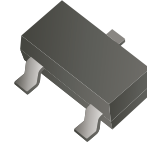


SS8050-x-P2-HF Series (NPN)

RoHS Device

Halogen Free

**Features**

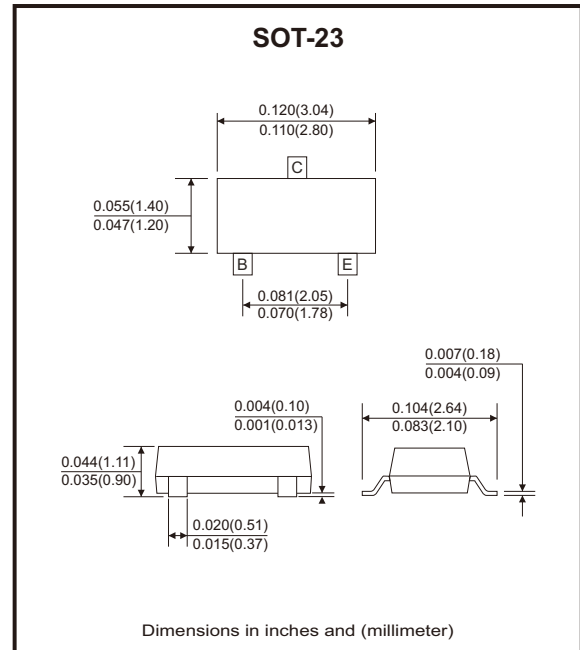
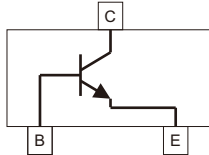
- Capable of 300mW of power dissipation.
- Surface mount SOT-23 package.
- Collector current: $I_c=1.5A$

Mechanical data

- Case: SOT-23, molded plastic.
- Terminals: Solderable per MIL-STD-750, method 2026.
- Mounting position: Any.

Circuit Diagram

B: Base
E: Emitter
C: Collector

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

Parameter	Symbol	Value	Unit
Collector-base voltage	V_{CBO}	40	V
Collector-emitter voltage	V_{CEO}	25	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_c	1.5	A
Collector power dissipation	P_c	300	mW
Thermal resistance from junction to ambient	$R_{\theta JA}$	417	$^{\circ}C/W$
Junction temperature	T_J	150	$^{\circ}C$
Storage temperature range	T_{STG}	-55 to +150	$^{\circ}C$

Electrical Characteristics (at TA=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter breakdown voltage	V _{CEO}	I _C = 0.1mA, I _B = 0	25			V
Collector-base breakdown voltage	V _{CBO}	I _C = 100μA, I _E = 0	40			V
Emitter-base breakdown voltage	V _{EBO}	I _E = 100μA, I _C = 0	5			V
Collector cut-off current	I _{CBO}	V _{CB} = 40V, I _E = 0			100	nA
Emitter cut-off current	I _{EBO}	V _{EB} = 5V, I _C = 0			100	nA
Collector cut-off current	I _{CEO}	V _{CE} = 20V, I _B = 0			100	nA
DC current gain	h _{FE}	I _C = 100mA, V _{CE} = 1V	120		400	
	h _{FE}	I _C = 800mA, V _{CE} = 1V	40			
Collector-emitter saturation voltage	V _{CE(sat)}	I _C = 800mA, I _B = 80mA			0.5	V
Base-emitter saturation voltage	V _{BE(sat)}	I _C = 800mA, I _B = 80mA			1.2	V
Transition frequency	f _T	I _C = 50mA, V _{CE} = 10V, f = 30MHz	100			MHz

Classification of hFE

Rank	SS8050-L-P2-HF	SS8050-H-P2-HF	SS8050-J-P2-HF
Range	120-200	200-350	300-400

Typical Rating and Characteristic Curves (SS8050-x-P2-HF Series)

