

FEATURES

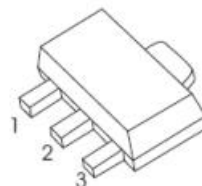
High current (max. 500mA).

Low voltage (max. 150 V).

1. BASE

2. COLLECTOR

3. EMITTER



5551

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Absolute Maximum Rating ($T_C=25^{\circ}\text{C}$ unless otherwise noted)

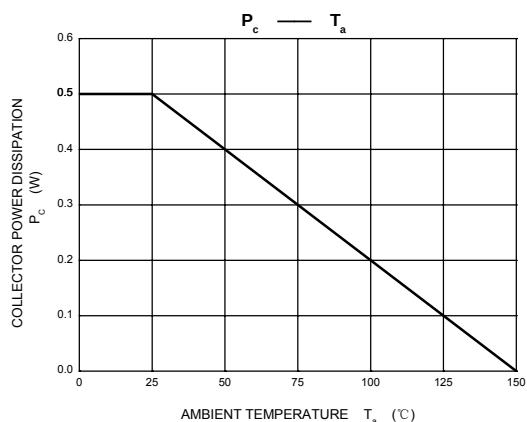
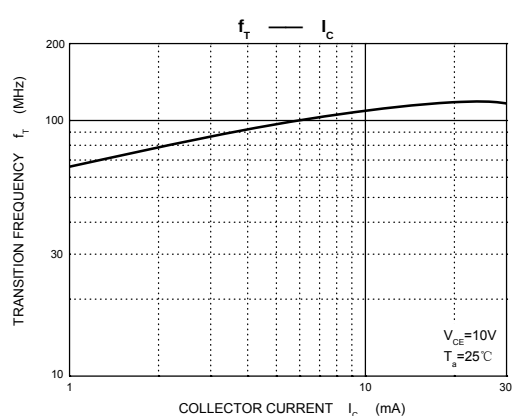
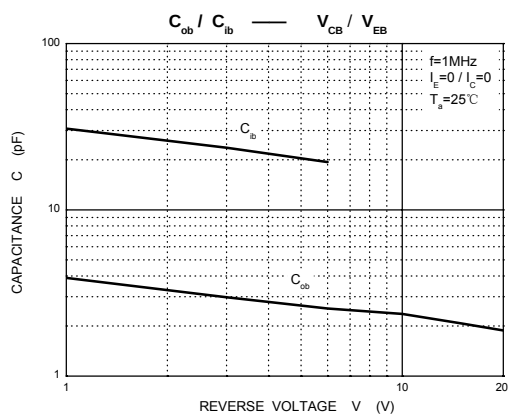
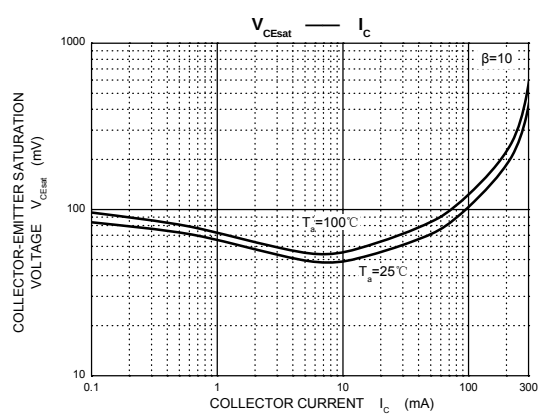
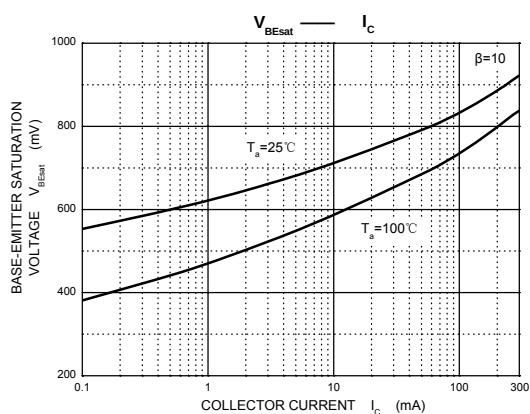
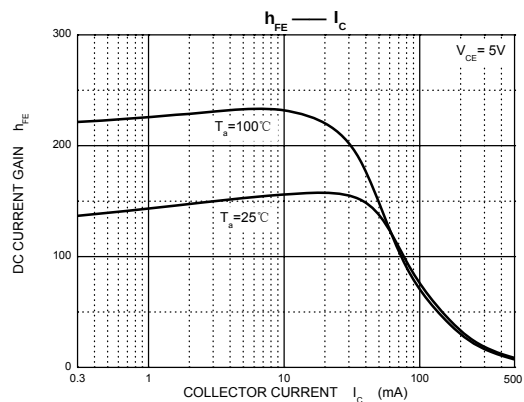
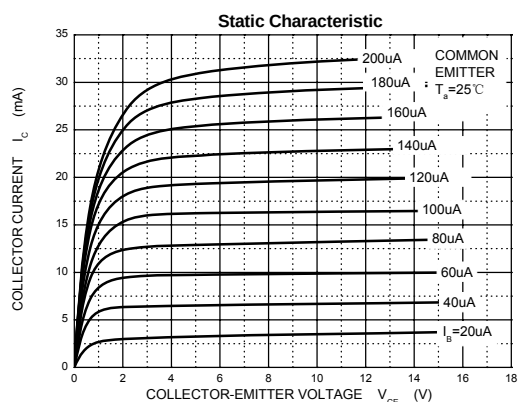
Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	180	V
Collector-emitter voltage	V_{CEO}	160	V
Emitter-base voltage	V_{EBO}	6	V
Collector current (DC)	I_C	600	mA
power dissipation	P_D	1.2	W
thermal resistance Junction-to-ambient	$R_{\theta JA}$	104	$^{\circ}\text{C}/\text{W}$
Junction temperature	T_j	150	$^{\circ}\text{C}$
Storage temperature	T_{stg}	-65 to +150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS

