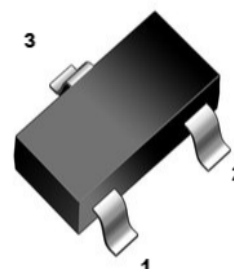




1. Features

- PNP Silicon Epitaxial Planar Transistor
- Complimentary to MMBT8050
- Collector Current: $I_C=2.0A$

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:MMBT8550C:A9D,MMBT8550D:B9D.
- 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}	-40	V
Collector-Emitter Voltage	V_{CEO}	-25	V
Emitter-Base Voltage	V_{EBO}	-6	V
Collector Current	I_C	-2	A
Power Dissipation	P_{tot}	350	mW
Junction Temperature	T_j	-55~+150	°C
Storage Temperature	T_{stg}	-55~+150	°C

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

Characteristics	Symbol	Condition	Min	TYP	Max	Unit
Collector cut-off current	I_{CBO}	$V_{CB}=-35V, I_E=0$	-	-	-100	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=-6V, I_C=0$	-	-	-100	nA
DC current gain	h_{FE}	$V_{CE}=-1V, I_C=-5mA$	45	-	-	-
		$V_{CE}=-1V, I_C=-100mA$	100	-	250	-
		$V_{CE}=-1V, I_C=-100mA$	160	-	300	-
		$V_{CE}=-1V, I_C=-1.5A$	40	-	-	-
Collector Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-100\mu A$	-40	-	-	V
Collector Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-2mA$	-25	-	-	V
Emitter Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-100\mu A$	-6	-	-	V
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-1.5A, I_B=-100mA$	-	-	-0.5	V
Base -emitter saturation voltage	$V_{BE(sat)}$	$I_C=-1.5A, I_B=-100mA$	-	-	-1.2	V
Base Emitter Voltage	V_{BE}	$I_C=-10mA, V_{CE}=-1V$	-	-	-1	V
Transition frequency	f_T	$V_{CE}=-10V, I_C=-50mA$	100	-	-	MHz