Fig.1 - Static Characteristic

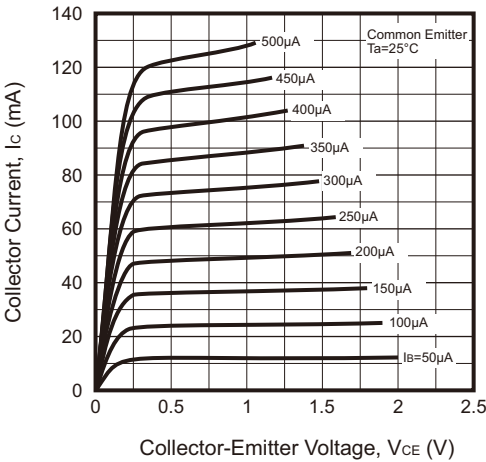
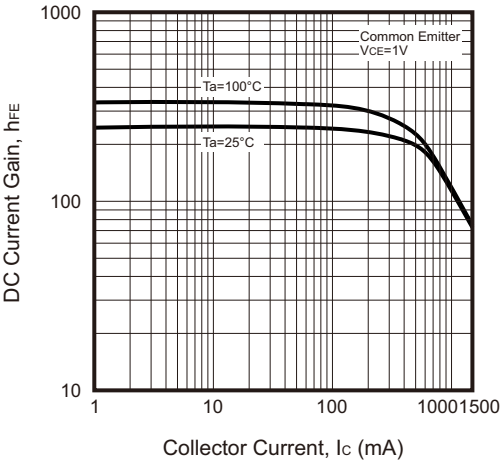


Fig.2 - hFE — Ic



Typical Rating and Characteristic Curves (SS8050-x-P2-HF Series)

