



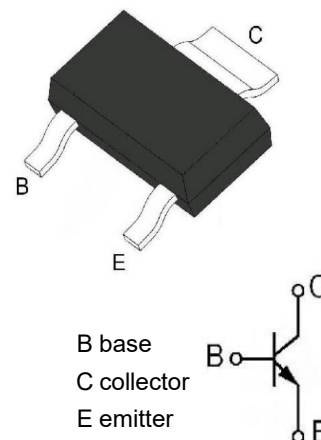
1. Features

- High collect current
- Low collector-emitter saturation voltage

2. Mechanical Data

- Case:Molded Plastic,SOT-223-2 .
- Epoxy:UL 94V-0 rate flame retardant.
- Terminals:Plated Leads Solderable per MIL-STD-750,Method-2026.
- Mounting Position : Any.

SOT-223-2



3. Maximum Ratings

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

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	BV_{CBO}	100	V
Collector-Emitter Voltage	BV_{CEO}	80	V
Emitter-Base Voltage	BV_{EBO}	5	V
Collector Current	I_C	1	A
Peak collector current Current	I_{CM}	2	A
Collector Power Dissipation	P_C	1	W
Junction Temperature	T_j	-55~+150	°C
Storage Temperature	T_{stg}	-55~+150	°C
Thermal resistance from junction to ambient	$R_{\theta JA}$	192	°C/W
Thermal resistance from junction to soldering point	$R_{\theta JS}$	16	°C/W

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

Characteristics	Symbol	Condition	Min	TYP	Max	Unit
Collector-base breakdown voltage	BV_{CBO}	$I_C=100\mu\text{A}$, $I_E=0$	100	-	-	V
Collector-emitter breakdown voltage	BV_{CEO}	$I_C=10\text{mA}$, $I_B=0$	80	-	-	V
Emitter-base breakdown voltage	BV_{EBO}	$I_E=100\mu\text{A}$, $I_C=0$	5	-	-	V
Collector cut-off current	I_{CBO}	$V_{CB}=80\text{V}$, $I_E=0$	-	-	200	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{V}$, $I_C=0$	-	-	200	nA
DC current gain	h_{FE}	$V_{CE}=3\text{V}$, $I_C=300\text{mA}$	60	-	300	-
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500\text{mA}$, $I_B=50\text{mA}$	-	-	0.5	mV
Base -emitter saturation voltage	$V_{BE(sat)}$	$I_C=500\text{mA}$, $I_B=50\text{mA}$	-	-	1.2	V
Base -emitter on voltage	$V_{BE(on)}$	$V_{CE}=2\text{V}$, $I_C=500\text{mA}$	-	-	1	V
Current Gain - Bandwidth Product	f_T	$V_{CE}=10\text{V}$, $I_C=50\text{mA}$, $f=30\text{MHz}$	100	-	-	MHz
Collector capacitance	C_C	$V_{CB}=10\text{V}$, $I_E=0$, $f=1.0\text{MHz}$	-	6	-	pF



