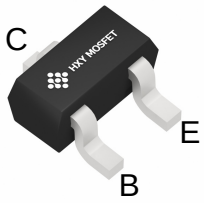
S8050T

NPN Plastic-Encapsulate Transistors

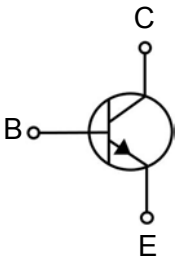
Features

Collector current I_C=0.5A.
Power amplifier applications.
Complementary to S8550T.

1. BASE
2. EMITTER
3. COLLECTOR



SOT-523



Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
S8050T	SOT-523	J3Y	3000

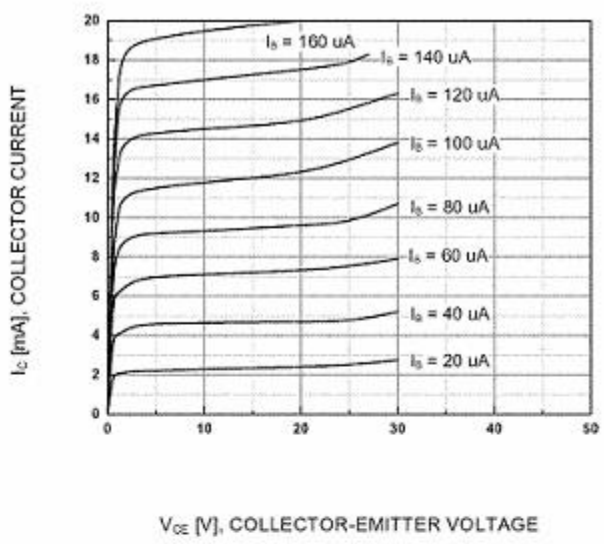
Maximum Ratings (Ta=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	25	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	0.5	A
P_C	Collector Power Dissipation	200	mW
$R_{\Theta JA}$	Thermal Resistance From Junction To Ambient	400	℃/W
T_J ,T_{stg}	Operation Junction And Storage Temperature Range	-55～+150	℃

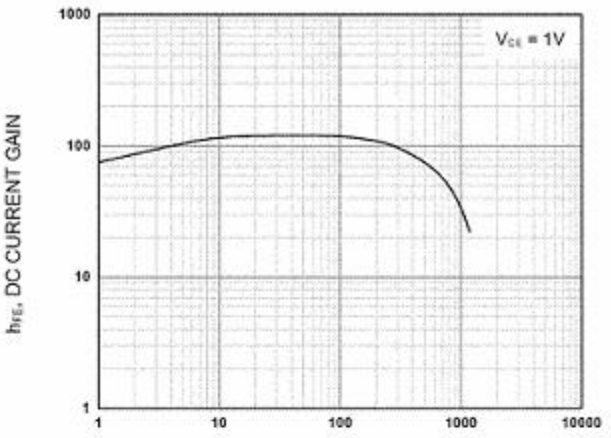
Electrical Characteristics (T_a =25°C unless otherwise specified)

Symbol	Parameter	Test conditions	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	I_C=100μA, I_E=0	40			V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	I_C=0.1mA, I_B=0	25			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	I_E=100μA, I_C=0	5			V
I_{CEO}	Collector cut-off current	V_{CE}=20V, I_E=0			100	nA
I_{CBO}	Collector cut-off current	V_{CB}=40V, I_E=0			100	nA
I_{EBO}	Emitter cut-off current	V_{EB}=5V, I_C=0			100	nA
$h_{FE}(1)$	DC current gain(1)	V_{CE}=1V, I_C=50mA	120		400	
$h_{FE}(2)$	DC current gain(2)	V_{CE}=1V, I_C=500mA	40			
$V_{CE(sat)}$	Collector-emitter saturation voltage	I_C=500mA,I_B=50mA			0.5	V
$V_{BE(sat)}$	Base-emitter saturation voltage				1.2	V
f_T	Transition frequency	V_{CE}=10V, I_C=50mA,f=300MHz	150			MHz
C_{Ob}	Collector output capacitance	V_{CB}=10V,I_E=0,f=1MHz			15	pF

