



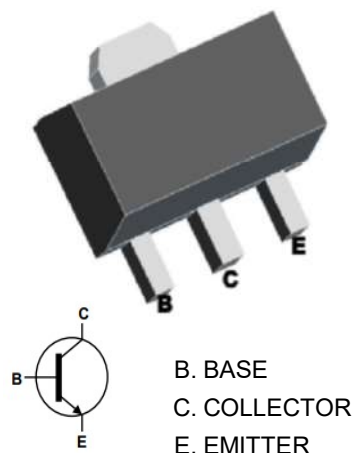
1. Features

- General Purpose Amplifier

SOT-89

2. Mechanical Data

- Case:Molded Plastic,SOT-89 .
- Epoxy:UL 94V-0 rate flame retardant.
- Terminals:Plated Leads Solderable per MIL-STD-750,Method-2026.
- Marking: 2N5551
- Mounting Position : Any.



B. BASE
C. COLLECTOR
E. EMITTER

3. Maximum Ratings

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

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	180	V
Collector-Emitter Voltage	V_{CEO}	160	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	100	mA
Collector Power Dissipation	P_C	625	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 Base Breakdown Voltage	BV_{CBO}	$I_C=100\mu\text{A}, I_E=0$	180	-	-	V
Collector Emitter Breakdown Voltage	BV_{CEO}	$I_C=1\text{mA}, I_B=0$	160	-	-	V
Emitter Base Breakdown Voltage	BV_{EBO}	$I_E=100\mu\text{A}, I_C=0$	6	-	-	V
Collector cut-off current	I_{CBO}	$V_{CB}=120\text{V}, I_E=0$	-	-	50	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=4\text{V}, I_C=0$	-	-	50	nA
DC current gain	$h_{FE}(1)$	$V_{CE}=5\text{V}, I_C=1\text{mA}$	80	-	-	-
	$h_{FE}(2)$	$V_{CE}=5\text{V}, I_C=10\text{mA}$	80	-	250	-
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=50\text{mA}, I_B=5\text{mA}$	-	-	0.2	V
Base -emitter saturation voltage	$V_{BE(sat)}$	$I_C=50\text{mA}, I_B=5\text{mA}$	-	-	1	V
Current Gain - Bandwidth Product	f_T	$V_{CE}=10\text{V}, I_C=10\text{mA}$	100	-	-	MHz



