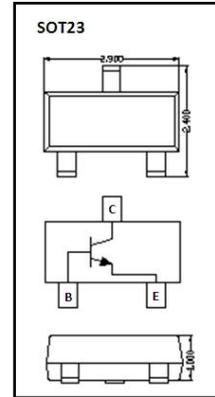


DATA SHEET

S8050

- ◇ Capable of 300mWatts of Power Dissipation
- ◇ Operating and Storage Junction Temperatures: -55°C to 150°C
- ◇ Surface Mount SOT-23 Package
- ◇ RoHS compliant / Green EMC
- ◇ Collector current: IC=0.5A



Device Marking Code	
S8050	J3Y

MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V <sub>CB0</sub>	Collector-Base Voltage	40	V
V <sub>CEO</sub>	Collector-Emitter Voltage	25	V
V <sub>EB0</sub>	Emitter-Base Voltage	5	V
I <sub>C</sub>	Collector Current	500	mA
P <sub>C</sub>	Collector Power Dissipation	300	mW
R <sub>θJA</sub>	Thermal Resistance From Junction To Ambient	417	°C/W
T <sub>j</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-55~+150	°C

ELECTRICAL CHARACTERISTICS @ 25° C Unless Otherwise Specified

Symbol	Parameter	Test Conditions	Min	Max	Units
V <sub>CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =1mA, I <sub>B</sub> =0	25		V
V <sub>CB0</sub>	Collector-base breakdown voltage	I <sub>C</sub> =100μA, I <sub>E</sub> =0	40		V
V <sub>EB0</sub>	Emitter-base breakdown voltage	I <sub>E</sub> =100μA, I <sub>C</sub> =0	5.0		V
I <sub>CB0</sub>	Collector cutoff current	V <sub>CB</sub> =40V, I <sub>E</sub> =0V		100	nA
I <sub>EB0</sub>	Emitter cut-off current	V <sub>EB</sub> =5V, I <sub>C</sub> =0		100	nA
I <sub>CEO</sub>	Collector cut-off current	V <sub>CE</sub> =20V, I <sub>B</sub> =0		100	nA
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =50mA, V <sub>CE</sub> =1V	120	400	
		I <sub>C</sub> =500mA, V <sub>CE</sub> =1V	50		
V <sub>CE(sat)</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA		0.6	V
V <sub>BE(sat)</sub>	Base-emitter saturation voltage	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA		1.2	V
f <sub>T</sub>	Transition frequency	I <sub>C</sub> =20mA, V <sub>CE</sub> =6V, f=30MHz	150		MHZ