5. Rating And Characteristic Curves

Fig.1 Static Characteristic

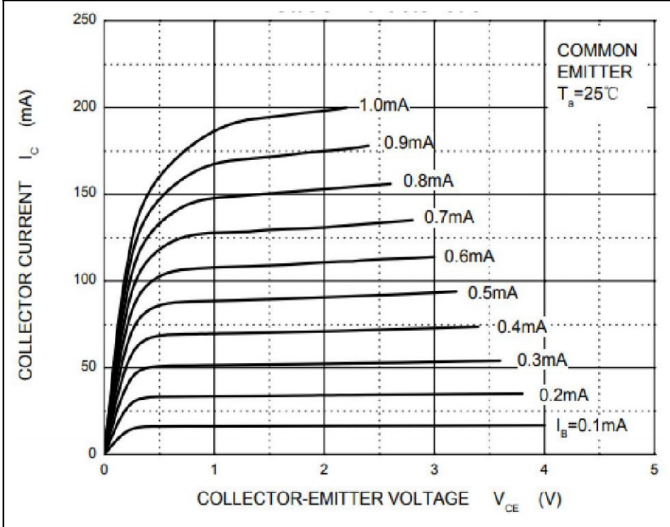


Fig.2 DC current Gain

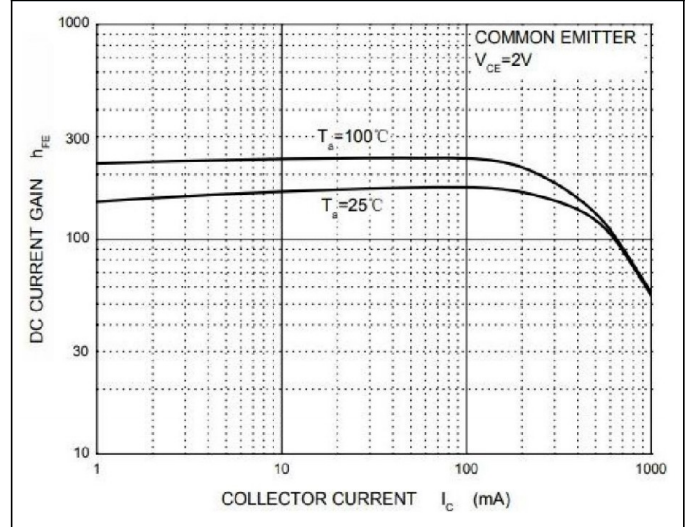


Fig.3 Collector-Emitter Saturation Voltage

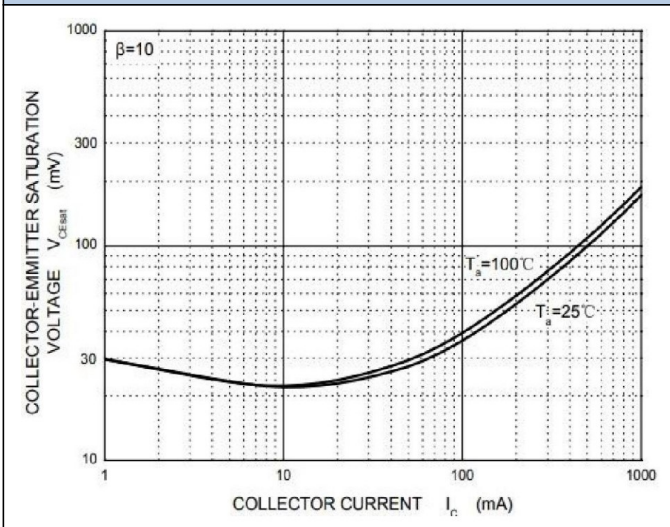


Fig.4 Base-Emitter Saturation Voltage

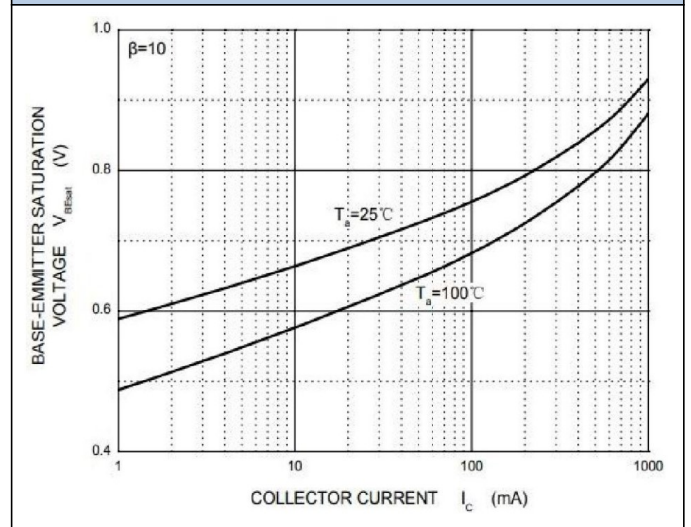


Fig.5 Current Gain Bandwidth Product

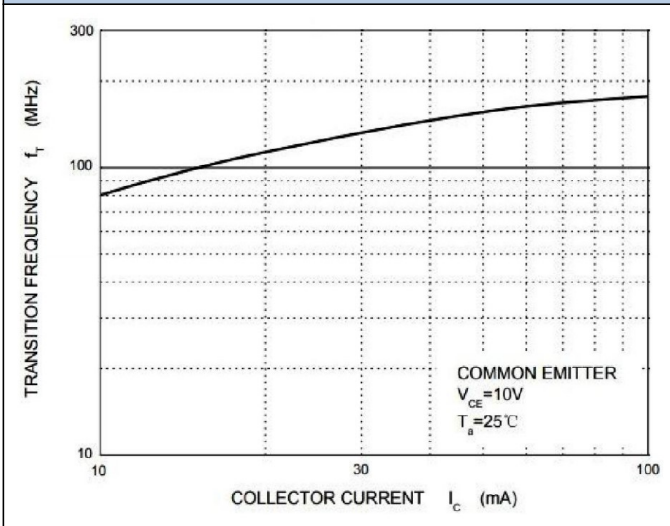
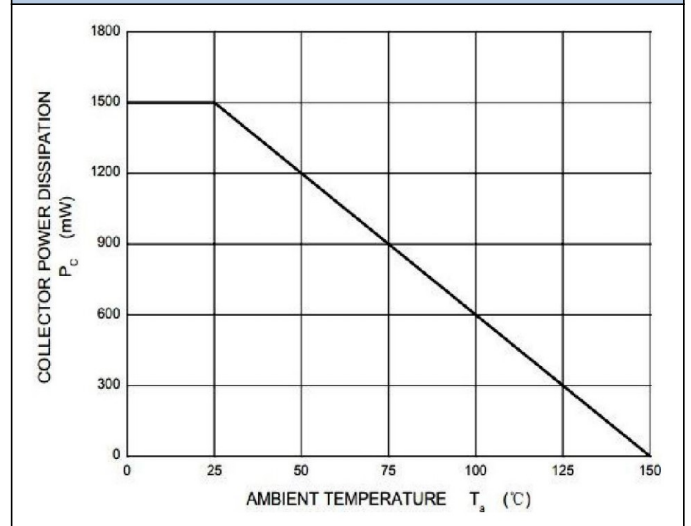
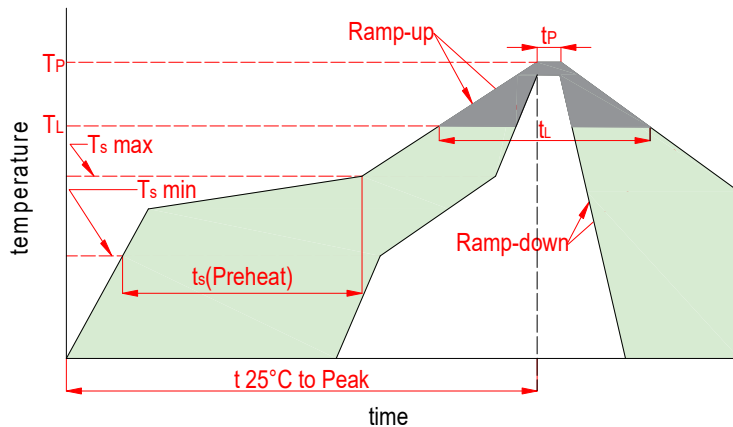


Fig.6 Power Derating



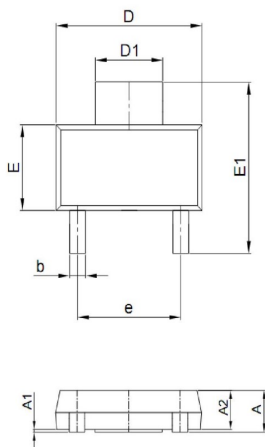


6. Soldering Parameters



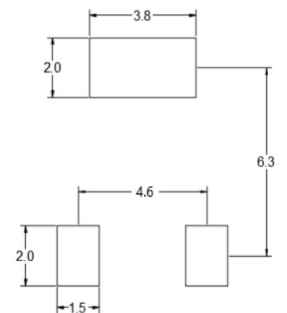
Reflow Condition		Lead-free
Pre Heat	Temp. min(T_s (min))	150°C
	Temp. max(T_s (min))	200°C
	Time(min to max)(t_s)	60~120s
Aver. ramp up rate(Liquidus Temp.)(T_L)to peak		3°C/s max
T_s (max) to T_L -Ramp-up Rate		3°C/s max
Reflow	Temp.(T_L)(Liquidus)	217°C
	Temp.(t_L)(Liquidus)	60~150s
Peak Temp.(T_P)		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

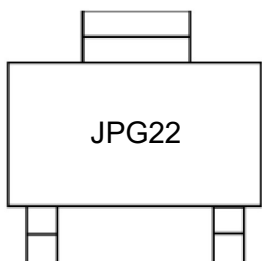


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.059	0.071	1.500	1.800
A1	0.000	0.004	0.000	0.100
A2	0.059	0.067	1.500	1.700
b	0.026	0.030	0.650	0.750
c	0.008	0.012	0.200	0.300
D	0.252	0.260	6.400	6.600
D1	0.114	0.122	2.900	3.100
E	0.130	0.146	3.300	3.700
E1	0.270	0.281	6.850	7.150
e	0.173	0.189	4.400	4.800
L	0.065	0.073	1.650	1.850
L1	0.035	0.045	0.900	1.150

Mounting PAD Layout



8. Part Marking System



9. Package Information

Package	Part Number	Tape Width(mm)	Quantity(pcs)
SOT-223-2	JPG22-VT	12	1000



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