General Purpose Transistor

SS8050-G (NPN)

RoHS Device

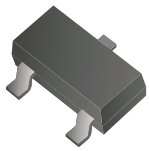
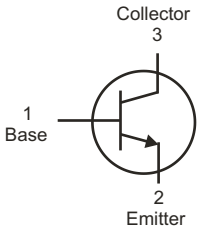
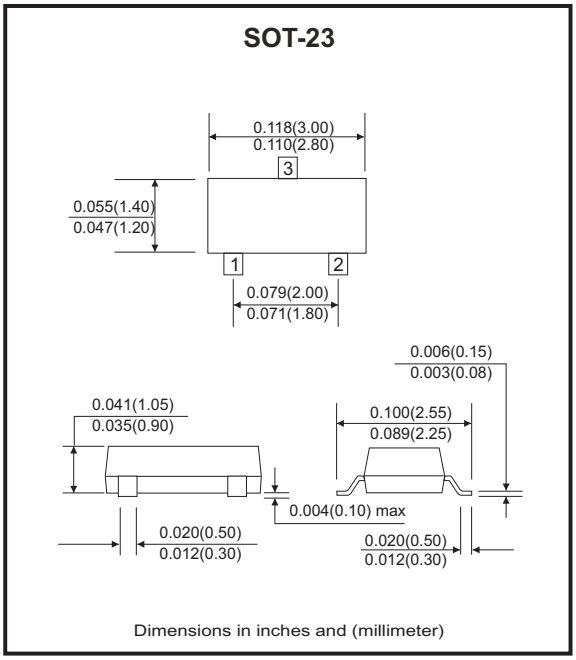


Diagram:

1 : BASE
2 : EMITTER
3 : COLLECTOR





Maximum Ratings (at T_A=25°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	°C/W
Junction temperature	T_J	150	°C
Storage temperature	Tstg	-55~+150	°C

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

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Collector-Base breakdown voltage	I_C =100μA , I_E=0	$V_{(BR)CBO}$	40	-	-	V
Collector-Emitter breakdown voltage	I_C =0.1mA , I_B=0	$V_{(BR)CEO}$	25	-	-	V
Emitter-Base breakdown voltage	I_E =100μA , I_C=0	$V_{(BR)EBO}$	5	-	-	V
Collector cut-off current	V_{CB}=40V , I_E=0	I_{CBO}	-	-	0.1	μA
Collector cut-off current	V_{CE}=20V , I_E=0	I_{CEO}	-	-	0.1	μA
Emitter cut-off current	V_{EB}=5V , I_C=0	I_{EBO}	-	-	0.1	μA
DC current gain	V_{CE}=1V , I_C=100mA	$h_{FE(1)}$	200	-	350	
	V_{CE}=1V , I_C=800mA	$h_{FE(2)}$	40	-	-	
Collector-Emitter saturation voltage	I_C=800mA , I_B=80mA	V_{CE}(sat)	-	-	0.5	V
Base-Emitter saturation voltage	I_C=800mA , I_B=80mA	V_{BE}(sat)	-	-	1.2	V
Transition frequency	V_{CE}=10V, I_C=50mA, f=30MHz	f_T	100	-	-	MHz

RATING AND CHARACTERISTIC CURVES (SS8050-G)

