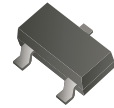


SS8050-L-HF Thru. SS8050-H-HF (NPN)

RoHS Device

Halogen Free



Features

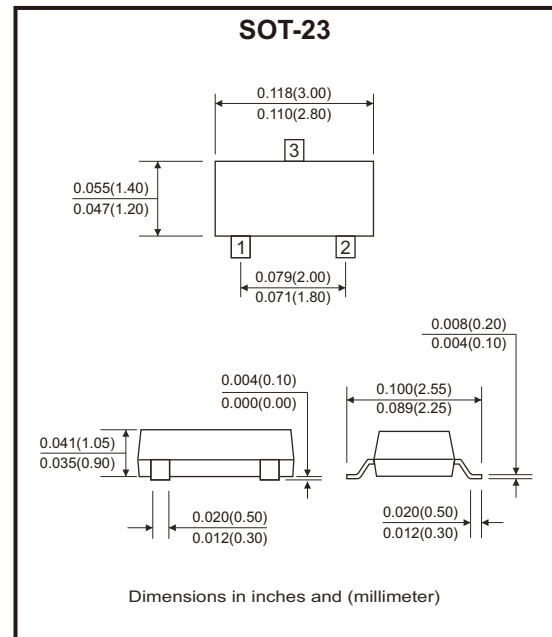
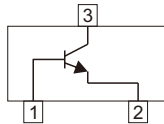
- Epoxy meets UL-94 V-0 flammability rating.
- High conductance.
- Surface mount package ideally suited for automatic insertion.

Mechanical data

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

Circuit Diagram

1. Base
2. Emitter
3. Collector



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

Parameter	Conditions	Symbol	Value	Unit
Minimum collector-emitter voltage	$I_C = 100\mu\text{A}$, $I_B = 0$	V_{CE0}	25	V
Minimum collector-base voltage	$I_C = 100\mu\text{A}$, $I_E = 0$	V_{CB0}	40	V
Minimum emitter-base voltage	$I_E = 100\mu\text{A}$, $I_C = 0$	V_{EB0}	5	V
Collector current		I_C	1.5	A
Maximum collector-emitter cut-off current	$V_{CE} = 20\text{V}$	I_{CEO}	100	nA
Maximum collector-base cut-off current	$V_{CB} = 40\text{V}$	I_{CBO}	100	
Maximum emitter-base cut-off current	$V_{EB} = 5\text{V}$	I_{EBO}	100	
Collector power dissipation		P_D	300	mW
Operation junction temperature range		T_J	-55 to +150	$^{\circ}\text{C}$
Storage temperature range		T_{STG}	-55 to +150	$^{\circ}\text{C}$

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

Parameter	Symbol	Conditions	Min	Max	Unit
Collector-emitter voltage	V_{CEO}	$I_C = 100\mu\text{A}$, $I_B = 0$	25		V
Collector-base voltage	V_{CBO}	$I_C = 100\mu\text{A}$, $I_E = 0$	40		V
Emitter-base voltage	V_{EBO}	$I_E = 100\mu\text{A}$, $I_C = 0$	5		V
Collector-emitter cut-off current	I_{CEO}	$V_{CE} = 20\text{V}$		100	nA
Collector-base cut-off current	I_{CBO}	$V_{CB} = 40\text{V}$		100	nA
Emitter-base cut-off current	I_{EBO}	$V_{EB} = 5\text{V}$		100	nA
DC current gain	$h_{FE(1)}$	$I_C = 100\text{mA}$, $V_{CE} = 1\text{V}$	120	350	
	$h_{FE(2)}$	$I_C = 800\text{mA}$, $V_{CE} = 1\text{V}$	40		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 800\text{mA}$, $I_B = 80\text{mA}$		0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 800\text{mA}$, $I_B = 80\text{mA}$		1.2	V
Small-signal characteristics					
Transition frequency	f_T	$I_C = 50\text{mA}$, $V_{CE} = 10\text{V}$, $f = 30\text{MHz}$	100		MHz

Classification of h_{FE} (1)

Rank	SS8050-L-HF	SS8050-H-HF
Range	120-200	200-350

Typical Rating and Characteristic Curves (SS8050-L-HF Thru. SS8050-H-HF)