CLASSIFICATION OF  $h_{FE}(1)$

Rank	L	H
Range	120-200	200-350

Curve Characteristics

Fig. 1 - Static Characteristics

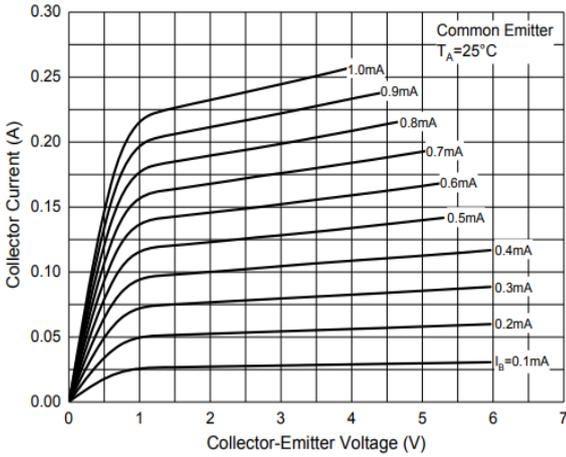


Fig. 2 - DC Current Gain Characteristics

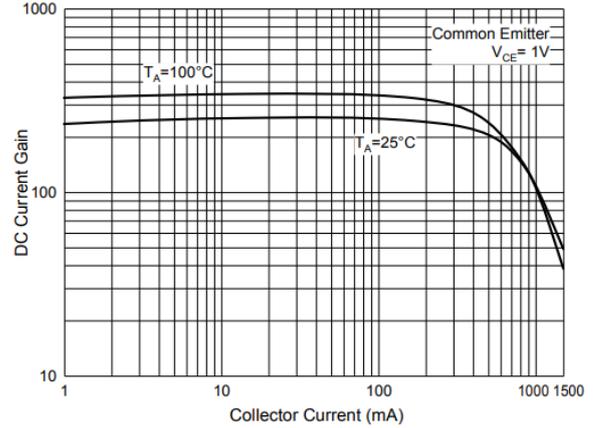


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

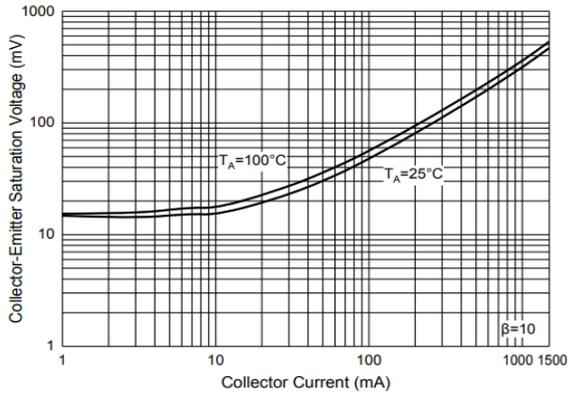


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

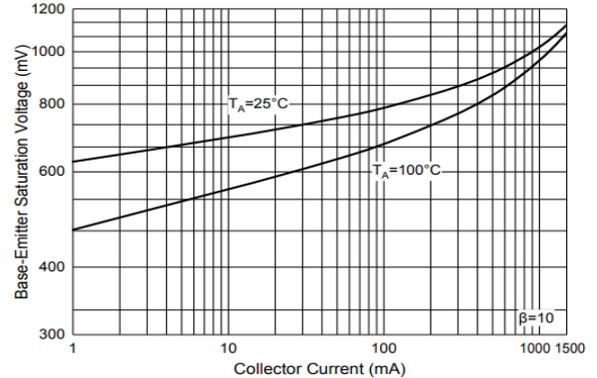


Fig. 5 - Base-Emitter Voltage Characteristics

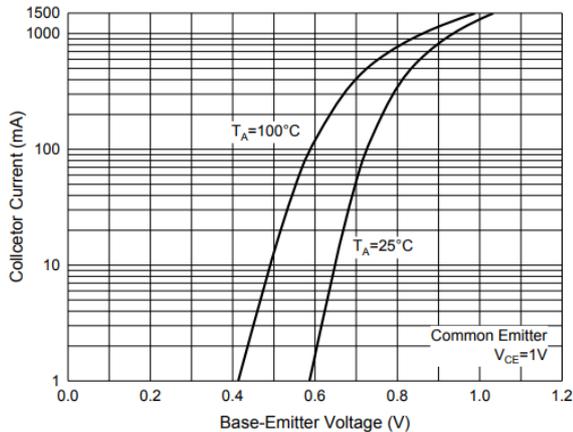
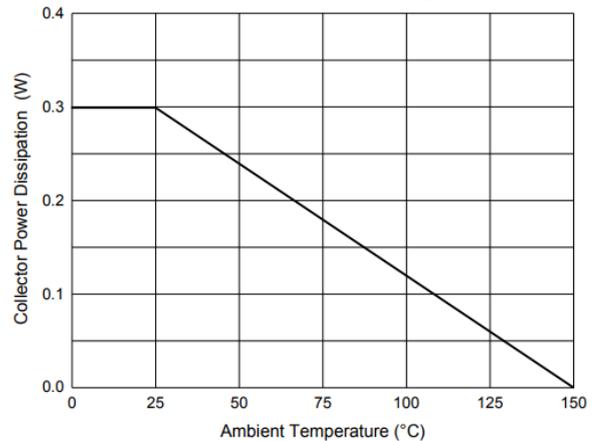


Fig. 6 - Collector Power Derating Curve

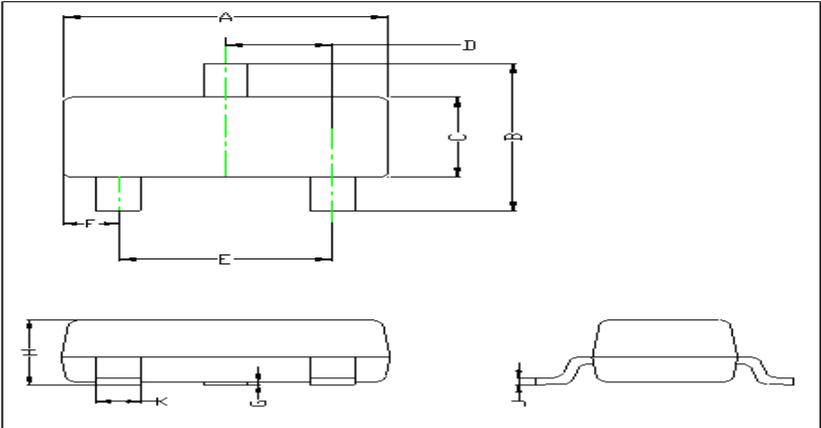


**ORDERING INFORMATION**

Device	Package	Shipping	Tape wide	Emboss pitch	Tape specification	Notes
S8050	SOT23	Tape & Reel 3000pcs /7" Reel	8mm	4mm	Conductive	

**PACKAGE DIMENSIONS**

**Package Outline : SOT23**



Symbol	Dimensions in mm	
	Min.	Max.
A	2.800	3.040
B	2.100	2.640
C	1.200	1.400
D	0.890	1.030
E	1.780	2.050
F	0.450	0.600
G	0.013	0.100
H	0.900	1.110
J	0.090	0.180
K	0.370	0.510

**SOT23 Package Outline**

**Note:**  
 1. Halogen free ,EMC  
 2. Pb free solder  
 3. Lead thickness solder plating  
 4. Lead frame CAC-5  
 5. Other Tolerance  $\pm 0.05$   
 6. Dimensions are exclusive of Burrs Mold Flash and Tie Bar extrusions  
 7. Unit :mm

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