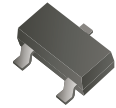


2SC1623-HF Series (NPN)

RoHS Device
Halogen Free

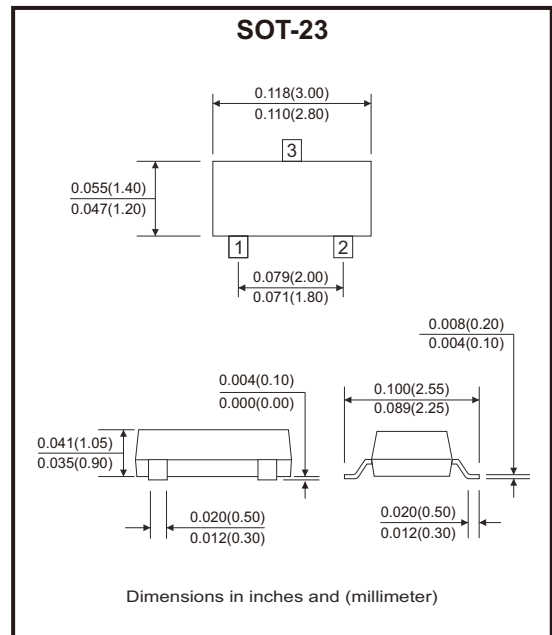


Features

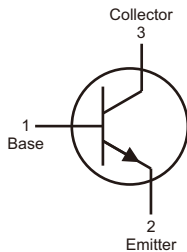
- Epoxy meets UL-94 V-0 flammability rating.
- Surface mount package ideally suited for automatic insertion.

Mechanical data

- Case: SOT-23, molded plastic.
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102.
- Mounting position: Any.



Circuit Diagram



Maximum Ratings (at TA=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Value	Unit
Collector-base voltage	$I_C = 100\mu A, I_E = 0$	V_{CB0}	60	V
Collector-emitter voltage	$I_C = 1mA, I_B = 0$	V_{CE0}	50	V
Emitter-base voltage	$I_E = 100\mu A, I_C = 0$	V_{EB0}	5	V
Collector current		I_C	0.1	A
Collector power dissipation		P_C	200	mW
Junction temperature		T_J	150	°C
Storage temperature range		T_{STG}	-55 to +150	°C

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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V_{CBO}	$I_C = 100\mu\text{A}, I_E = 0$	60			V
Collector-emitter breakdown voltage	V_{CEO}	$I_C = 1\text{mA}, I_B = 0$	50			V
Emitter-base breakdown voltage	V_{EBO}	$I_E = 100\mu\text{A}, I_C = 0$	5			V
Collector-base cut-off current	I_{CBO}	$V_{CB} = 60\text{V}, I_E = 0$			0.1	μA
Emitter-base cut-off current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$			0.1	μA
DC current gain	h_{FE}	$V_{CE} = 6\text{V}, I_C = 1\text{mA}$	135	200	600	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 100\text{mA}, I_B = 10\text{mA}$			0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 100\text{mA}, I_B = 10\text{mA}$			1	V
Base-emitter voltage	V_{BE}	$V_{CE} = 6\text{V}, I_C = 1\text{mA}$	0.55		0.65	V
Transition frequency	F_t	$V_{CE} = 6\text{V}, I_C = 10\text{mA}$		250		MHz
Collector-base output capacitance	C_{ob}	$V_{CB} = 6\text{V}, I_E = 0, f = 1\text{MHz}$		3		pF

Classification of h_{FE}

Rank	2SC1623-L5-HF	2SC1623-L6-HF	2SC1623-L7-HF
Range	135-270	200-400	300-600

Rating and Characteristic Curves (2SC1623-HF Series)

