

NPN型 小功率 贴片高压三极管 NPN High Voltage Transistor SMD	5551 NPN, BEC General Purpose Transistors 对应其他工业型号
■ Complementary to 5551 ■ Transistor Polarity: NPN ■ Transistor pinout: BEC ■ SOT-23 Package ■ Marking Code: G1 ■ hFE: 100~200, 200~300 ■ Ideal for Medium Power Amplification and Switching	

Inner circuit SOT-23 内部结构	5551 SOT-23 管脚排列	元件标识 (打印) DEVICE MARKING: Y1
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■ CLASSIFICATION OF hFE

RANK	L	H
RANGE	100~200	200~300

■ ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector -Base Voltage	V_{CBO}	180	V
Collector -Emitter Voltage	V_{CEO}	160	V
Emitter -Base Voltage	V_{EBO}	6	V
DC Collector Current	I_C	600	mA
Power Dissipation	P_D	350	mW
Junction Temperature	T_J	+150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-40 ~ +150	$^\circ\text{C}$

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	V_{CBO}	$I_C = 100\mu\text{A}$, $I_E = 0$	180			V
Collector-Emitter Breakdown Voltage	V_{CEO}	$I_C = 1\text{mA}$, $I_B = 0$	160			V
Emitter-Base Breakdown Voltage	V_{EBO}	$I_E = 10\mu\text{A}$, $I_C = 0$	6			V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 120\text{V}$, $I_E = 0$			50	nA
Emitter Cut-off Current	I_{EBO}	$V_{BE} = 4\text{V}$, $I_C = 0$			50	nA
DC Current Gain(note)	h_{FE}	$V_{CE} = 5\text{V}$, $I_C = 1\text{mA}$	80			
		$V_{CE} = 5\text{V}$, $I_C = 10\text{mA}$	80	160	400	
		$V_{CE} = 5\text{V}$, $I_C = 50\text{mA}$	80			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C = 10\text{mA}$, $I_B = 1\text{mA}$			0.15	V
		$I_C = 50\text{mA}$, $I_B = 5\text{mA}$			0.2	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C = 10\text{mA}$, $I_B = 1\text{mA}$			1	V
		$I_C = 50\text{mA}$, $I_B = 5\text{mA}$			1	V
Current Gain Bandwidth Product	f_T	$V_{CE} = 10\text{V}$, $I_C = 10\text{mA}$, $f = 100\text{MHz}$	100		300	MHz
Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}$, $I_E = 0$, $f = 1\text{MHz}$			6.0	pF
Noise Figure	NF	$I_C = 0.25\text{mA}$, $V_{CE} = 5\text{V}$ $R_S = 1\text{k}\Omega$, $f = 10\text{Hz} \sim 15.7\text{kHz}$			8	dB

Note: Pulse test: $PW < 300\mu\text{s}$, Duty Cycle $< 2\%$

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	357	$^\circ\text{C/W}$
Junction to Case	θ_{JC}	104	$^\circ\text{C/W}$

