

## SOT-23 Plastic-Encapsulate Transistors

### Features

- High DC current gain:  $hFE=200$ (Typ),  $V_{CE}=6V, I_C=1mA$
- 200 mW Power Dissipation of 200mW
- High Stability and High Reliability

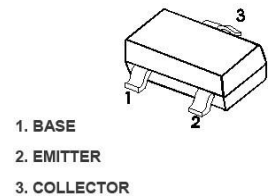
### Mechanical Data

- SOT-23 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any



**Marking:** SOT-23  
**According to** hFE

### Pin definition



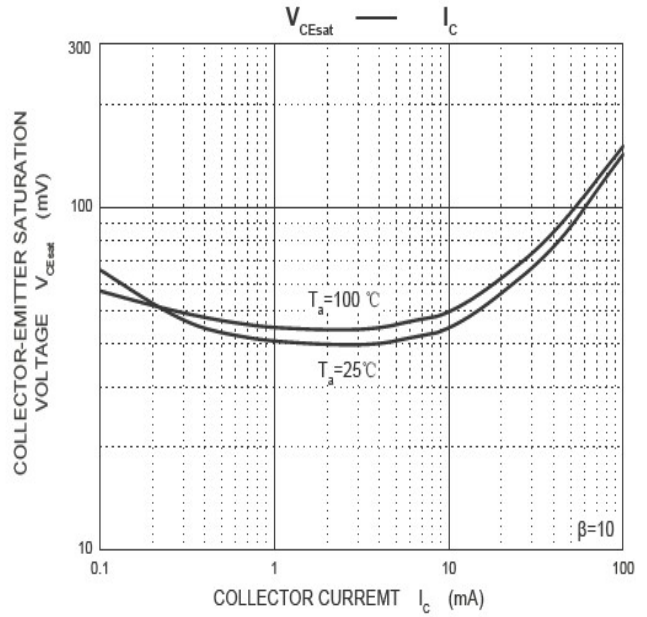
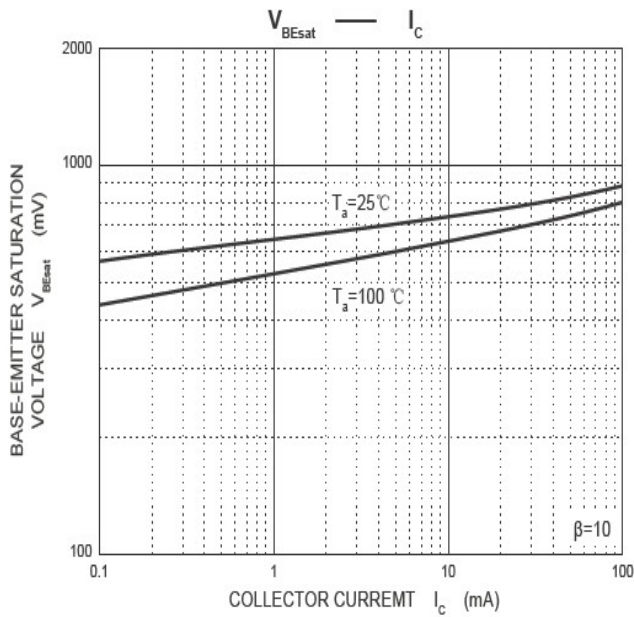
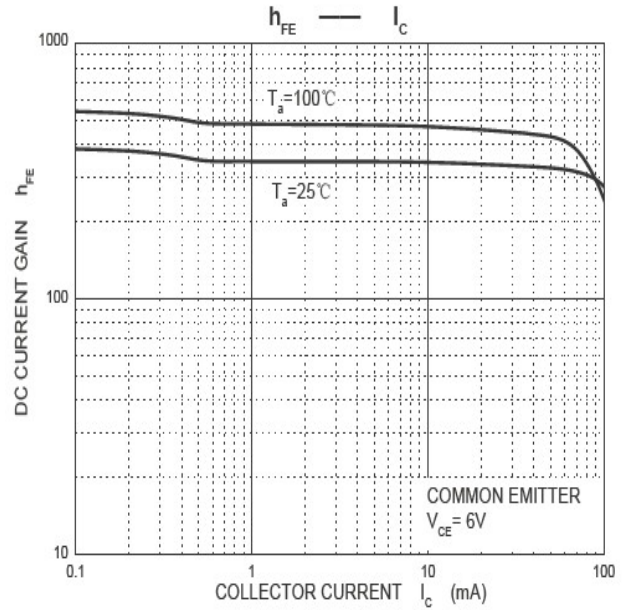
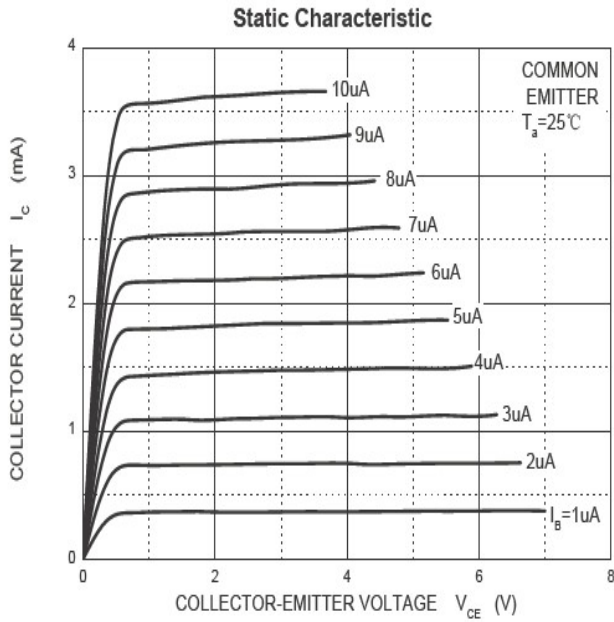
Maximum Ratings & Electrical Characteristics ( $T_A=25^{\circ}C$ unless otherwise noted)			
Parameter	Symbol	Value	Unit
Collector-Base Voltage	$V_{CBO}$	60	V
Collector-Emitter Voltage	$V_{CEO}$	50	V
Emitter -Base Voltage	$V_{EBO}$	5	V
Collector Current-Continuous	$I_C$	100	mA
Collector Power Dissipation	$P_C$	200	mW
Operating junction temperature range	$T_J$	150	$^{\circ}C$
Storage temperature range	$T_{STG}$	-55-+150	$^{\circ}C$
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	625	$^{\circ}C/W$