Fig.1 - Static Characteristic

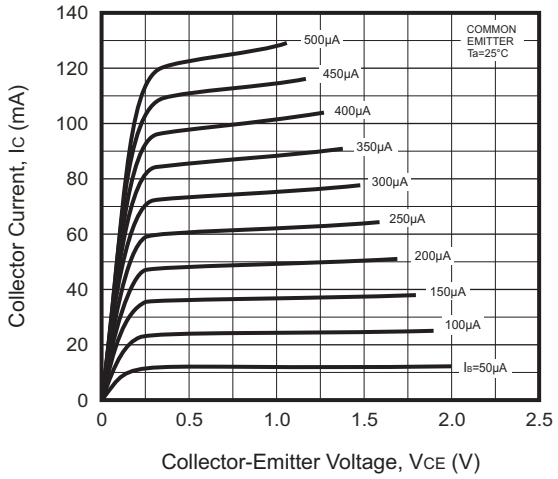


Fig.2 - h_{FE} — I_C

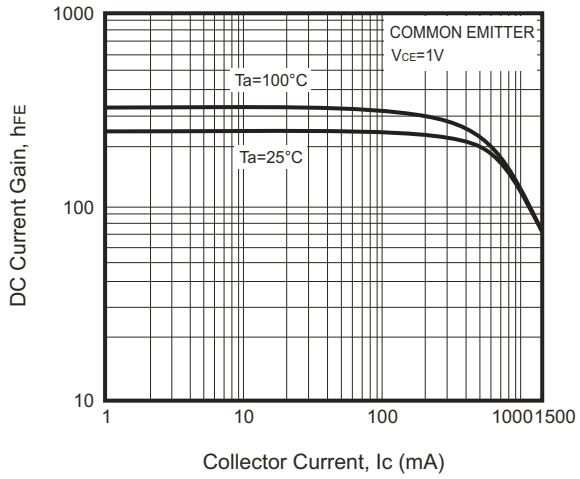


Fig.3 - V_{CEsat} — I_C

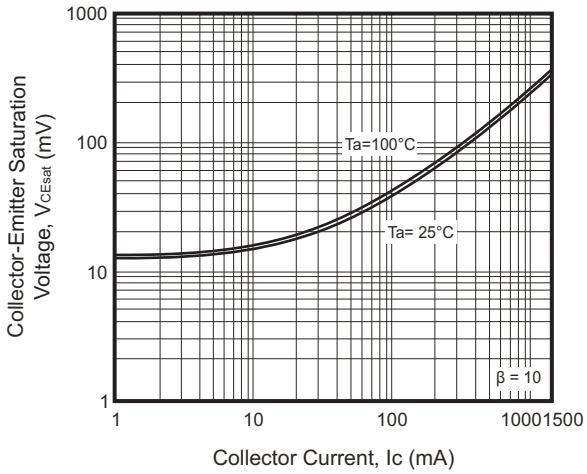


Fig.4 - V_{BEsat} — I_C

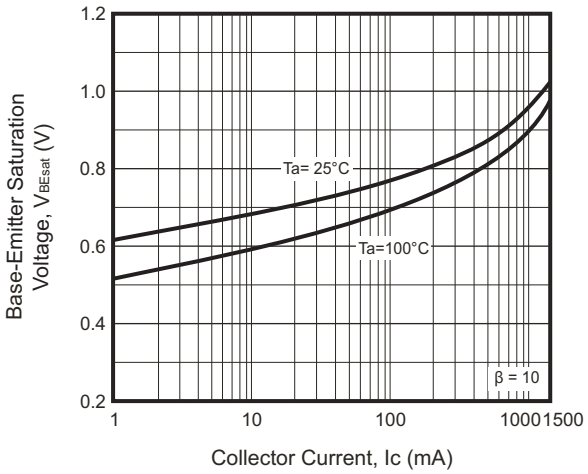


Fig.5 - V_{BE} — I_C

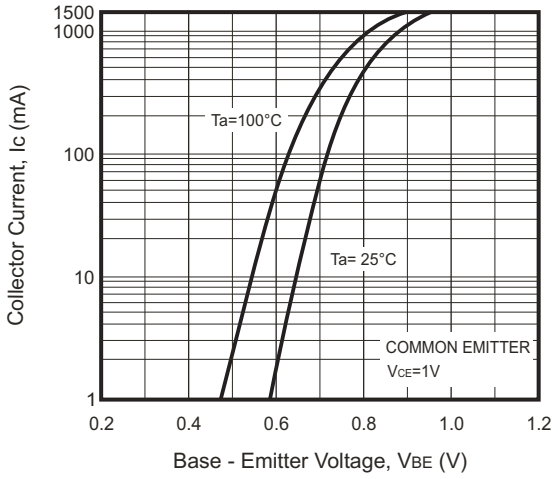
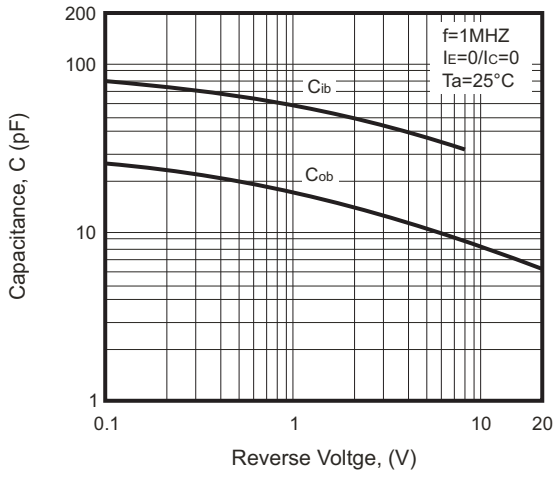


Fig.6 - C_{ob}/C_{ib} — V_{CB}/V_{EB}



Company reserves the right to improve product design , functions and reliability without notice.