Fig.3 - V_{CEsat} — I_c

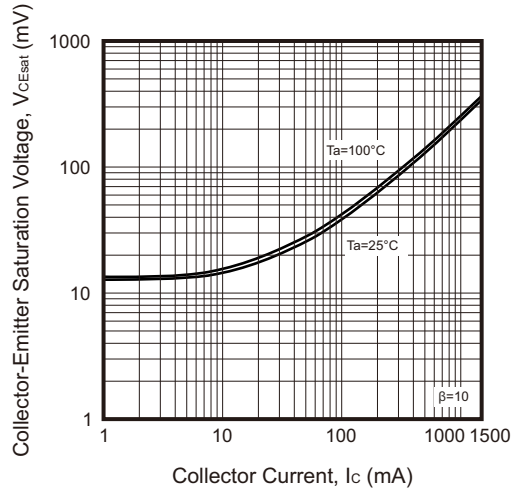


Fig.4 - V_{BEsat} — I_c

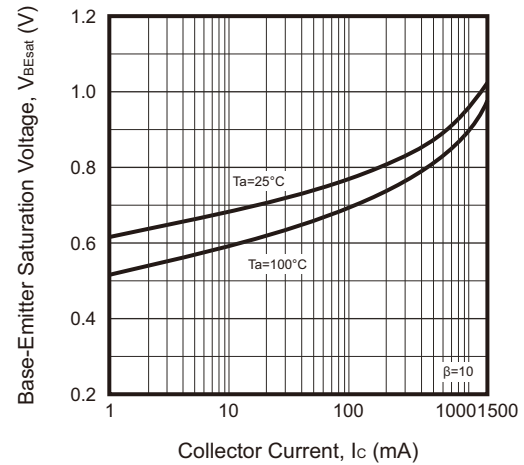


Fig.5 - V_{BE} — I_c

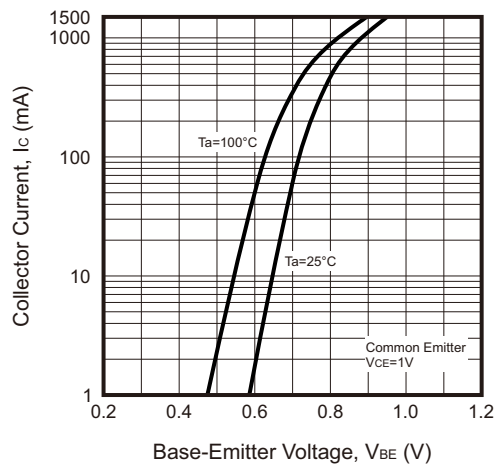


Fig.6 - C_{ob}/C_{ib} — V_{CB}/V_{EB}

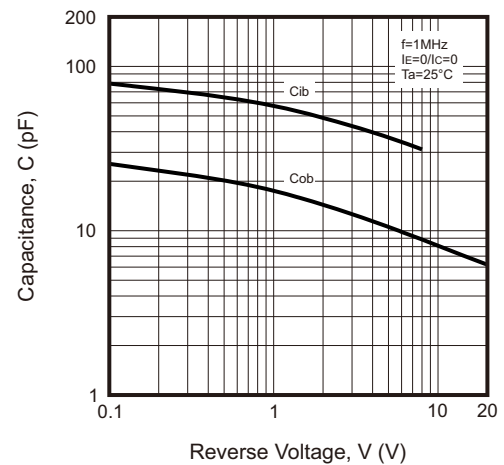


Fig.7 - f_r — I_c

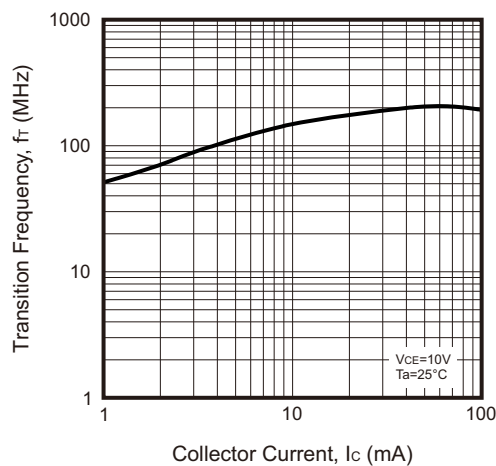
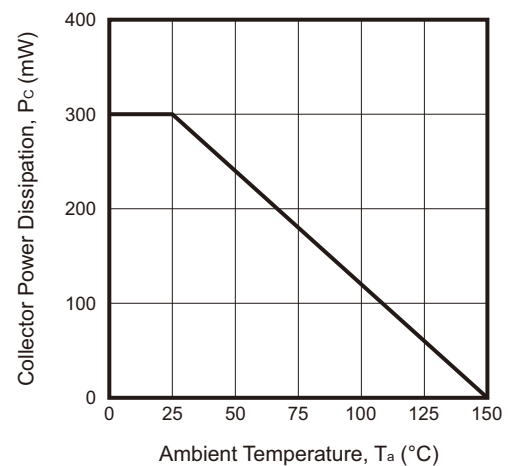
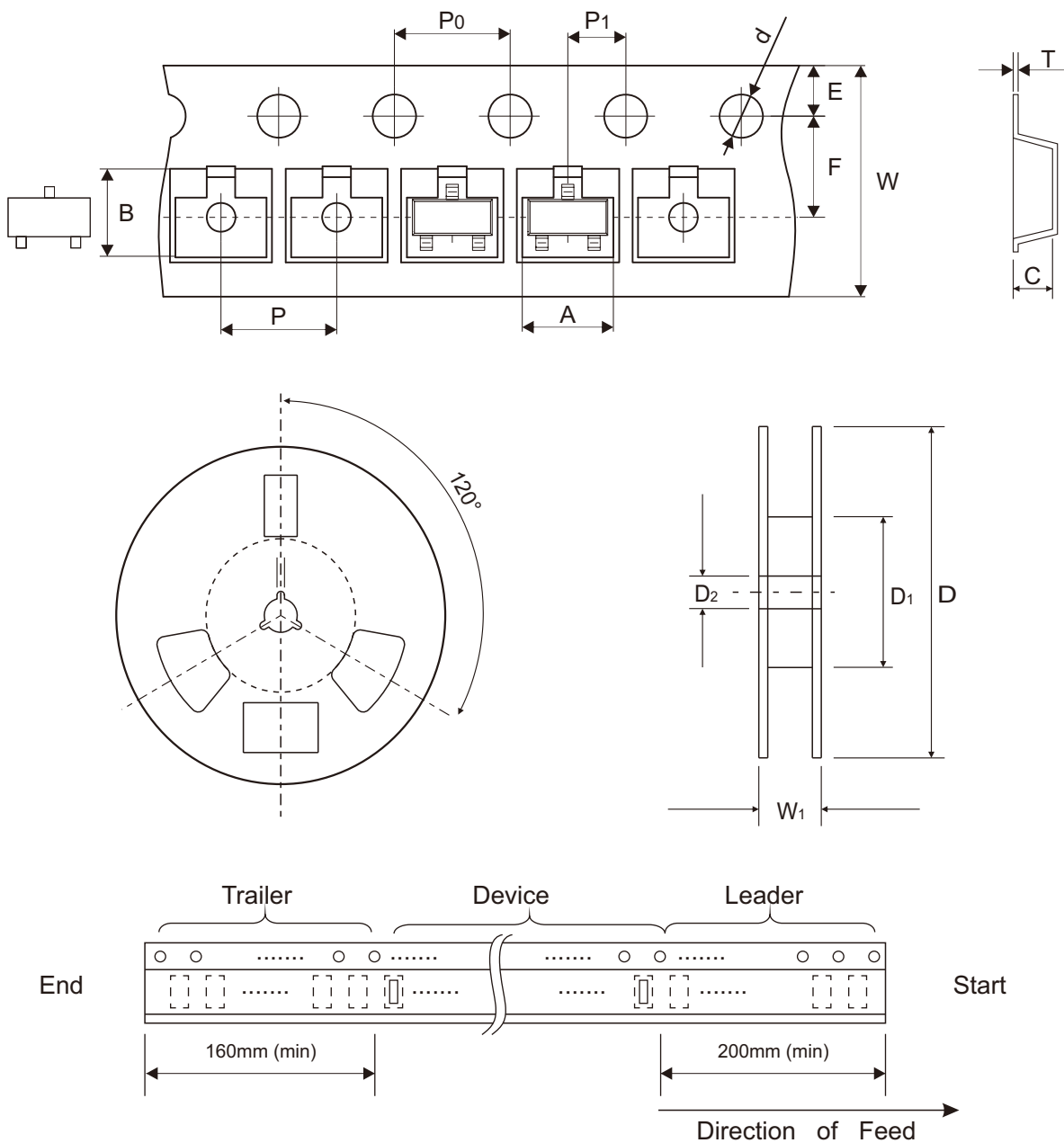


