Small Signal Transistor

40V NPN
SOT23

Features

- Collector Current : Ic = 500mA
- Power Dissipation of 300mW
- High Stability and High Reliability

Mechanical Data

- Case: SOT23 Package
- Case Material: “Green” Molding Compound UL Flammability Classification Rating 94V-0
- Halogen Free

Note: Products with logo HY® or hy® are made by HY Electronic (Cayman) Limited.

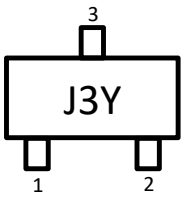
Ordering Information

- Package :SOT23
- Reel Size :7 (inches)
- Quantity Per Reel :3,000 pcs
- Quantity One Box :45,000 pcs
- Quantity One Carton :180,000 pcs

Package Outline

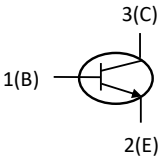
SOT23 Top View

Marking Information



"J3Y" = Product Type Marking Code

Device Schematic & PIN Configuration



Pin Assignment	
1	Base
2	Emitter
3	Collector

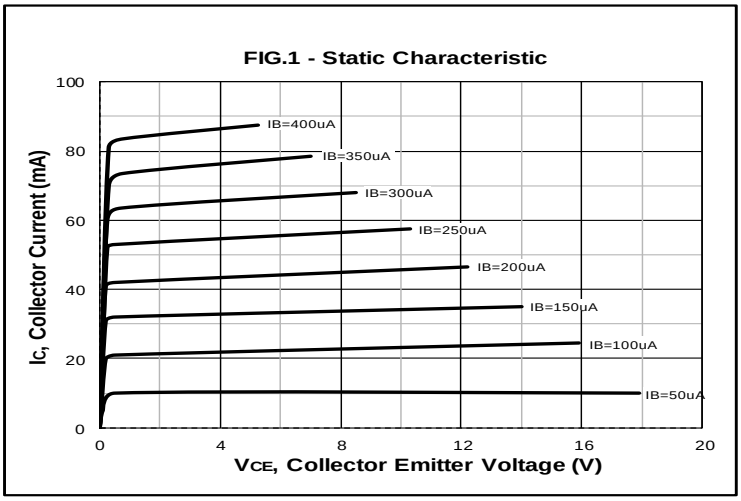
Maximum Ratings (@TA = +25°C, unless otherwise specified.)

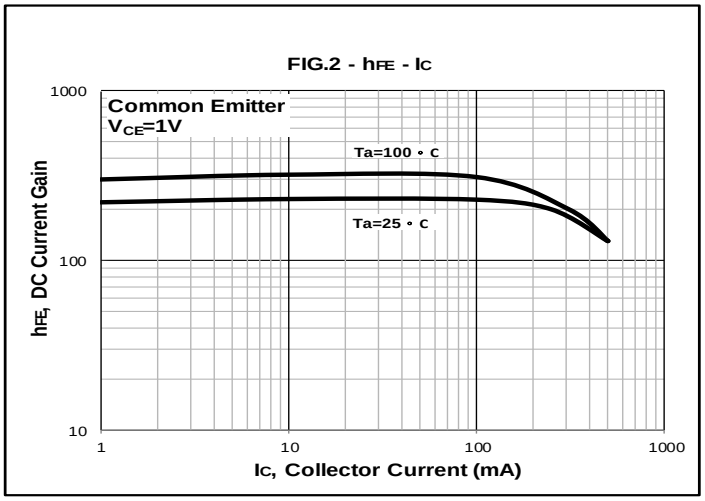
Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	25	
Emitter-Base Voltage	V_{EBO}	5	
Collector Current-Continuous	I_C	500	mA
Collector Power Dissipation	P_C	300	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	417	°C/W
Junction Temperature	Tj	150	° C
Storage Temperature Range	T_{STG}	-55 to +150	° C