5. Rating And Characteristic Curves

Fig1. Typical Pulsed Current Gain vs Collector Current

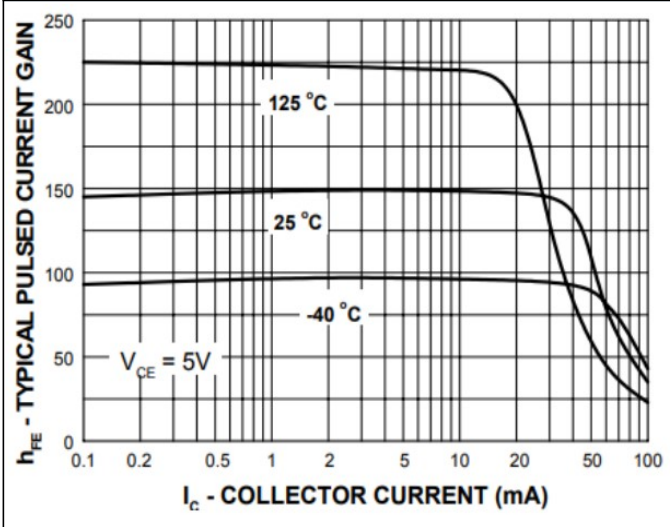


Fig2. Collector-Emitter Saturation Voltage vs Collector Current

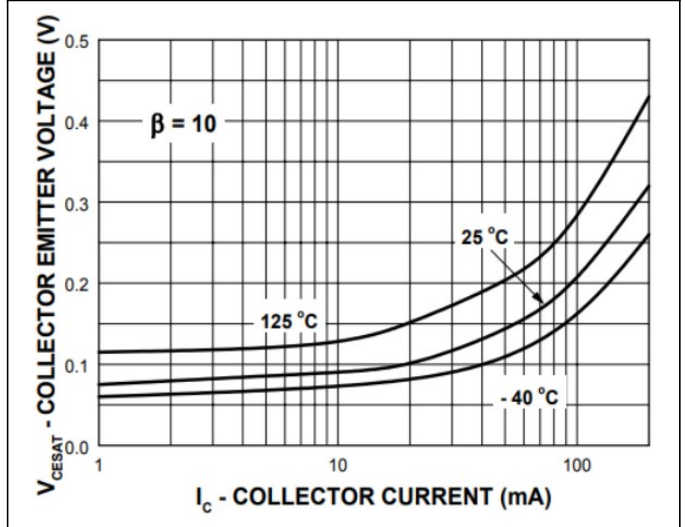


Fig3. Base-Emitter Saturation Voltage vs Collector Current

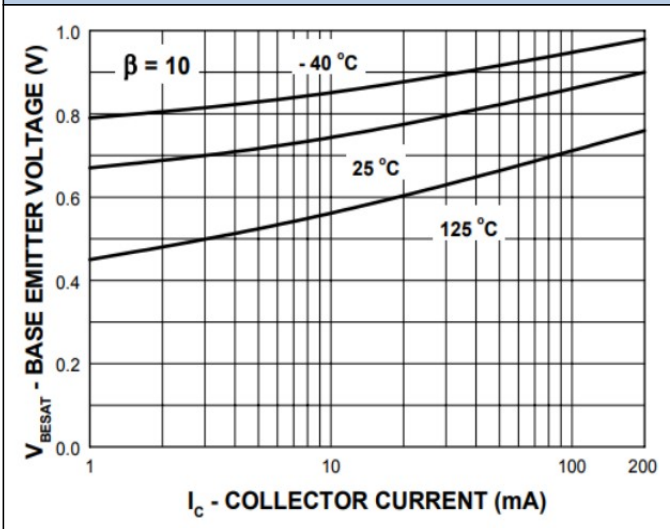


Fig4. Base-Emitter ON Voltage vs Collector Current

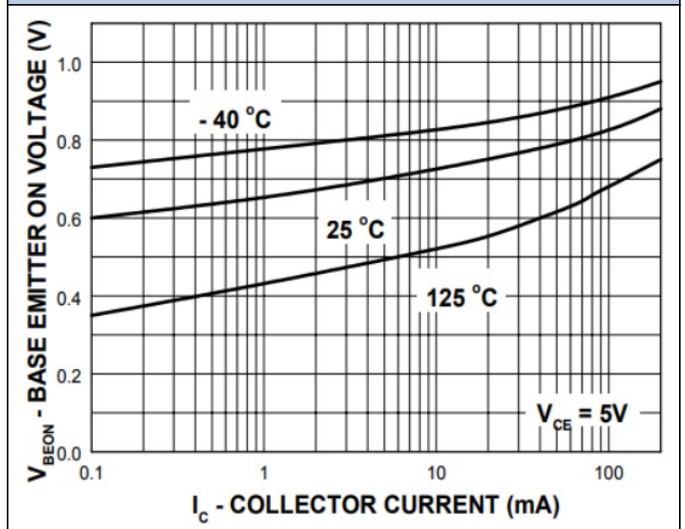
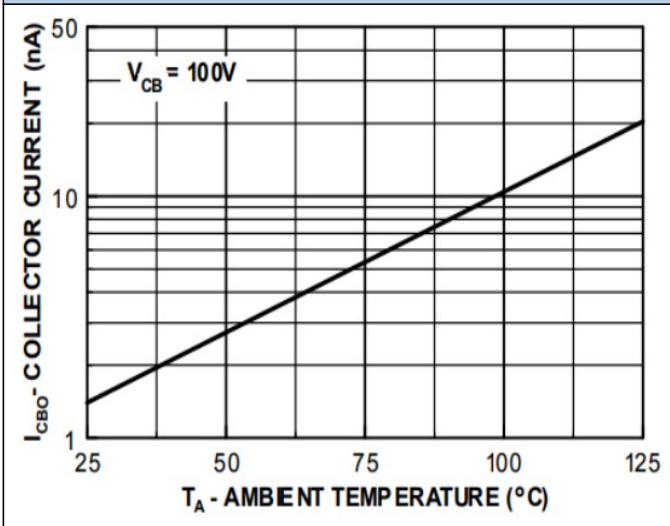
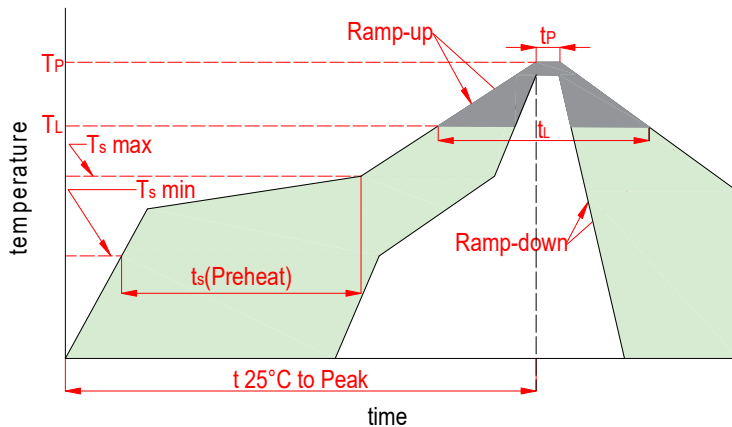