RATING AND CHARACTERISTIC CURVES (SS8050-G)

Fig.7 - F_T — I_C

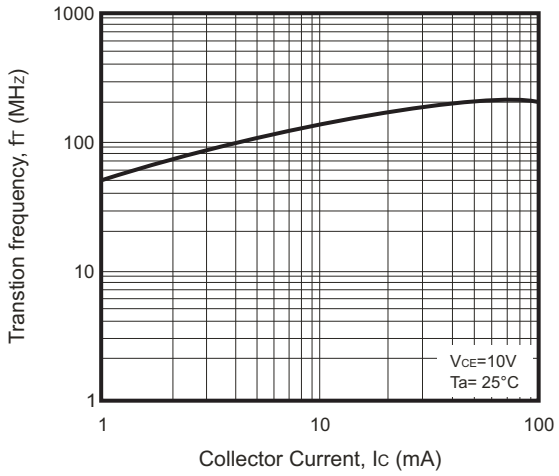
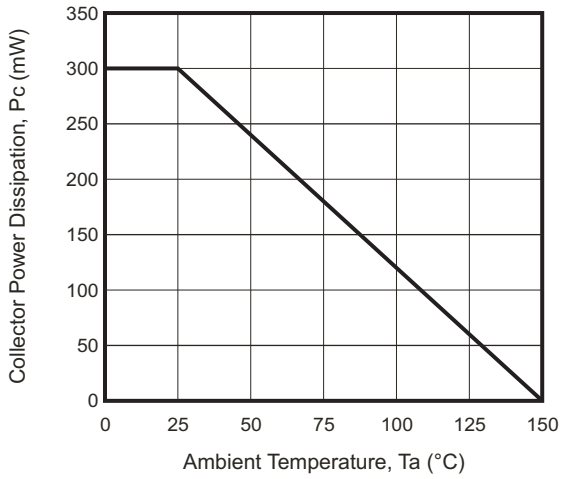
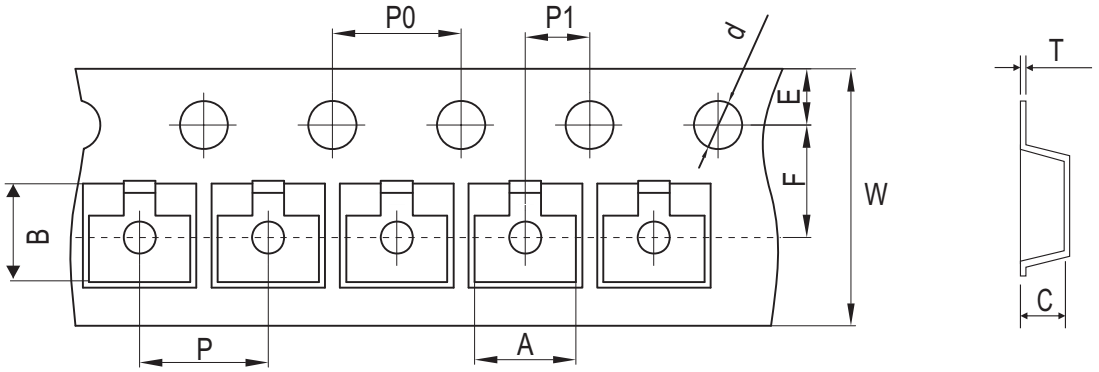
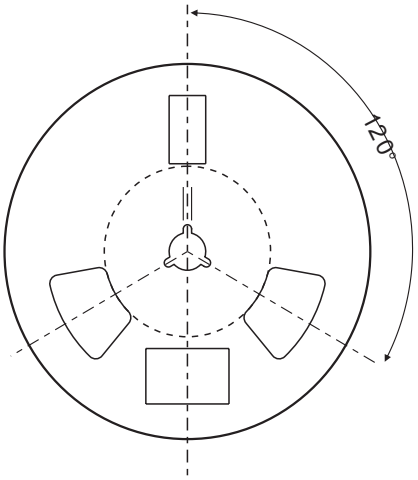