Fig.1 - Static Characteristic

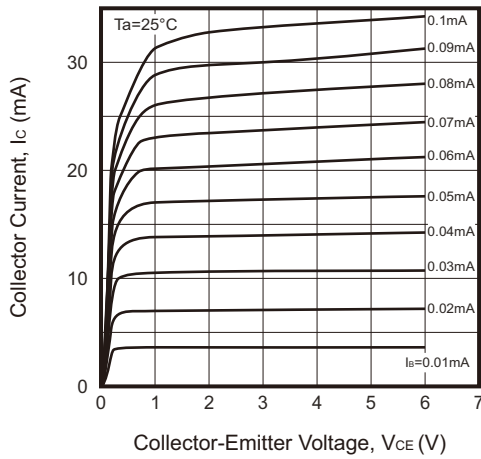


Fig.2 - DC Current Gain

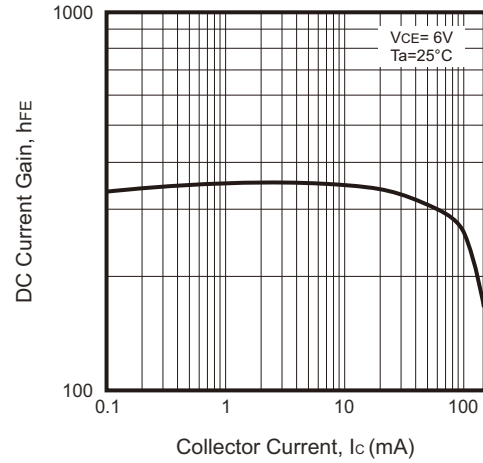


Fig.3 - Collector-Emitter Saturation Voltage

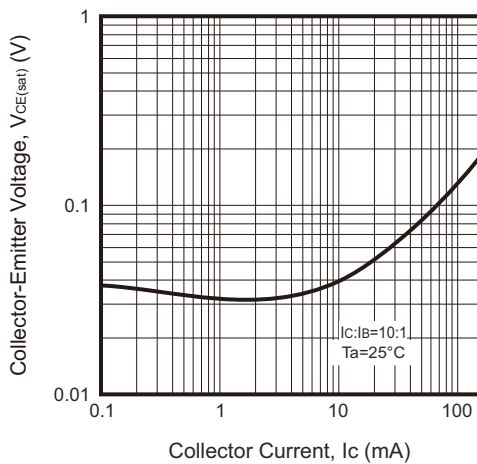


Fig.4 - Base-Emitter Saturation Voltage

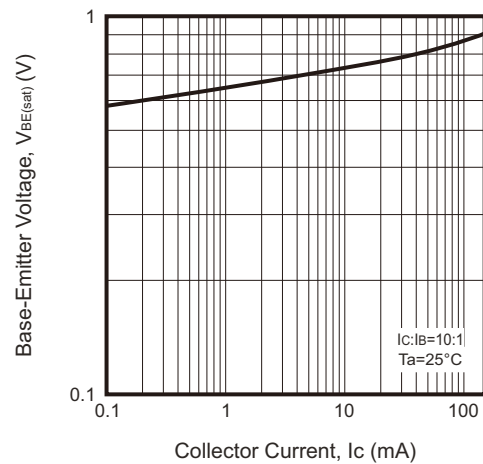


Fig.5 - Base-Emitter on Voltage

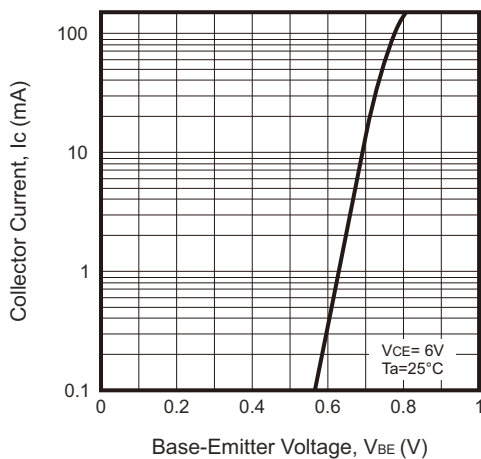
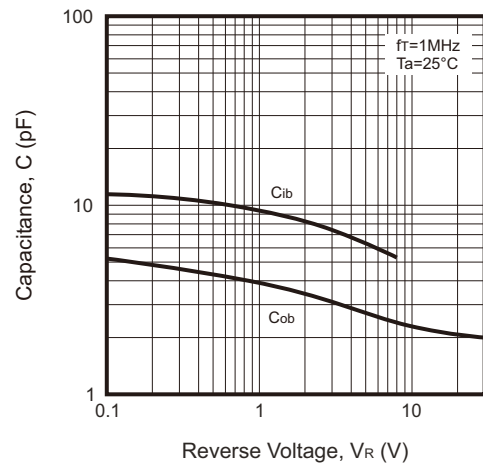
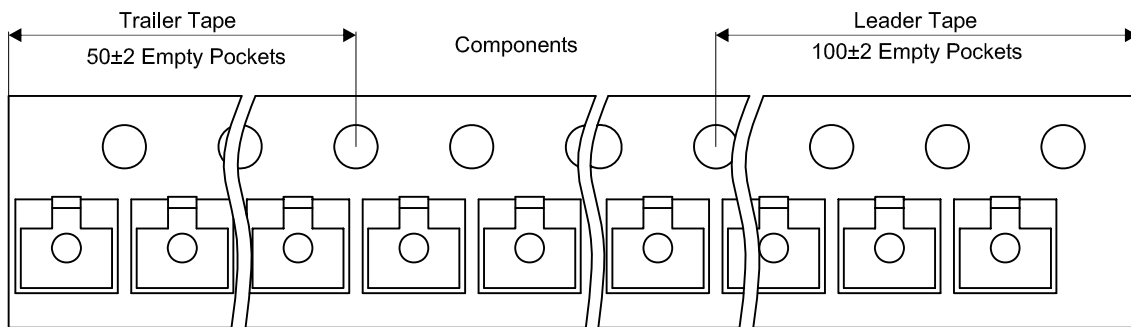
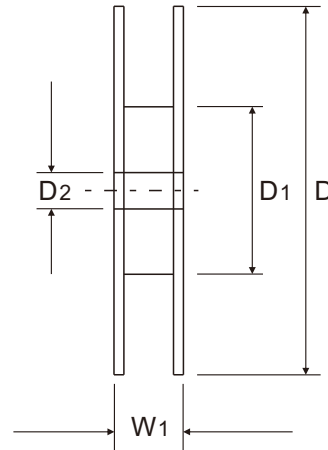
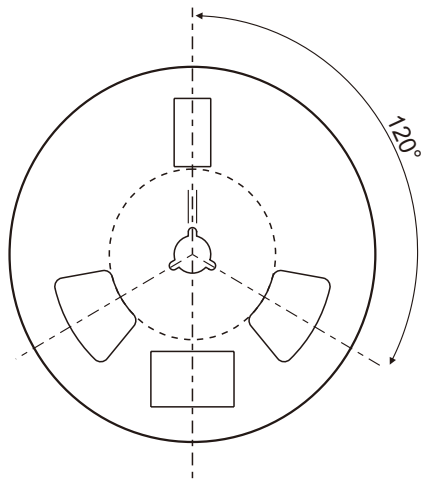
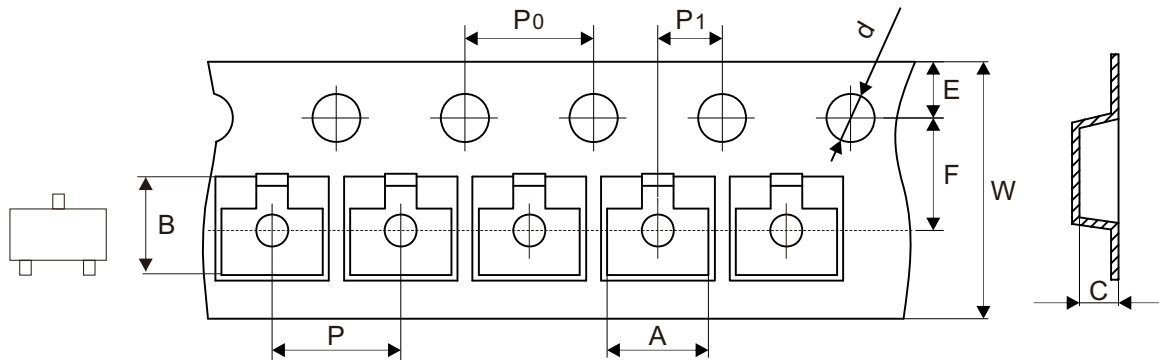