■ TYPICAL CHARACTERISTICS

Fig.1 Collector Output Capacitance

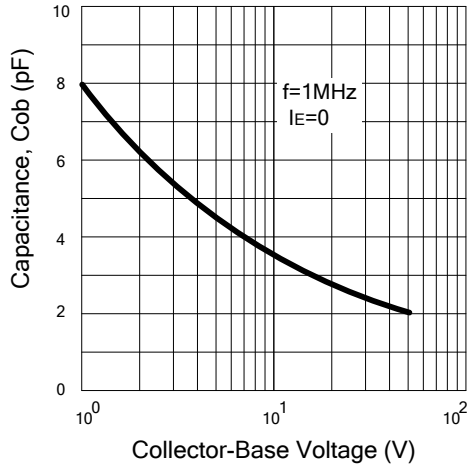


Fig.2 DC Current Gain

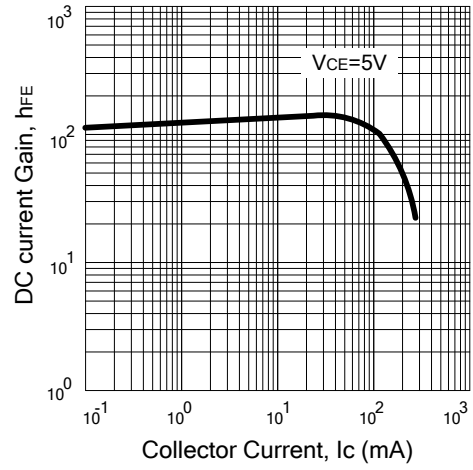


Fig.3 Base-Emitter on Voltage

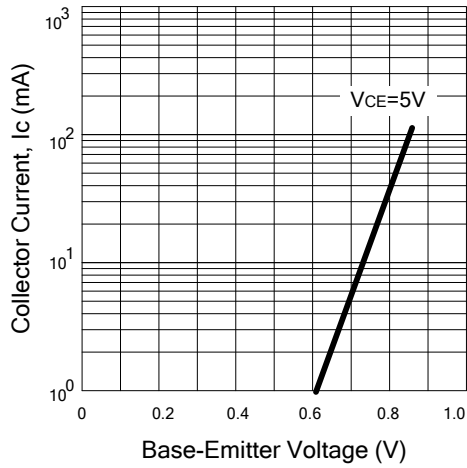


Fig.4 Saturation Voltage

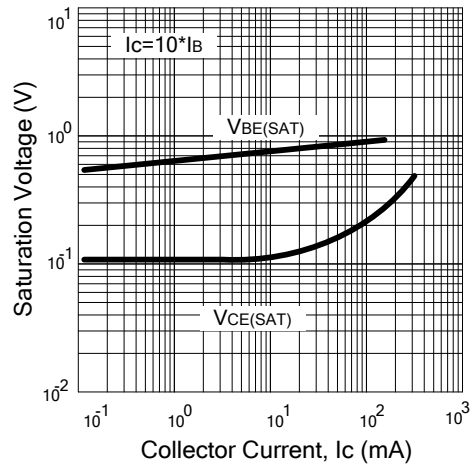
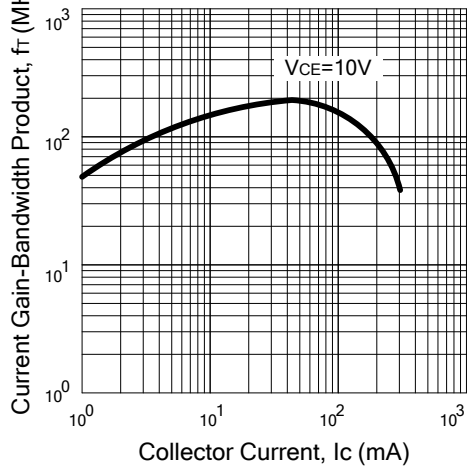
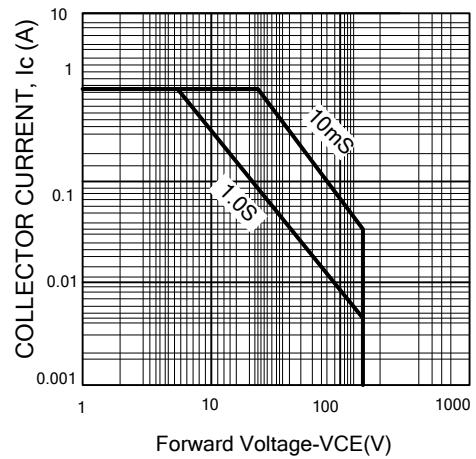


Fig.5 Current Gain-Bandwidth Product

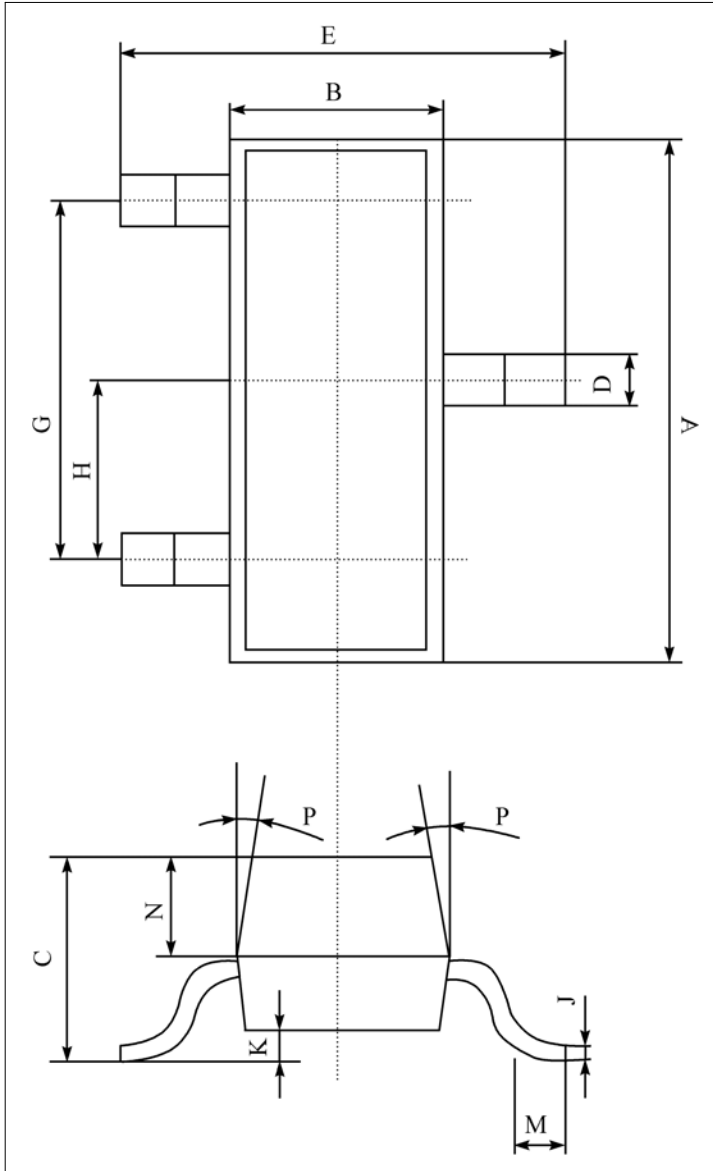


SAFE OPERATING AREA



■ DIMENSION 外形封装尺寸数据 (Package: SOT-23 Package Code: MM)

