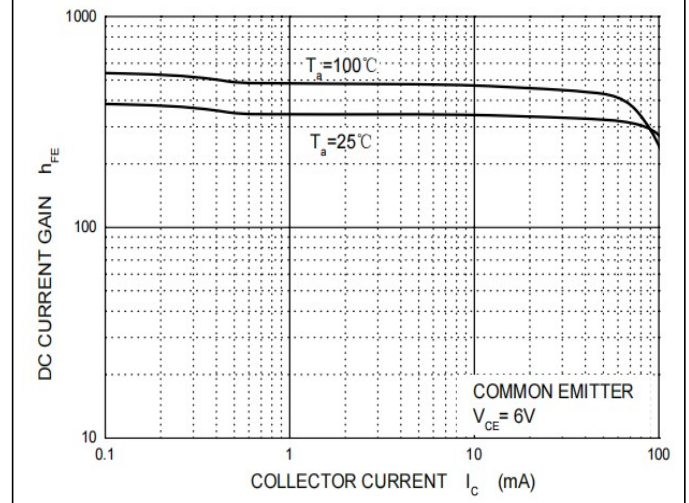


Fig.3 $I_C - V_{BE}$

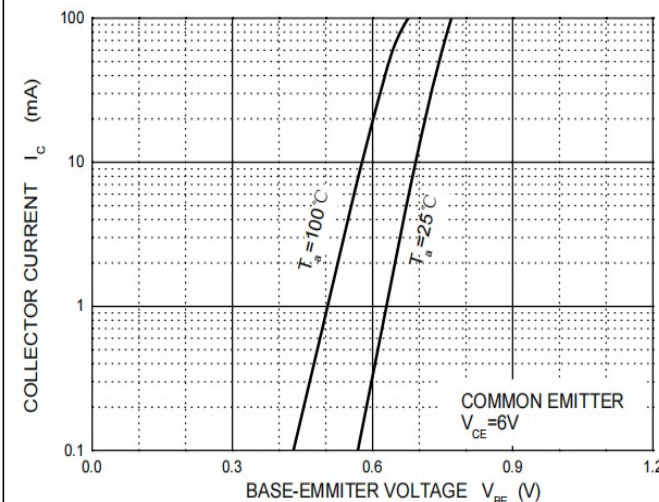


Fig.4 $V_{BEsat} - I_C$

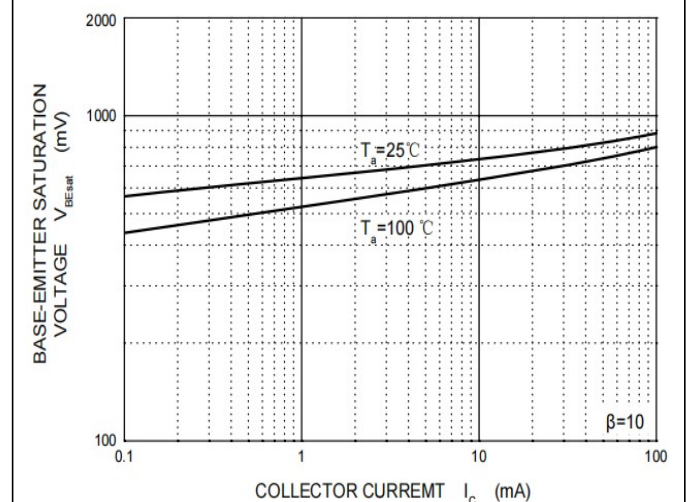


Fig.5 $C_{ob} / C_{ib} - V_{CB} / V_{EB}$

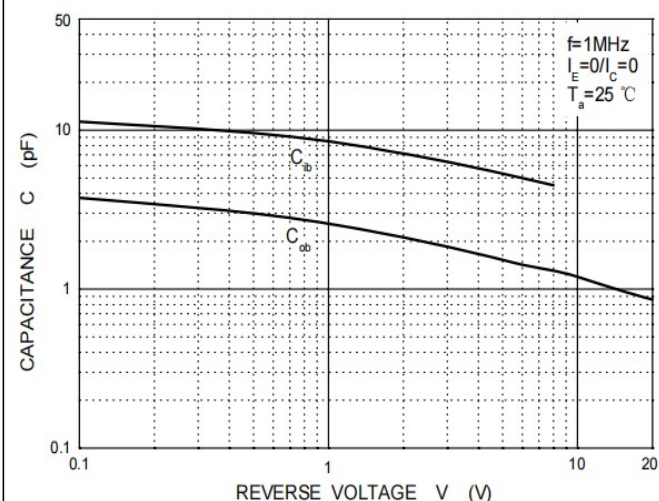
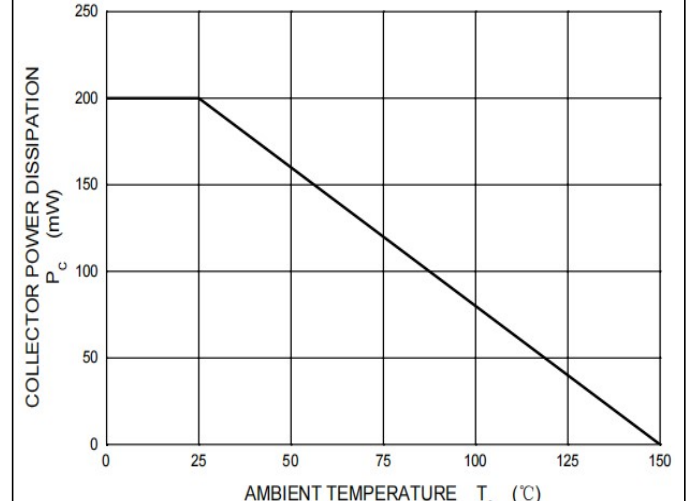
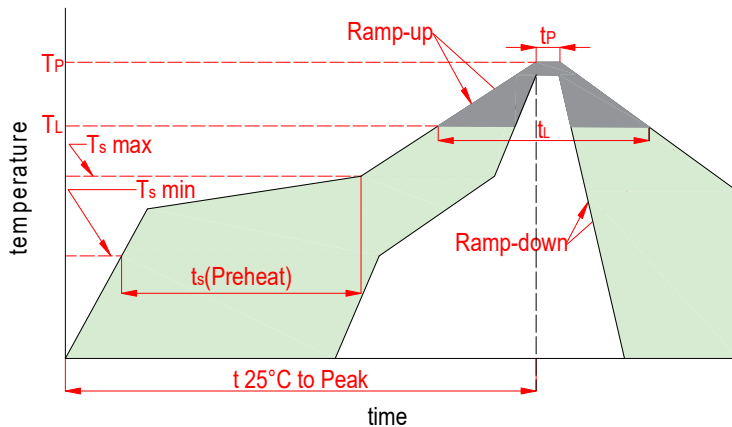


Fig.6 $P_C - T_a$



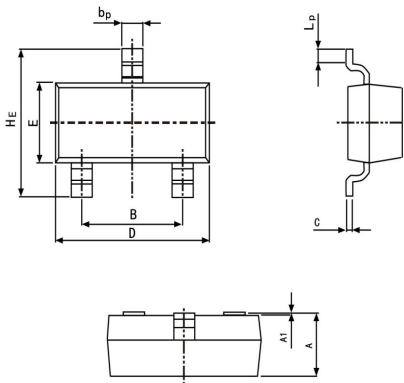


6. Soldering Parameters



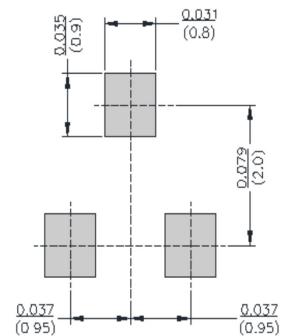
Reflow Condition		Lead-free
Pre Heat	Temp. min(T_s (min))	150℃
	Temp. max(T_s (min))	200℃
	Time(min to max)(t_s)	60~120s
Aver. ramp up rate(Liquidus Temp.)(T_L)to peak		3℃/s max
T_s (max) to T_L -Ramp-up Rate		3℃/s max
Reflow	Temp.(T_L)(Liquidus)	217℃
	Temp.(t_L)(Liquidus)	60~150s
