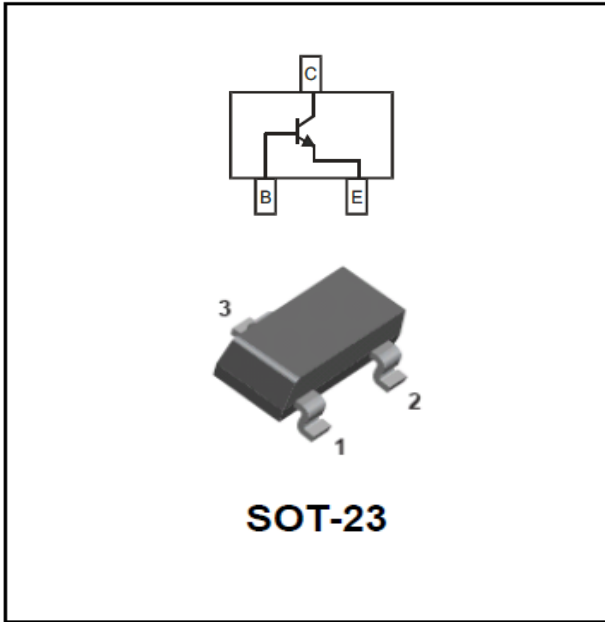


NPN General Purpose Amplifier



Features

- Epoxy meets UL-94 V-0 flammability rating
- Moisture Sensitivity Level 1
- High Conductance
- Surface Mount Package Ideally Suited for Automatic Insertion

Mechanical Data

- **Package:** SOT-23
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:**
SS8050S-L : Y1·L
SS8050S-H: Y1

■ Maximum Ratings (Ta=25°C unless otherwise noted)

Item	Symbol	Unit	Conditions	Value
Minimum Collector-Emitter Voltage*	BV_{CEO}	V	$I_C=100\mu A_{dc}$, $I_B=0$	25
Minimum Collector-Base Voltage	BV_{CBO}	V	$I_C=100\mu A_{dc}$, $I_E=0$	40
Minimum Emitter-Base Voltage	BV_{EBO}	V	$I_E=100\mu A_{dc}$, $I_C=0$	5.0
Maximum Collector Current	I_C	A		0.8
Maximum Collector cut-off current	I_{CEO}	nA _{dc}	$V_{CE}=20V_{dc}$	100
Maximum Collector cut-off current	I_{CBO}	nA _{dc}	$V_{CB}=40V_{dc}$	100
Maximum Emitter cut-off current	I_{EBO}	nA _{dc}	$V_{EB}=5.0V_{dc}$	100
Maximum Power Dissipation	P_D	mW		300
Operation Junction Temperature	T_J	°C		-55 to +150
Storage Temperature	T_{STG}	°C		-55 to +150



SS8050S-L THRU SS8050S-H

■Electrical Characteristics (Ta=25°C unless otherwise noted)

Item	Symbol	Unit	Conditions	Min	Max
Collector-Emitter Voltage*	BV_{CEO}	V	$I_C=100\mu A_{dc}, I_B=0$	25	
Collector-Base Voltage	BV_{CBO}	V	$I_C=100\mu A_{dc}, I_E=0$	40	
Emitter-Base Voltage	BV_{EBO}	V	$I_E=100\mu A_{dc}, I_C=0$	5	
Collector cut-off current	I_{CEO}	nAdc	$V_{CE}=20V_{dc}$		100
Collector cut-off current	I_{CBO}	nAdc	$V_{CB}=40V_{dc}$		100
Emitter cut-off current	I_{EBO}	nAdc	$V_{EB}=5.0V_{dc}$		100
DC Current Gain	$h_{FE(1)}$		$I_C=100mA, V_{CE}=1.0V_{dc}$	120	350
	$h_{FE(2)}$		$I_C=800mA, V_{CE}=1.0V_{dc}$	40	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	Vdc	$I_C=800mA, I_B=80mA$		0.5
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	Vdc	$I_C=800mA, I_B=80mA$		1.2

■Small-signal Characteristics

Item	Symbol	Unit	Conditions	Min	Max
Current Gain-Bandwidth Product	f_T	MHz	$I_C=50mA_{dc}, V_{CE}=10V_{dc}, f=30MHz$	100	

■CLASSIFICATION OF HFE (1)