单位 (UNIT) : mm

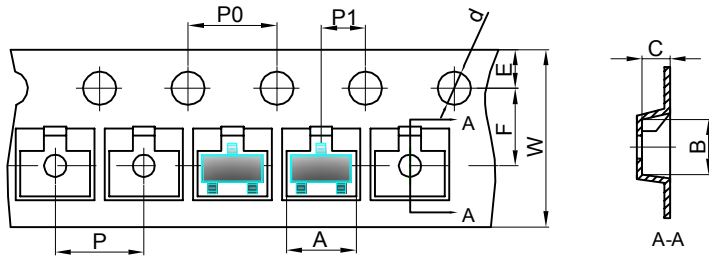


序号	数值及公差
A	2.90±0.10
B	1.30±0.10
C	1.00±0.10
D	0.40±0.10
E	2.40±0.20
G	1.90±0.10
H	0.95±0.05
J	0.13±0.05
K	0.00-0.10
M	≥0.20
N	0.60±0.10
P	7±2°

Packing
SOT-23 包装规格
SMD片式表面贴封装
包装方式: 载带卷盘包装
Tape & Reel, 3Kpcs/Reel
每卷数量3000只 (3Kpcs/Reel)
每盒数量45000只 (45Kpcs/BOX)
每箱数量1800000只 (180Kpcs/Cartons)

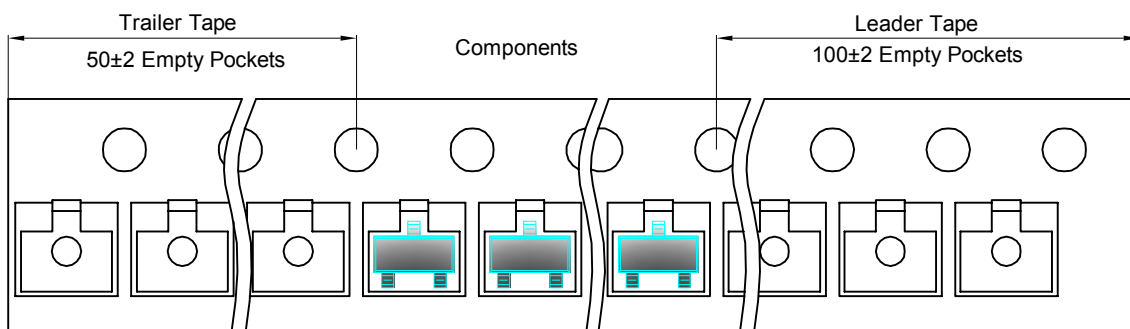
SOT-23 Tape and reel

SOT-23 Embossed Carrier Tape

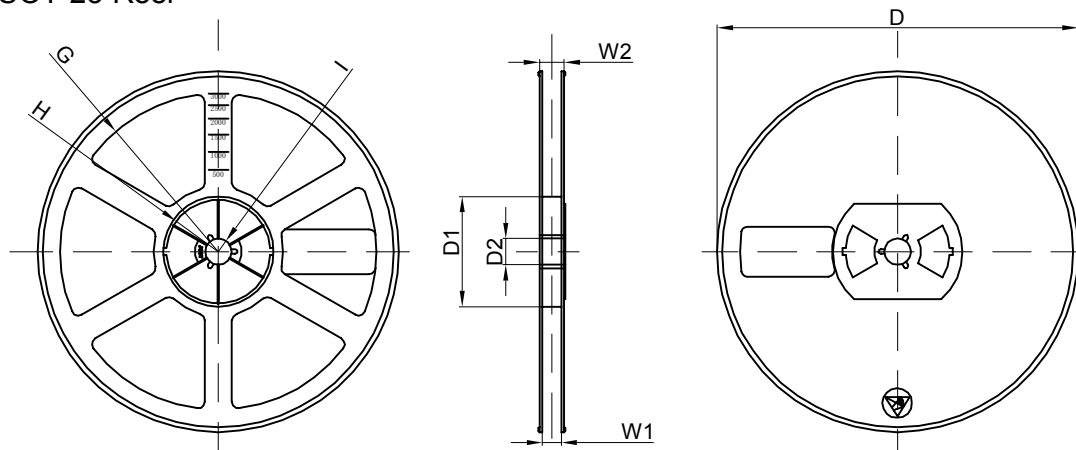


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT-23 Tape Leader and Trailer



SOT-23 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7" Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	30,000 pcs	203×203×195	120,000 pcs	438×438×220	