Peak Temp.(T_P)		260 ^{+0/-5} ℃
Time within actual peak Temp.(t_p)		30s max
Ramp-down Rate		6℃/s max
Time 25℃ to peak Tempe.(T_p)		8 minutes max
Do not exceed		260℃

7. Dimensions

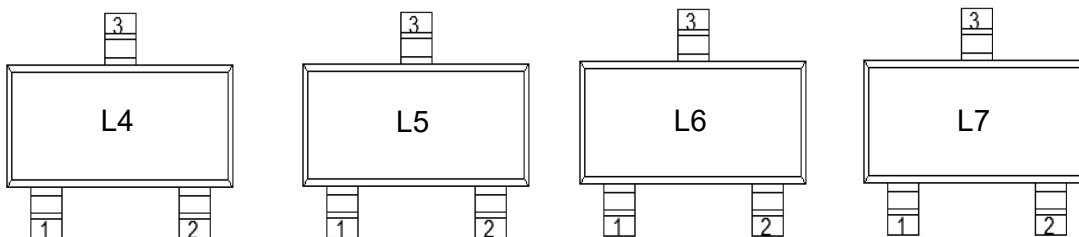


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.035	0.045	0.90	1.15
B	0.070	0.081	1.78	2.05
bp	0.012	0.020	0.30	0.51
C	0.003	0.007	0.08	0.18
D	0.110	0.118	2.80	3.00
E	0.047	0.055	1.20	1.40
HE	0.087	0.110	2.20	2.80
A1	0.000	0.004	0.00	0.10
LP	0.008	0.020	0.20	0.50

Mounting PAD Layout



8. Part Marking System



9. Package Information

Package	Part Number	Marking Code	Quantity(pcs)
SOT23	2SC1623-L4	L4	3000
SOT23	2SC1623-L5	L5	3000
SOT23	2SC1623-L6	L6	3000
SOT23	2SC1623-L7	L7	3000



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