Electrical Specifications ( $T_A=25^{\circ}C$ unless otherwise noted)						
Parameter	Symbol	Test Conditions	Limits			Unit
			Min	Typ	Max	
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	50			
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A, I_C=0$	5			
Collector cut-off current	$I_{CBO}$	$V_{CB}=60V, I_E=0$			100	nA
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5V, I_C=0$			100	nA
DC current gain	$hFE(2)$	$V_{CE}=6V, I_C=1mA$	90	200	600	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=100mA, I_B=10mA$			0.30	V
Base -emitter saturation voltage	$V_{BE(sat)}$	$I_C=100mA, I_B=10mA$			1.00	
Transition frequency	$f_T$	$V_{CE}=6V, I_C=10mA, f=30MHz$		250		MHz

Classification OF $hFE(1)$				
RANK	L4	L5	L6	L7
RANGE	90-180	135-270	200-400	300-600
Marking	L4	L5	L6	L7

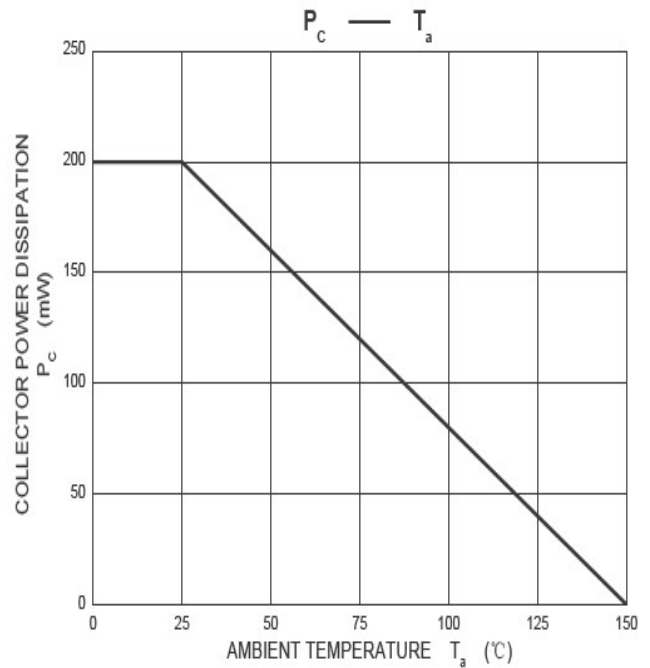
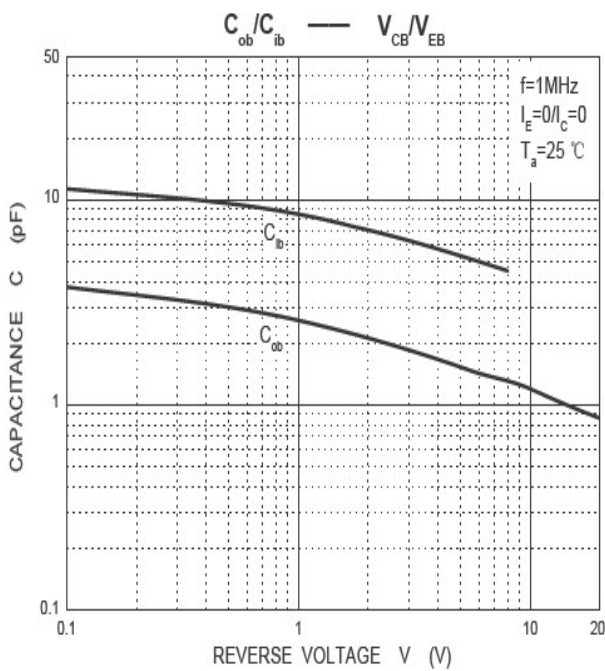
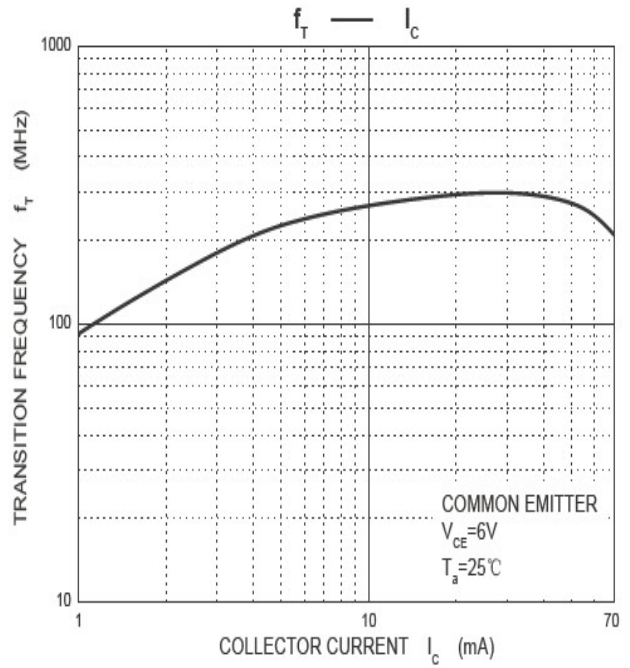
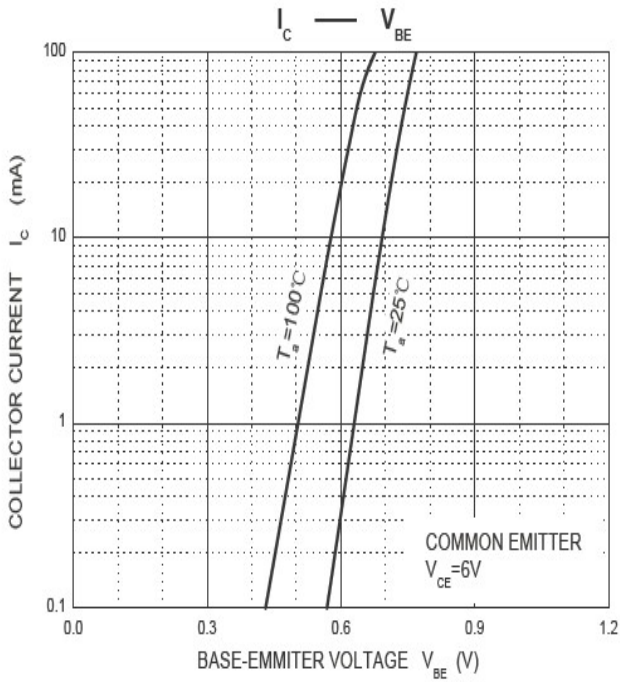
## Ratings and Characteristics Curves