5. Rating And Characteristic Curves

Fig.1 $I_C - V_{CE(sat)}$

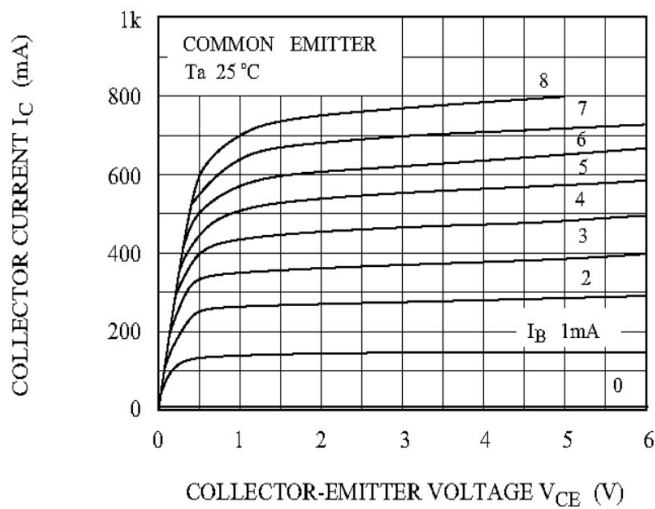


Fig.2 $h_{FE} - I_C$

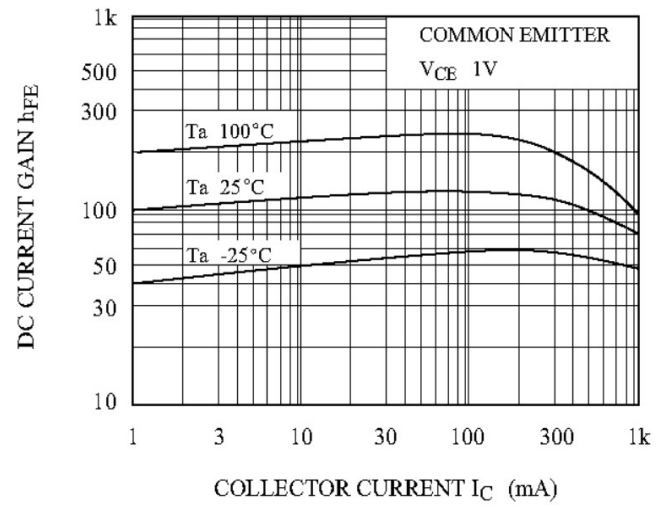


Fig.3 $V_{CE(sat)} - I_C$

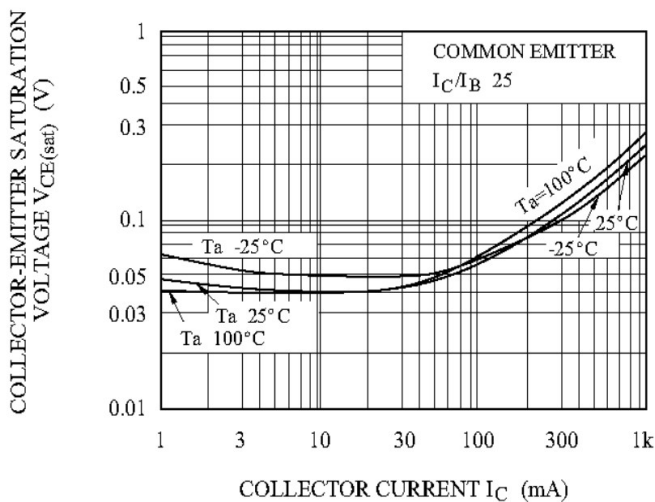


Fig.4 $I_C - V_{BE}$

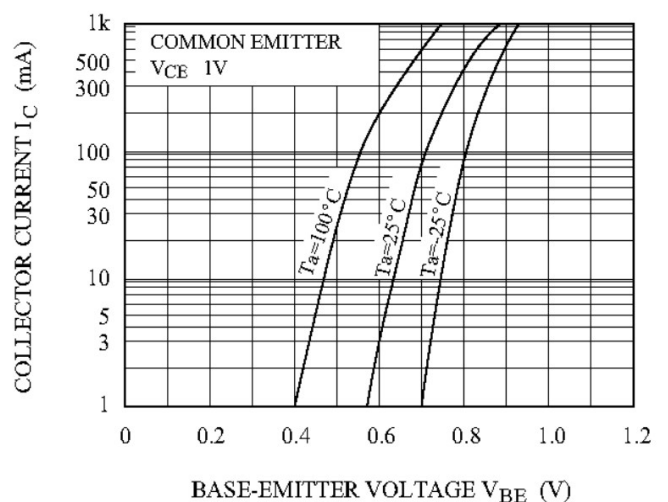
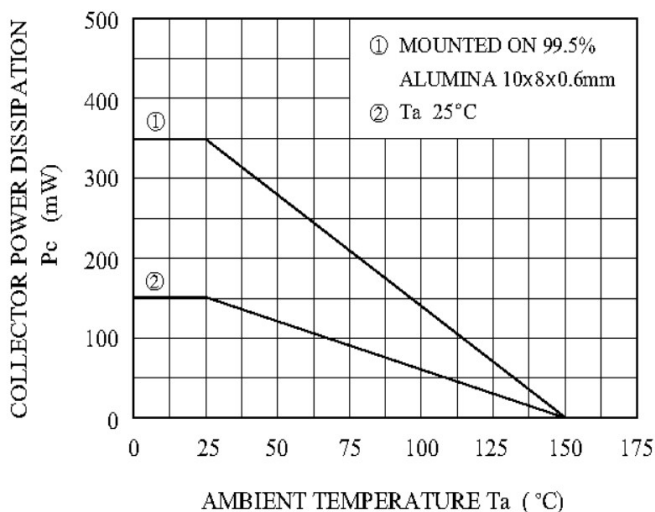
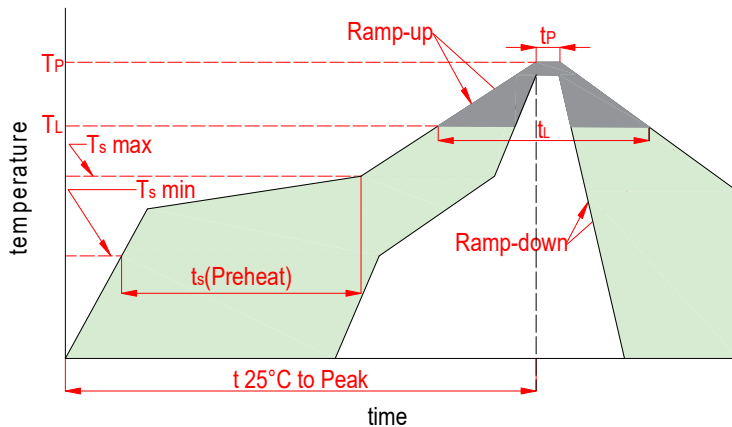