Rank	L	H
Range	120-200	200-350

■Ordering Information (Example)

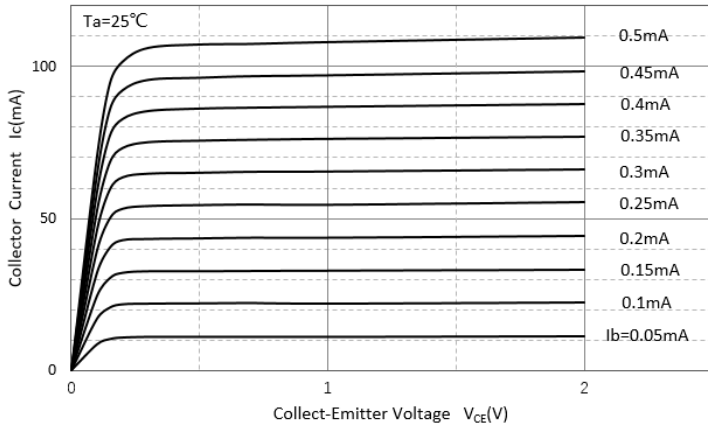
PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SS8050S	F2	Approximate 0.008	3000	30000	120000	7" reel



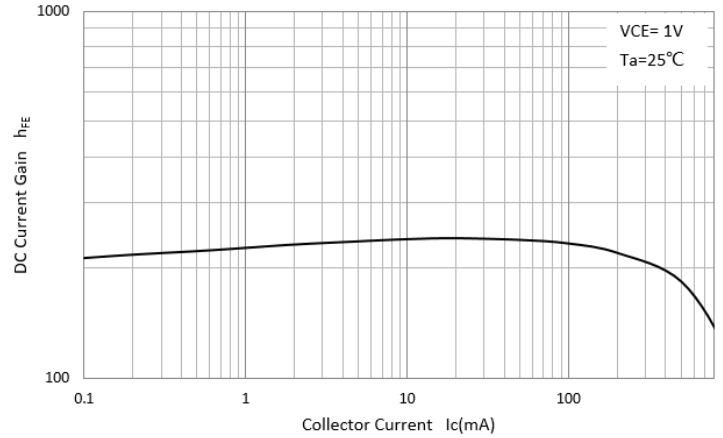
SS8050S-L THRU SS8050S-H

■ Characteristics (Typical)