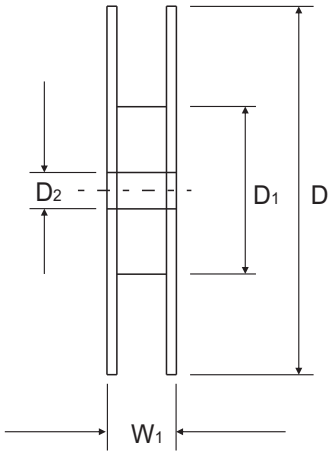
Fig.8 - P_C – Ta

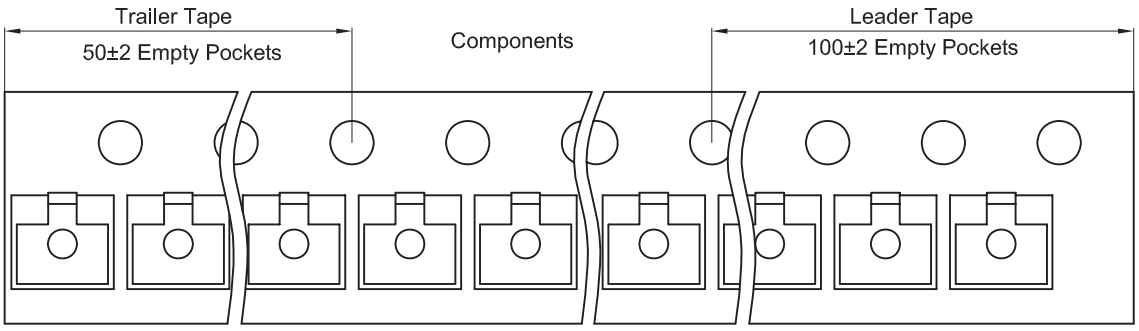


Reel Taping Specification







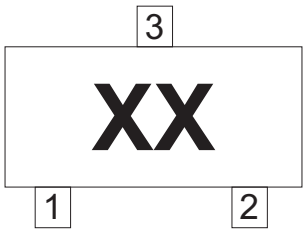


	SYMBOL	A	B	C	d	D	D1	D2
SOT-23	(mm)	3.15 ± 0.10	2.77 ± 0.10	1.22 ± 0.10	1.50 ± 0.10	178.00 ± 2.00	54.40 ± 1.00	13.00 ± 1.00
	(inch)	0.124 ± 0.004	0.109 ± 0.004	0.048 ± 0.004	0.059 ± 0.004	7.087 ± 0.079	2.142 ± 0.039	0.512 ± 0.039

	SYMBOL	E	F	P	P0	P1	W	W1
SOT-23	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	8.00 + 0.30 / - 0.10	12.30 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.315 + 0.012 / - 0.004	0.484 ± 0.039

Marking Code

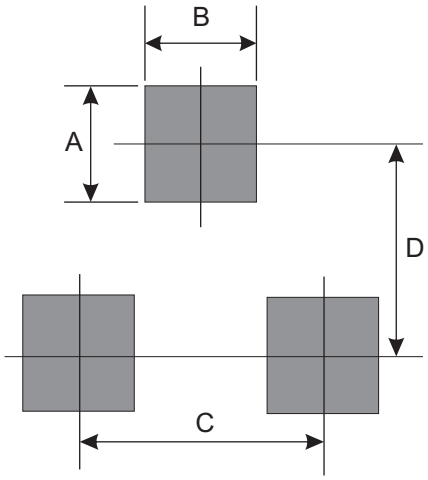
Part Number	Marking Code
SS8050-G	Y1



xx = Product type marking code

Suggested PAD Layout

SIZE	SOT-23	
	(mm)	(inch)
A	0.80	0.031
B	0.60	0.024
C	1.90	0.075
D	2.02	0.080



Note:
1.General tolerance: ±0.05mm.
2.The pad layout is for reference purposes only.

Standard Packaging

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

Mouser Electronics

Authorized Distributor

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Comchip Technology:
SS8050-G