Fig.6 - $C_{ob}/C_{ib} - V_{CB}/V_{EB}$



Reel Taping Specification

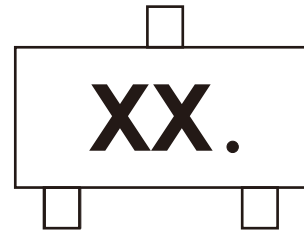


SOT-23	SYMBOL	A	B	C	d	D	D ₁	D ₂
	(mm)	3.15 ± 0.10	2.77 ± 0.10	1.22 ± 0.10	1.50 + 0.10 - 0.00	178.00 ± 1.00	54.60 ± 1.00	13.30 ± 1.00
	(inch)	0.124 ± 0.004	0.109 ± 0.004	0.048 ± 0.004	0.059 + 0.004 - 0.000	7.008 ± 0.039	2.150 ± 0.039	0.524 ± 0.039

SOT-23	SYMBOL	E	F	P	P ₀	P ₁	W	W ₁
	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	8.00 + 0.30 - 0.10	11.10 ± 0.20
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.315 + 0.012 - 0.004	0.437 ± 0.008

Marking Code

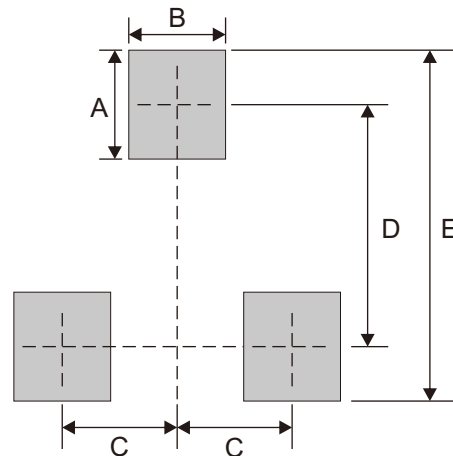
Part Number	Marking Code
2SC1623-L5-HF	L5.
2SC1623-L6-HF	L6.
2SC1623-L7-HF	L7.



xx = Product type marking code

Suggested P.C.B. PAD Layout

SIZE	SOT-23	
	(mm)	(inch)
A	0.90	0.035
B	0.80	0.031
C	0.95	0.037
D	2.00	0.079
E	2.90	0.114



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOT-23	3,000	7