

RoHS Compliant Product  
A suffix of "-C" specifies halogen & lead-free

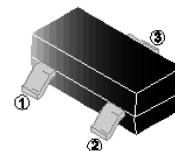
### FEATURES

- Ideal for Medium Power Amplification and Switching
- Complementary to S8550-C

**SOT-23**

### MARKING

J3Y



### CLASSIFICATION OF $h_{FE}$

Product-Rank	S8050-L-C	S8050-H-C
Range	120~200	200~350

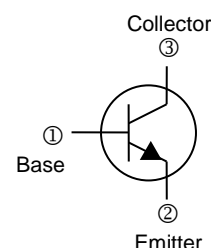
### PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-23	3K	7 inch

### ORDER INFORMATION

Part Number	Type
S8050-□-C	Lead (Pb)-free and Halogen-free

\*□= $h_{FE}$  Rank



### ABSOLUTE MAXIMUM RATINGS ( $T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Collector-Base Voltage	$V_{CBO}$	40	V
Collector-Emitter Voltage	$V_{CEO}$	25	
Emitter-Base Voltage	$V_{EBO}$	5	
Collector Current	$I_C$	0.5	A
Collector Power Dissipation	$P_C$	300	mW
Thermal Resistance from Junction-Ambient	$R_{\theta JA}$	417	$^{\circ}\text{C}/\text{W}$
Junction & Storage Temperature	$T_J, T_{STG}$	150, -55~150	$^{\circ}\text{C}$

### ELECTRICAL CHARACTERISTICS ( $T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	40	-	-	V	$I_C=100\mu\text{A}, I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	25	-	-		$I_C=100\mu\text{A}, I_B=0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5	-	-		$I_E=100\mu\text{A}, I_C=0$
Collector Cut-off Current	$I_{CBO}$	-	-	100	nA	$V_{CB}=40\text{V}, I_E=0$
Collector Cut-off Current	$I_{CEO}$	-	-	100		$V_{CE}=20\text{V}, I_B=0$
Emitter Cut-off Current	$I_{EBO}$	-	-	100		$V_{EB}=5\text{V}, I_C=0$
DC Current Gain	$h_{FE}$	120	-	350		$V_{CE}=1\text{V}, I_C=50\text{mA}$
		40	-	-		$V_{CE}=1\text{V}, I_C=500\text{mA}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	-	-	0.6	V	$I_C=500\text{mA}, I_B=50\text{mA}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	-	-	1.2	V	
Transition Frequency	$f_T$	-	150	-	MHz	$V_{CE}=6\text{V}, I_C=20\text{mA}, f=30\text{MHz}$