Fig.5 $P_C - T_a$



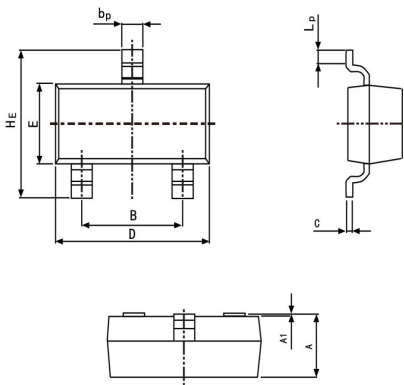


6. Soldering Parameters



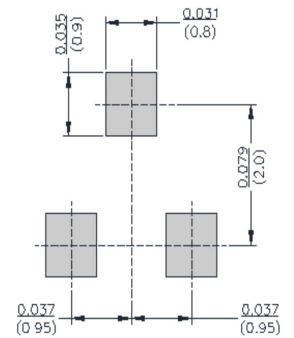
Reflow Condition		Lead-free
Pre Heat	Temp. min(T_s (min))	150°C
	Temp. max(T_s (min))	200°C
	Time(min to max)(t_s)	60~120s
Aver. ramp up rate(Liquidus Temp.)(T_L)to peak		3°C/s max
T_s (max) to T_L -Ramp-up Rate		3°C/s max
Reflow	Temp.(T_L)(Liquidus)	217°C
	Temp.(t_L)(Liquidus)	60~150s
Peak Temp.(T_P)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

7. Dimensions

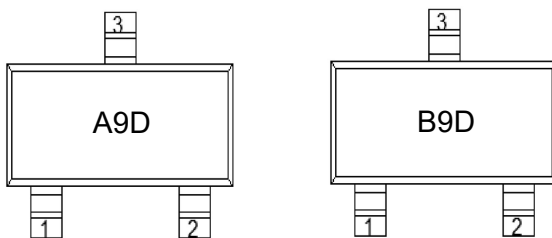


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.035	0.045	0.90	1.15
B	0.070	0.081	1.78	2.05
bp	0.012	0.020	0.30	0.51
C	0.003	0.007	0.08	0.18
D	0.110	0.118	2.80	3.00
E	0.047	0.055	1.20	1.40
HE	0.087	0.110	2.20	2.80
A1	0.000	0.004	0.00	0.10
LP	0.008	0.020	0.20	0.50

Mounting PAD Layout



8. Part Marking System



9. Package Information

Package	Part Number	Marking	Tape Width(mm)	Quantity(pcs)
SOT-23	MMBT8550C	A9D	8	3000
SOT-23	MMBT8550D	B9D	8	3000



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