Fig.1 - Static Characteristic

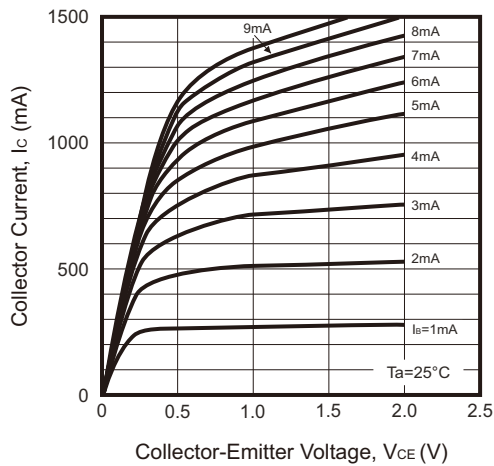


Fig.2 - DC Current Gain

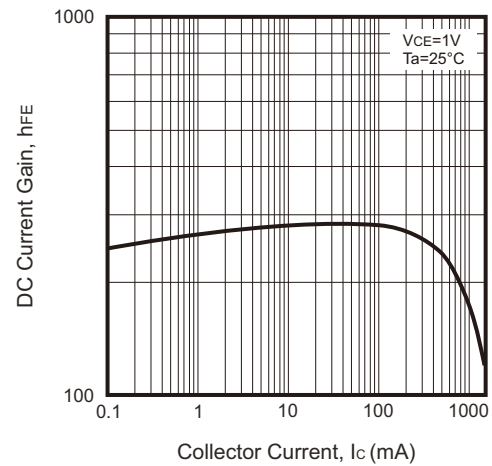


Fig.3 - Collector-Emitter Saturation Voltage

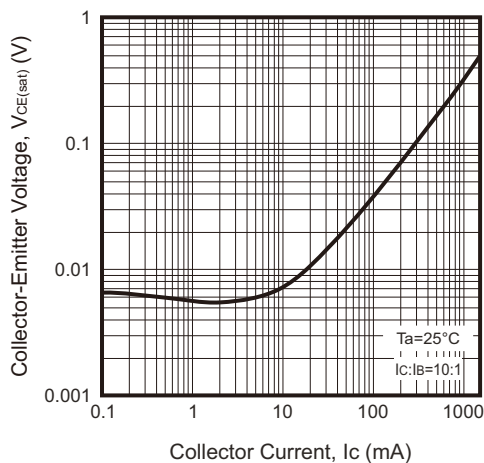


Fig.4 - Base-Emitter Saturation Voltage

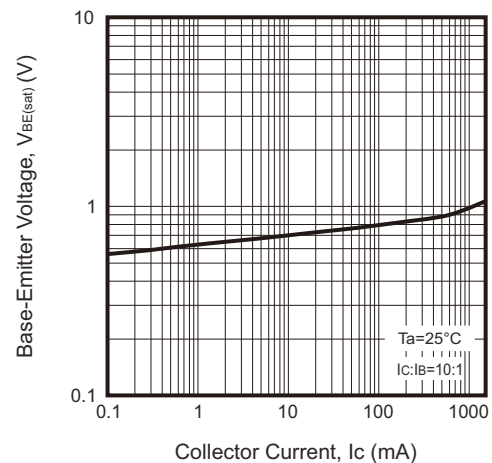


Fig.5 - Base-Emitter On Voltage

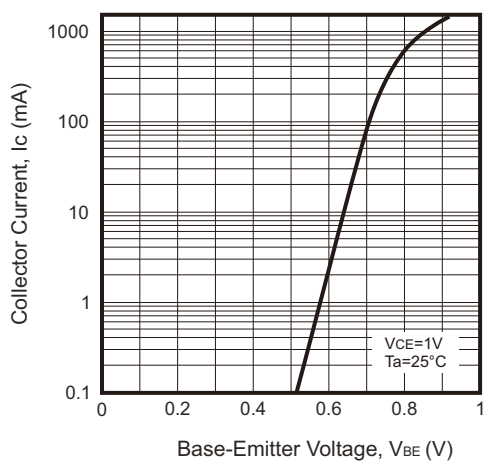
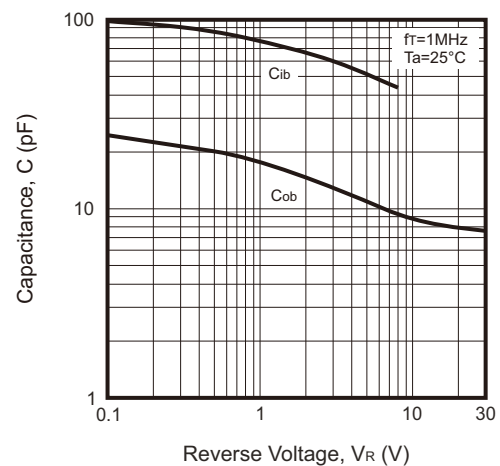
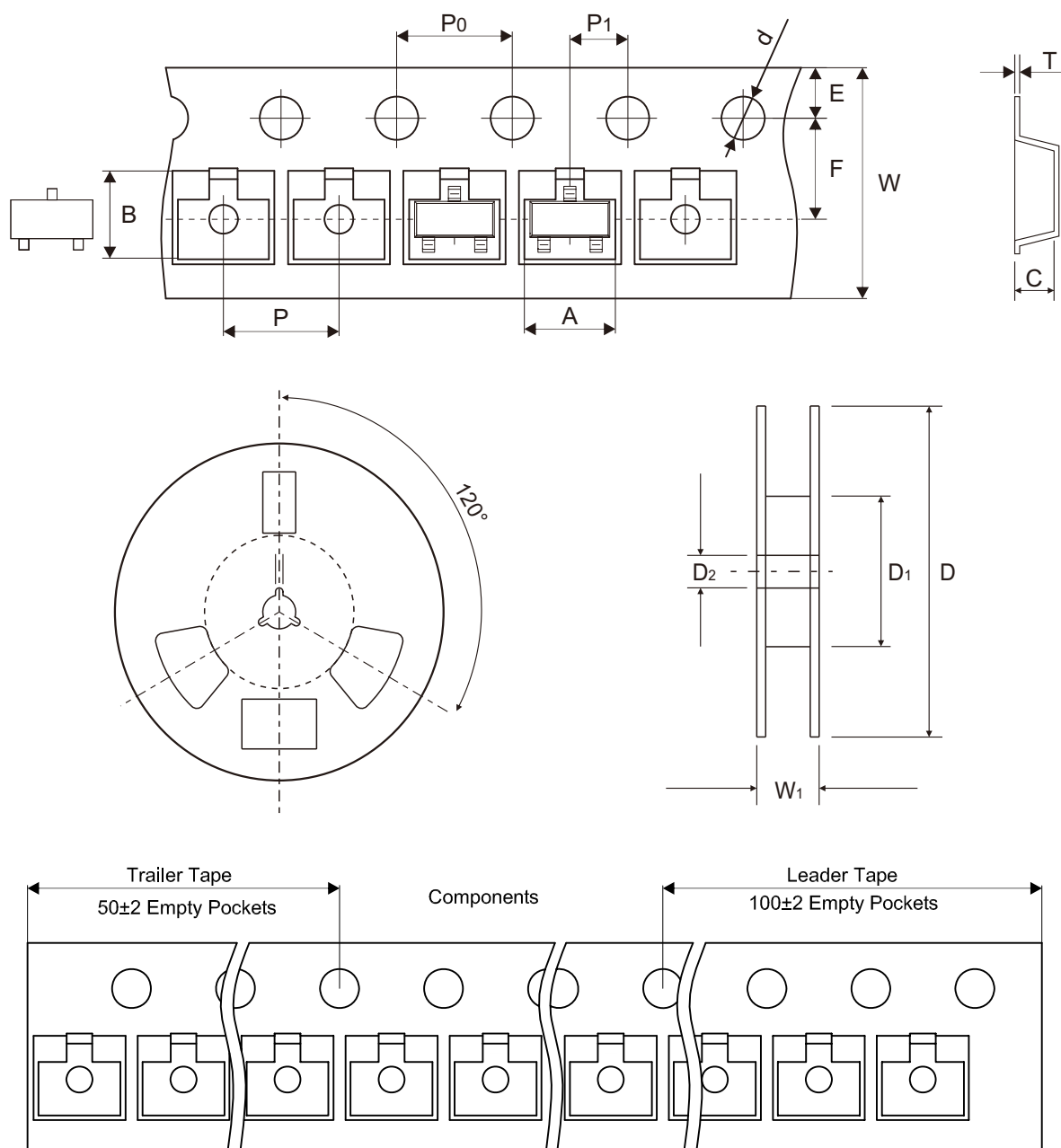


Fig.6 - C_{ob}/C_{ib} — V_{CB}/V_{EB}



Reel Taping Specification

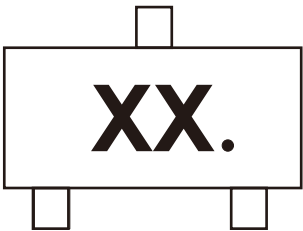