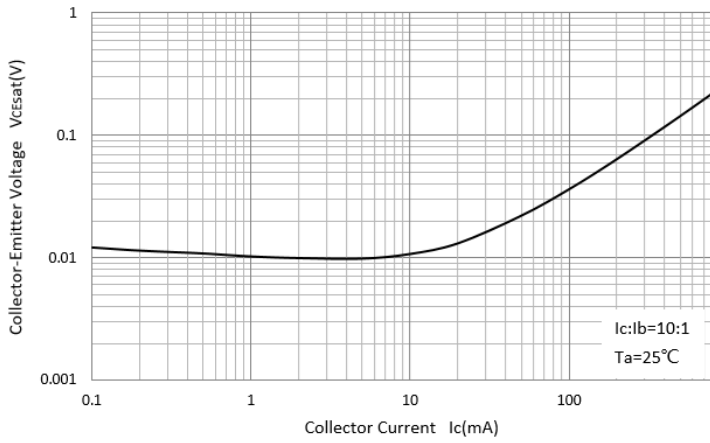
Static Characteristic



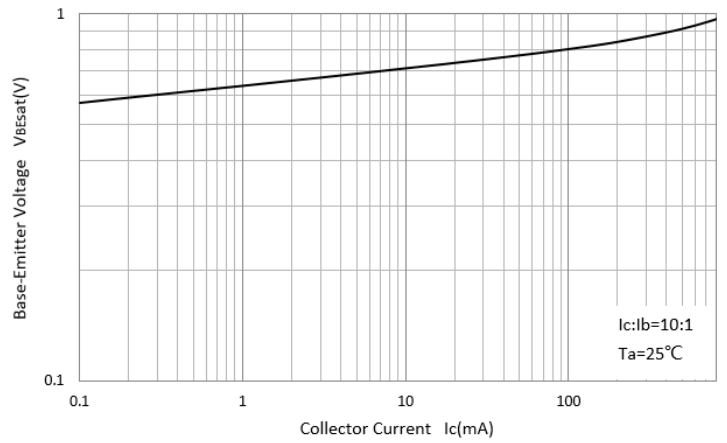
DC Current Gain



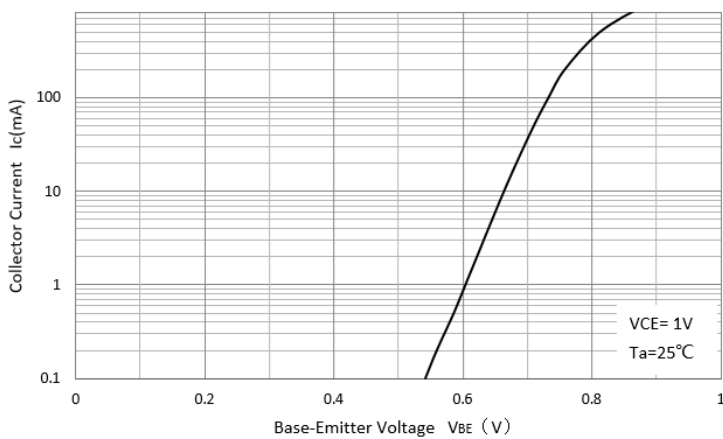
Collector-Emittor Saturation Voltage



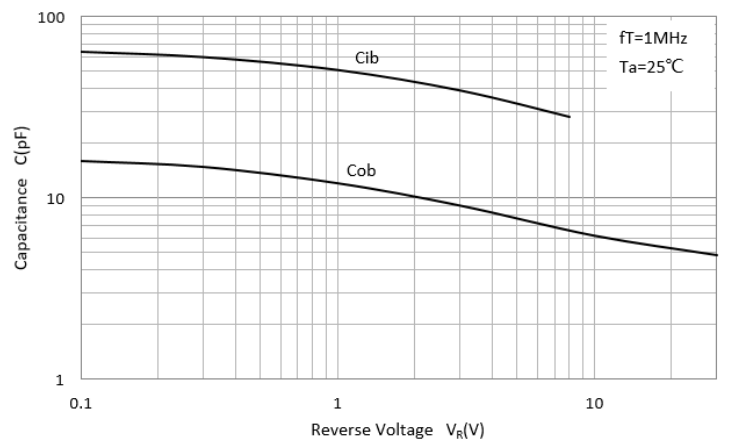
Base-Emittor Saturation Voltage



Base-Emittor On Voltage



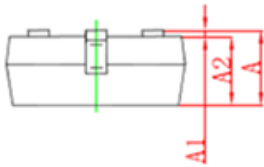
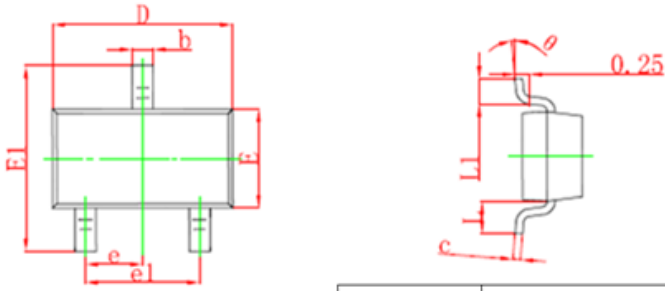
$C_{ob}/C_{ib}-V_{CB}/V_{EB}$





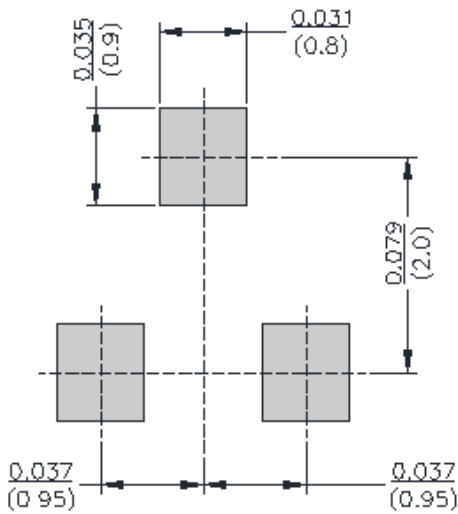
SS8050S-L THRU SS8050S-H

■SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.550REF		0.022REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

■SOT-23 Suggested Pad Layout





SS8050S-L THRU SS8050S-H

Disclaimer

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