Fig.8 - P_c — T_a



Reel Taping Specification

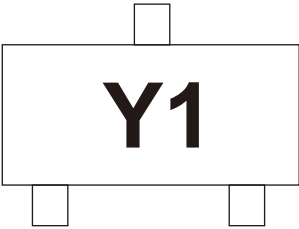


SOT-23	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	3.15 ± 0.10	2.77 ± 0.10	1.22 + 0.08 - 0.10	1.50 + 0.10 - 0.00	178.00 ± 2.00	50.00 ± 0.50	13.00 ± 0.25
	(inch)	0.124 ± 0.004	0.109 ± 0.004	0.048 + 0.003 - 0.004	0.059 + 0.004 - 0.000	7.008 ± 0.079	1.969 ± 0.020	0.512 ± 0.010

SOT-23	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	0.20 ± 0.02	8.00 + 0.30 - 0.10	9.50 ± 0.50
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.008 ± 0.001	0.315 + 0.012 - 0.004	0.374 ± 0.020

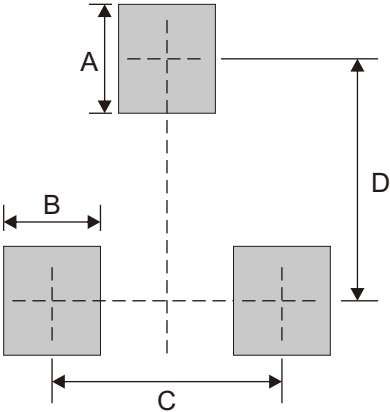
Marking Code

Part Number	Marking Code
SS8050-L-P2-HF	Y1
SS8050-H-P2-HF	
SS8050-J-P2-HF	



Suggested P.C.B. PAD Layout

SIZE	SOT-23	
	(mm)	(inch)
A	0.90	0.035
B	0.80	0.031
C	1.90	0.075
D	2.00	0.079



Standard Packaging

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