SOT-23	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	3.15 ± 0.10	2.77 ± 0.10	1.22 ± 0.10	1.50 ± 0.10 - 0.00	178.00 ± 2.00	54.40 ± 1.00	13.00 ± 1.00
	(inch)	0.124 ± 0.004	0.109 ± 0.004	0.048 ± 0.004	0.059 ± 0.004 - 0.000	7.008 ± 0.079	2.142 ± 0.039	0.512 ± 0.039

SOT-23	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	0.20 ± 0.02	8.00 ± 0.30 - 0.10	12.30 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.008 ± 0.001	0.315 ± 0.012 - 0.004	0.484 ± 0.039

Marking Code

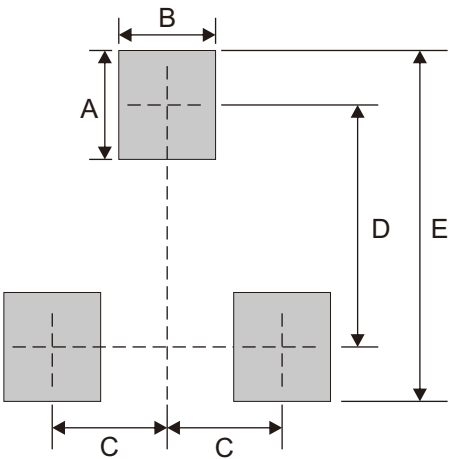
Part Number	Marking Code
SS8050-L-HF	Y1-L
SS8050-H-HF	Y1



xx/xxxx = 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