**CHARACTERISTICS CURVE**

Fig. 1 - Static Characteristics

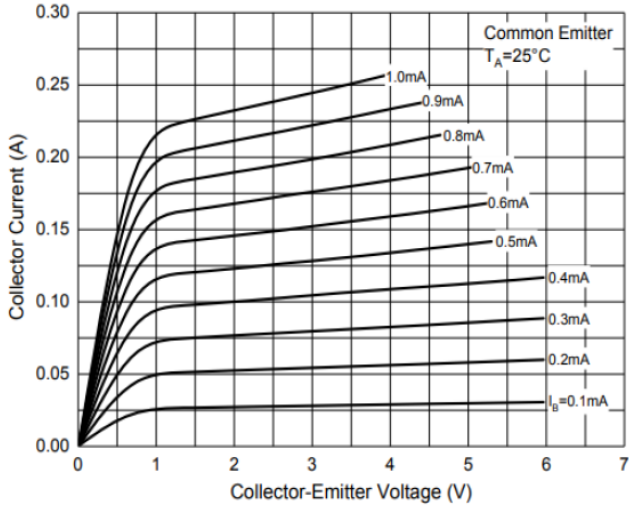


Fig. 2 - DC Current Gain Characteristics

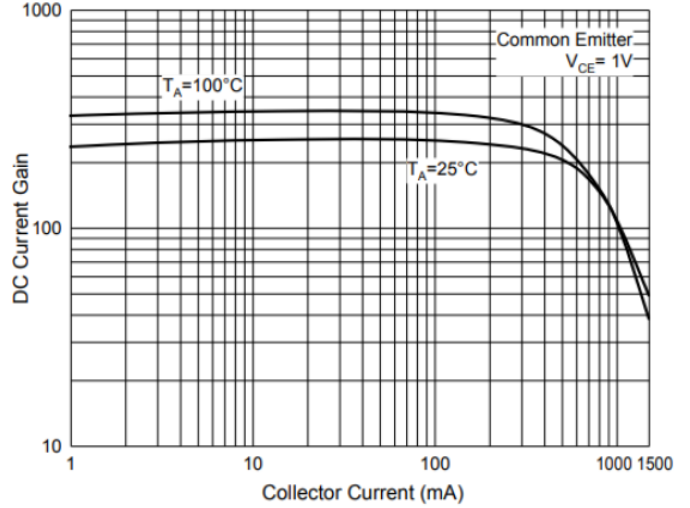


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

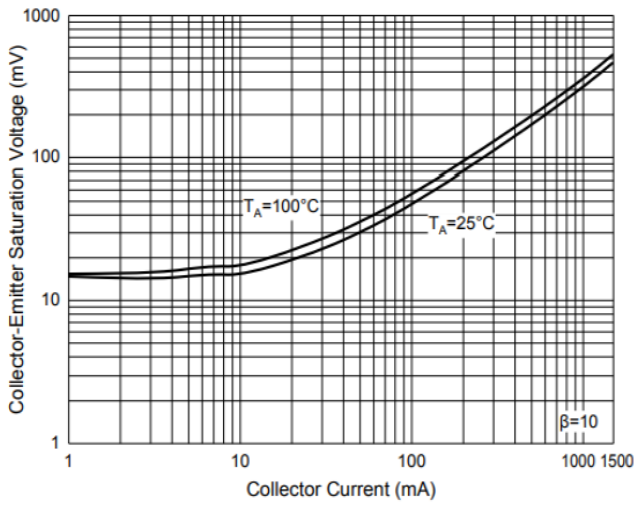


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

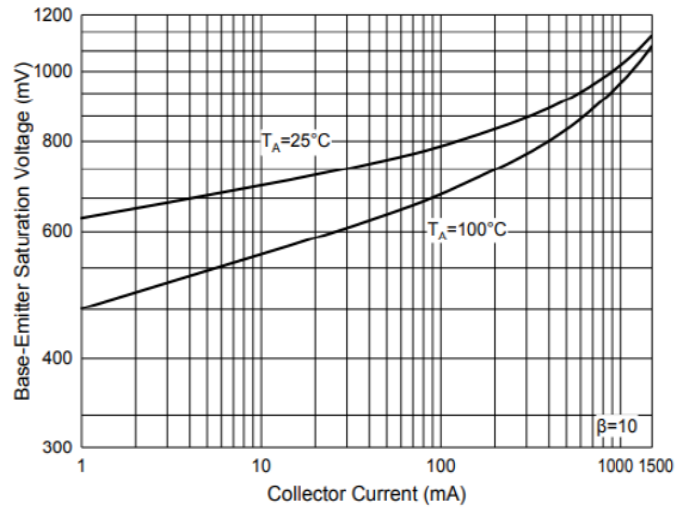


Fig. 5 - Base-Emitter Voltage Characteristics

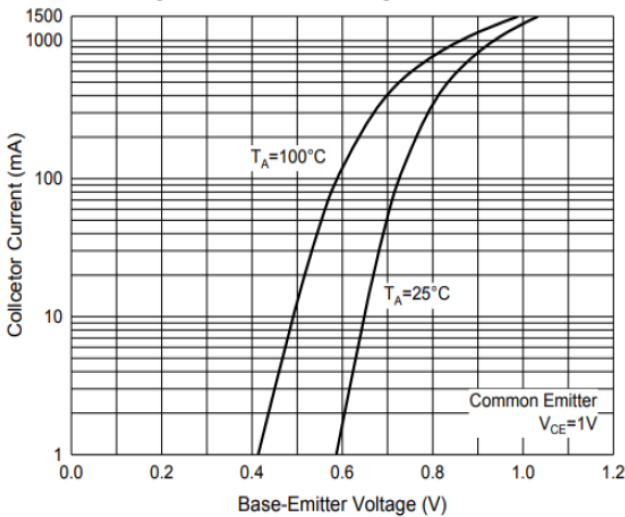
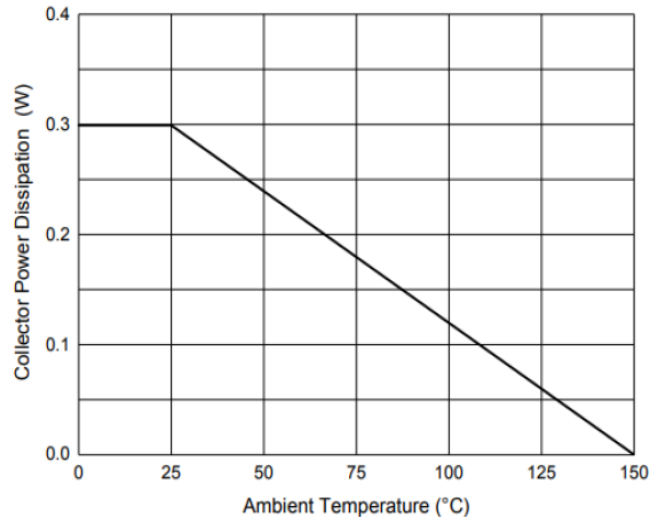
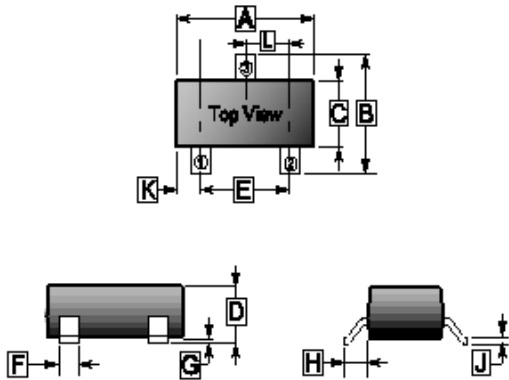


Fig. 6 - Collector Power Derating Curve



**PACKAGE OUTLINE DIMENSIONS**

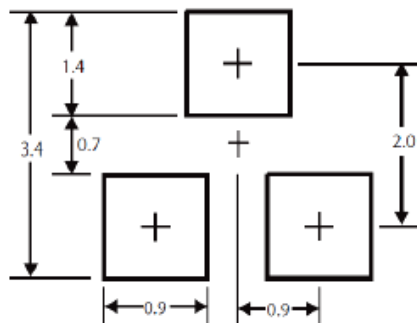
**SOT-23**



REF.	Millimeter	
	Min.	Max.
A	2.65	3.10
B	2.10	3.00
C	1.10	1.80
D	0.89	1.40
E	1.70	2.30
F	0.28	0.55
G	-	0.18
H	0.55 REF.	
J	0.05	0.26
K	0.60 REF.	
L	0.95 TYP.	

**MOUNTING PAD LAYOUT**

**SOT-23**



\*Dimensions in millimeters