($T_A=25^{\circ}\text{C}$ unless otherwise noted 如无特殊说明, 温度为 25°C)

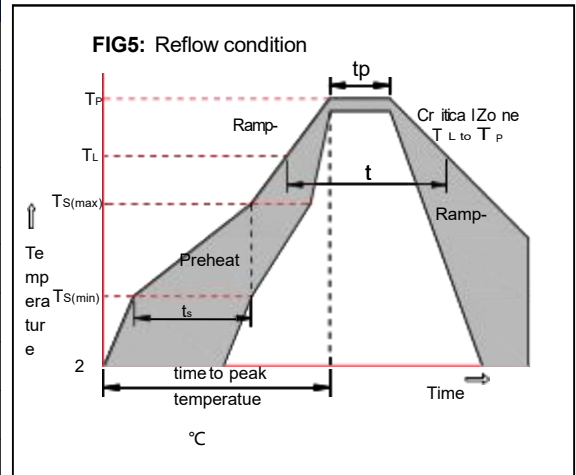
Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector to base breakdown voltage	V_{CBO}	$I_C=100\mu\text{A}$	180			V
Collector to emitter breakdown voltage	V_{CEO}	$I_C=1.0\text{mA}$	160			V
Emitter to base breakdown voltage	V_{EBO}	$I_E=10\mu\text{A}$	6.0			V
Collector cutoff current	I_{CBO}	$V_{CB} = 120\text{V}, I_E = 0$			50	nA
		$V_{CB} = 120\text{V}, T_A=100^{\circ}\text{C}$			50	μA
DC current gain	h_{FE}	$I_C = 1.0\text{mA}; V_{CE} = 5.0\text{V}$	80			
		$I_C = 10\text{mA}; V_{CE} = 5.0\text{V}$	80		300	
		$I_C = 50\text{mA}; V_{CE} = 5.0\text{V}$	30			
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10\text{mA}; I_B = 1.0\text{mA}$			0.15	V
		$I_C = 50\text{mA}; I_B = 5.0\text{mA}$			0.20	V
Base to emitter saturation voltage	$V_{BE(sat)}$	$I_C = 10\text{mA}; I_B = 1.0\text{mA}$			1.00	V
		$I_C = 50\text{mA}; I_B = 5.0\text{mA}$			1.00	V
Output capacitance	C_{ob}	$V_{CB} = 10\text{V}, I_E = 0, f=1.0\text{MHz}$			6.0	pF
Transition frequency	f_T	$I_C = 10\text{mA}; V_{CE} = 10\text{V}; f = 100\text{MHz}$	100		300	MHz