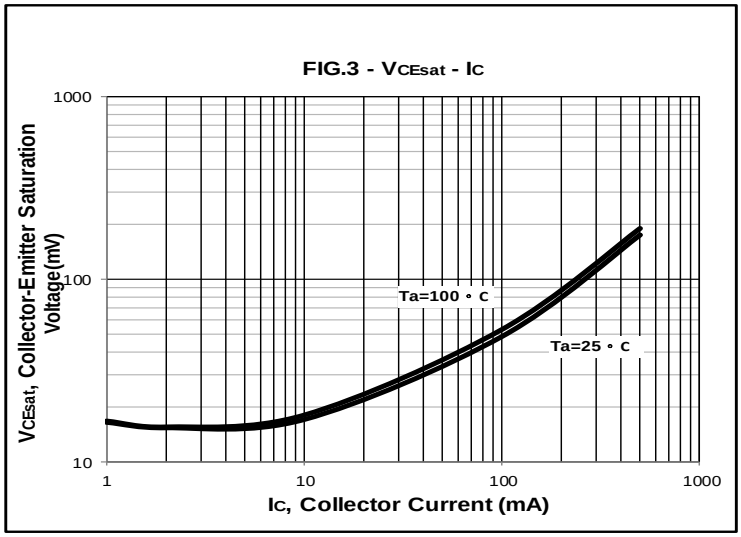
Electrical Characteristics(@TA = +25°C, unless otherwise specified.)

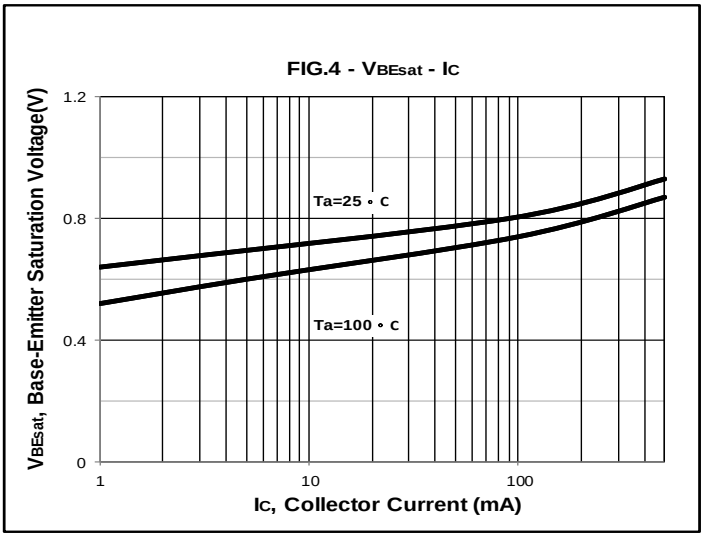
Parameter	Test Conditions	Symbol	Min	Max	Unit
Collector-Base Breakdown Voltage	I_C=100μA,I_E=0	$V_{(BR)CBO}$	40	-	V
Collector-Emitter Breakdown Voltage	I_C=1mA,I_B=0	$V_{(BR)CEO}$	25	-	
Emitter-Base Breakdown Voltage	I_E=100μA,I_C=0	$V_{(BR)EBO}$	5	-	
Collector Cut-Off Current	V_{CE}=20V,I_B=0	I_{CEO}	-	100	nA
Collector Cut-Off Current	V_{CB}=40V,I_E=0	I_{CBO}	-	100	
Emitter Cut-Off Current	V_{EB}=5V,I_C=0	I_{EBO}	-	100	
DC Current Gain	V_{CE}=1V,I_C=50mA	$h_{FE(1)}$	120	400	-
	V_{CE}=1V,I_C=500mA	$h_{FE(2)}$	50	-	
Collector-Emitter Saturation Voltage	I_C=500mA,I_B=50mA	$V_{CE(sat)}$	-	0.6	V
Base-Emitter Saturation Voltage	I_C=500mA,I_B=50mA	$V_{BE(sat)}$	-	1.2	V
Transition Frequency	V_{CE}=6V,I_C=20mA,F=30MHz	f_T	150	-	MHz