( $T_a = 25^\circ\text{C}$  unless otherwise noted)



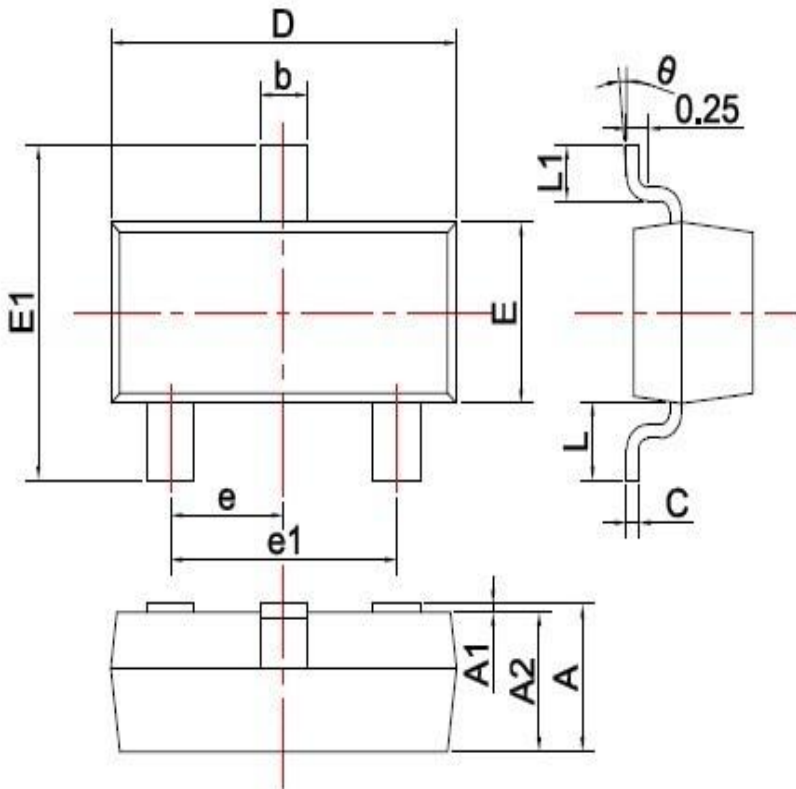
## Ratings and Characteristics Curves

( $T_a = 25^\circ\text{C}$  unless otherwise noted)



## Package Outline Dimensions

in inches (millimeters)



SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

Unit: mm

## Revision History

Document Version	Date of release	Description of changes
Rev.A	2018.01.10	First issue

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