RATING AND CHARACTERISTIC CURVES



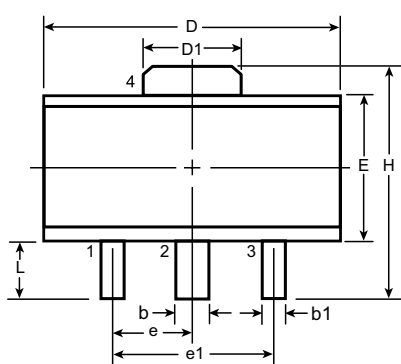
Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150°C
	-Temperature Max($T_{s(max)}$)	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3°C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217°C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_P)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_P)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260°C

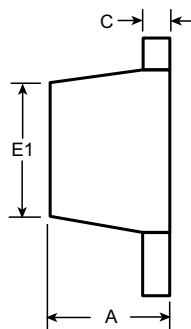


Package Dimensions & Suggested Pad Layout

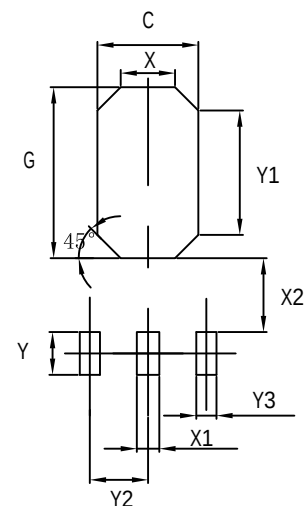
SOT89



Top View



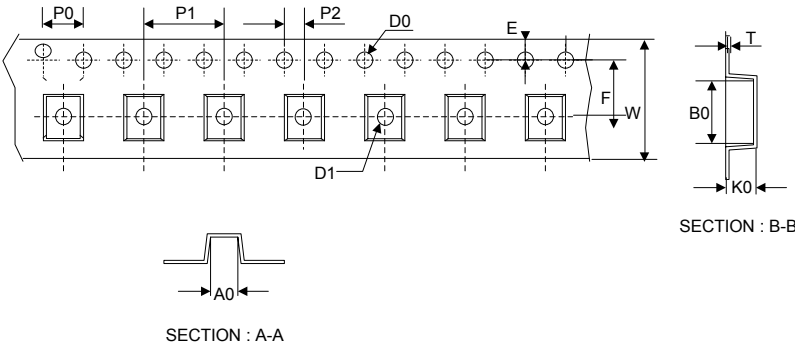
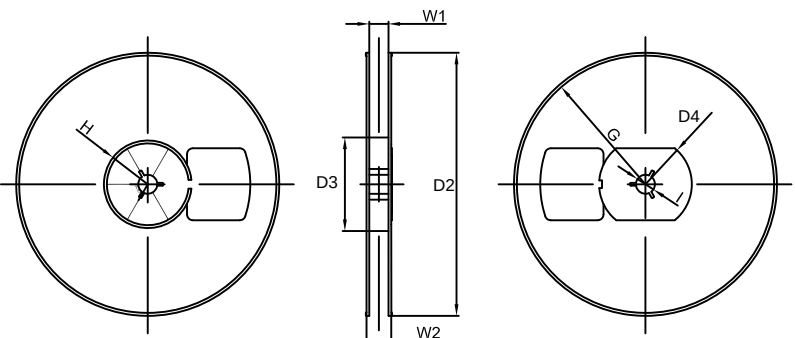
Side View



Symbol	A	b	b1	C	D	D1	E	E1	e	e1	H	L	
Dimensions (mm)	MIN	1.40	0.44	0.36	0.3	4.40	1.50	2.29	2.00 [†]	1.50 BSC	3.00 BSC	3.94	0.89
	NOM	-	-	-	-	-	-	-	-			-	-
	MAX	1.60	0.56	0.48	0.5	4.60	1.75	2.60	2.29			4.25	1.20

Dimensions	Value (in mm)
C	2.50
G	3.60
X	1.40
X1	0.90
X2	0.90
Y	1.40
Y1	2.60
Y2	1.50
Y3	0.90

Tape & reel specification

Tape		Symbol	Dimension (mm)
		P0	4.00±0.20
		P1	8.00±0.20
		P2	2.00±0.20
		D0	1.60±0.20
		D1	1.60±0.20
		E	1.75±0.20
		F	7.50±0.15
		W	16.00±0.20
		A0	6.30±0.20
		B0	8.25±0.20
		K0	2.60±0.20
		T	0.23±0.10
		D2	180.0±5.0
		D3	60Min.
		D4	R32.0±2.0
13" Reel		G	R86.5±2.0
		H	R30.0±2.0
		I	13.0±2.0
		W1	13.20±2.0
		W2	16.50±2.0
		Quantity: 1000PCS	