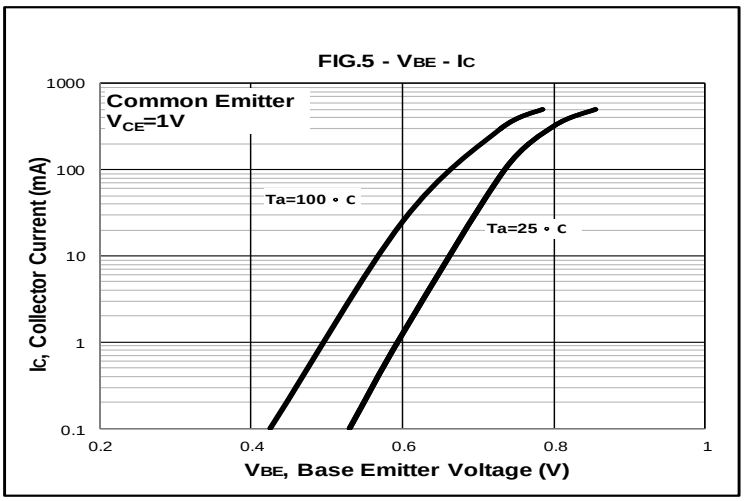
Rating and Characteristic Curves

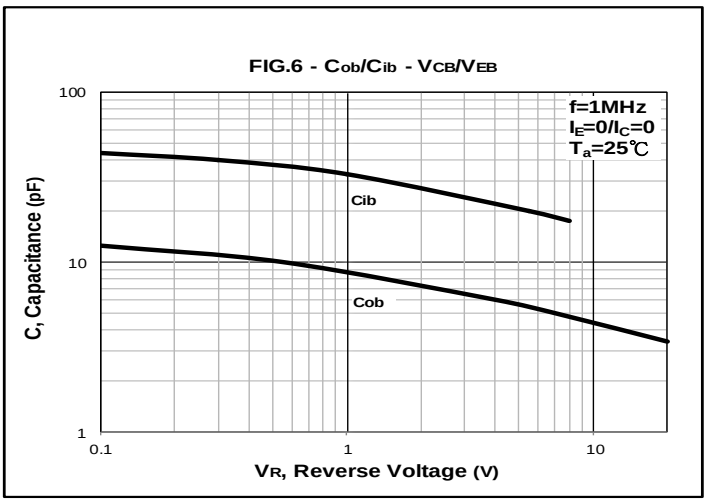






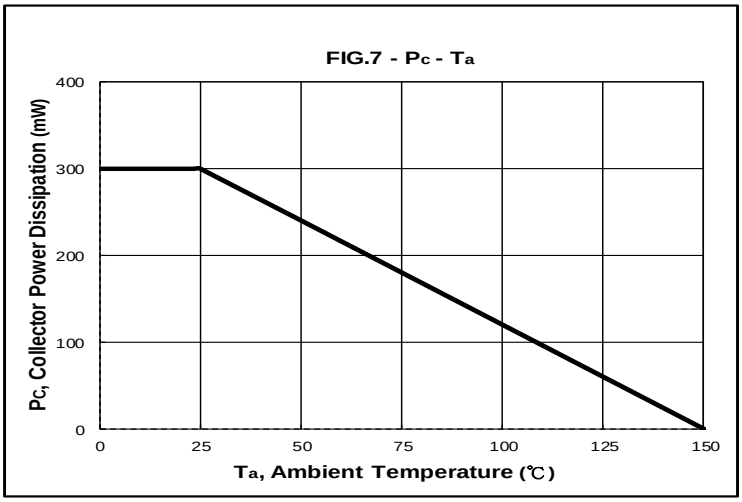


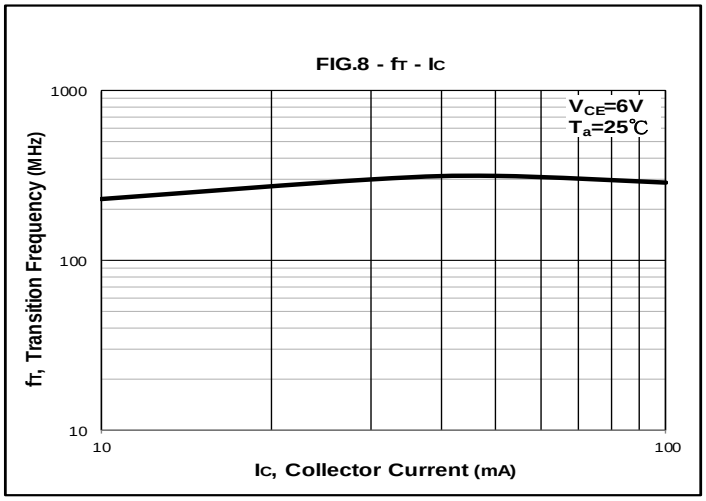




The curve above is for reference only.

Rating and Characteristic Curves





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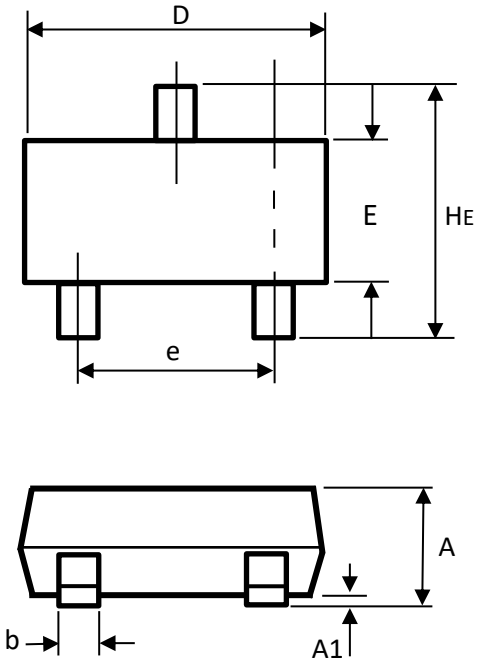