Fig5. Collector-Cutoff Current vs Ambient Temperature



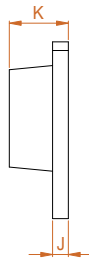
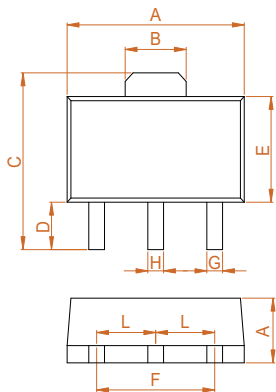


6. Soldering Parameters



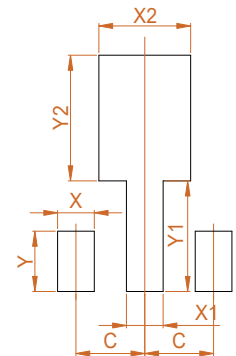
Reflow Condition		Lead-free
Pre Heat	Temp. min(T_s (min))	150°C
	Temp. max(T_s (min))	200°C
	Time(min to max)(t_s)	60~120s
Aver. ramp up rate(Liquidus Temp.)(T_L)to peak		3°C/s max
T_s (max) to T_L -Ramp-up Rate		3°C/s max
Reflow	Temp.(T_L)(Liquidus)	217°C
	Temp.(t_L)(Liquidus)	60~150s
Peak Temp.(T_P)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

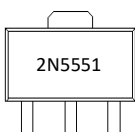


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.169	0.185	4.300	4.700
B	0.055	0.071	1.400	1.800
C	0.154	0.167	3.900	4.250
D	0.035	0.047	0.900	1.200
E	0.091	0.106	2.300	2.700
F	0.118		3.000	
G	0.013	0.024	0.320	0.600
H	0.013	0.024	0.320	0.600
J	0.013	0.020	0.340	0.500
K	0.055	0.063	1.400	1.600
L	0.059		1.500	
X	0.031		0.800	
Y	0.047		1.200	
X1	0.031		0.800	
Y1	0.087		2.200	
X2	0.079		2.000	
Y2	0.098		2.500	
C	0.059		1.500	

Mounting PAD Layout



8. Part Marking System



9. Package Information

Package	Part Number	Marking Code	Quantity(pcs)
SOT-89	2N5551	2N5551	1000



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