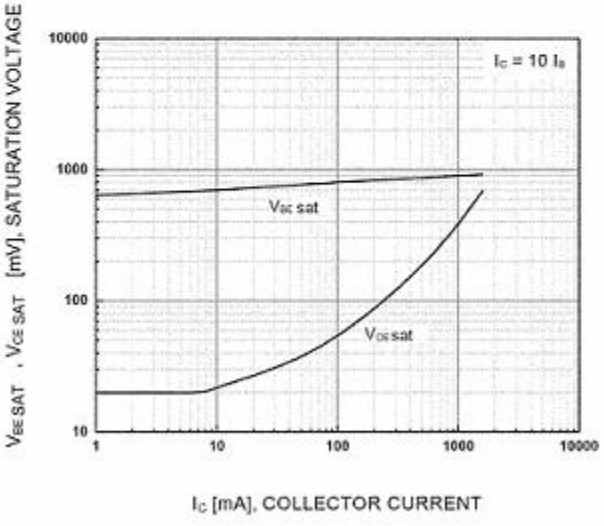
Typical Characteristics



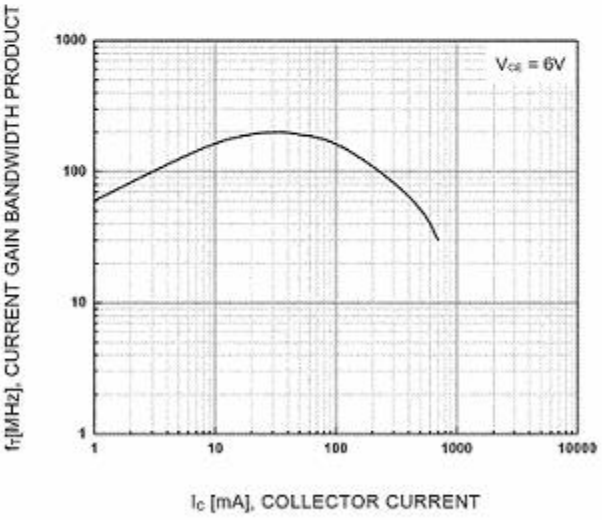
Static Characteristic



DC current Gain

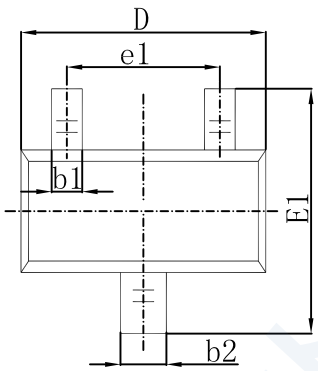


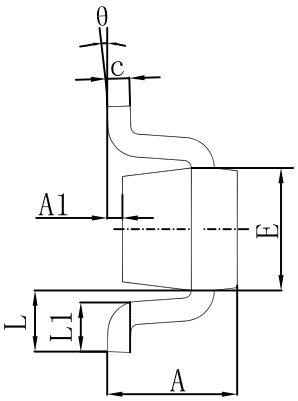
Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

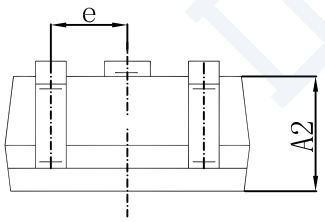


Current Gain Bandwidth Product

SOT-523 Package Outline Dimensions

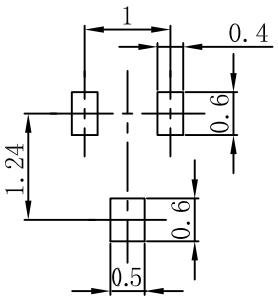






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	0.057	0.069
e	0.500 TYP.		0.020 TYP.	
e1	0.900	1.100	0.035	0.043
L	0.400 REF.		0.016 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

SOT-523 Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:±0.05mm.
3.The pad layout is for reference purposes only.

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