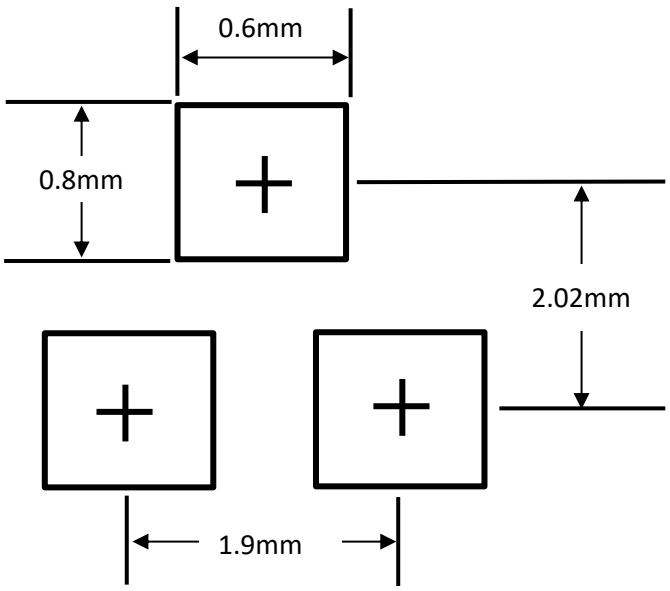
Package Outline Dimensions



SOT23 Package		
Dim	Min	Max
A	0.90	1.15
A1	0.00	0.10
b	0.30	0.50
c	0.08	0.15
D	2.80	3.00
E	1.20	1.40
e	1.80	2.00
L	0.55 REF	
HE	2.25	2.55
All Dimensions in mm		

Suggested Soldering Pad Layout



Note:

1.The pad layout is for reference purposes only.

2.General tolerance ±0.05mm

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