

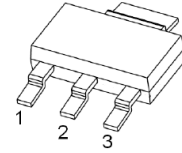
TRANSISTOR (PNP)

SOT-223 Plastic-Encapsulate Transistors

FEATURES

- Power Dissipation:1.25W
- Low Collector-emitter Saturation Voltage
- AEC-Q101 qualified (Automotive grade with suffix " Q".)
- Exsemi technology

SOT-223



1. BASE
2. COLLECTOR
3. EMITTER

MAXIMUM RATINGS($T_a=25\text{ }^\circ\text{C}$ unless otherwise not)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-30	V
V_{EBO}	Emitter-Base Voltage	-6	V
I_C	Collector Current -Continuous	-3	A
P_C	Collector Dissipation	1.25	W
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	100	$^\circ\text{C}/\text{W}$
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	

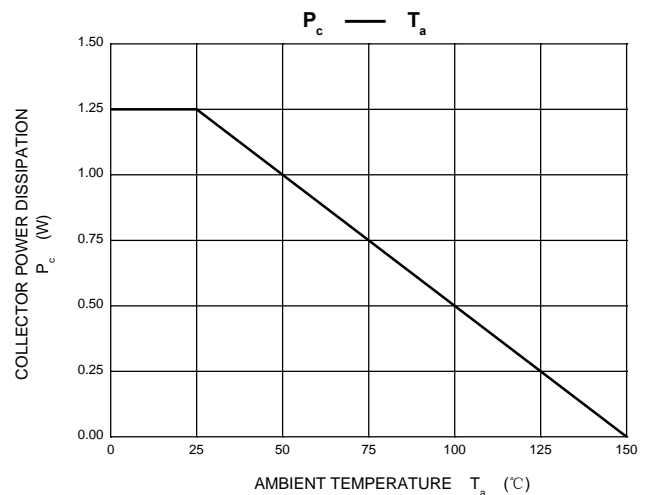
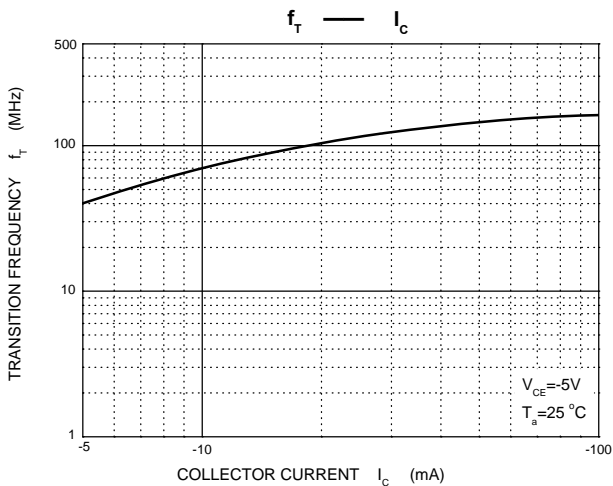
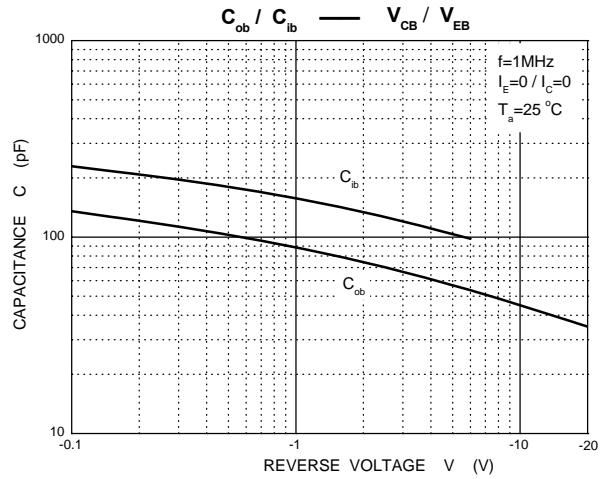
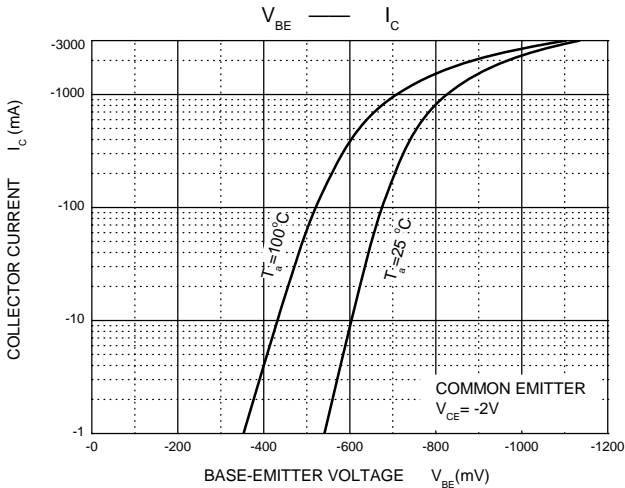
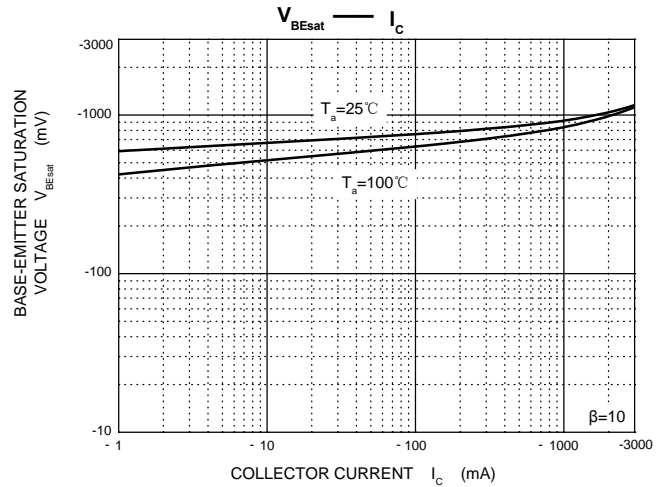
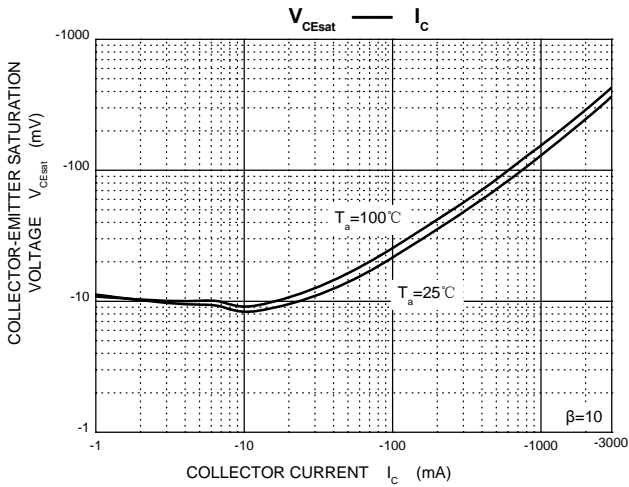
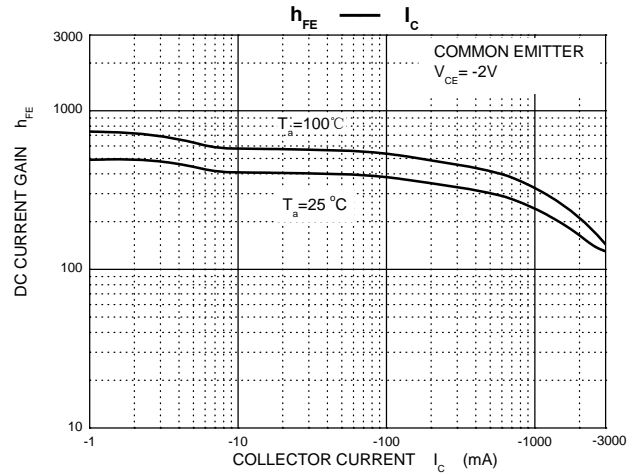
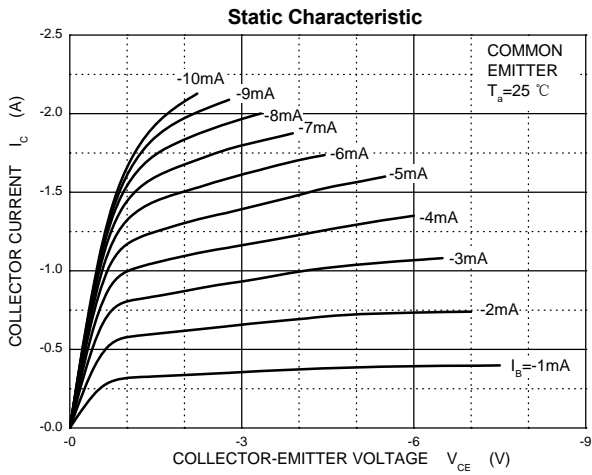
ELECTRICAL CHARACTERISTICS ($T_a=25\text{ }^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-100\mu\text{A}, I_E=0$	-40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-10\text{mA}, I_B=0$	-30			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-100\mu\text{A}, I_C=0$	-6			V
Collector cut-off current	I_{CBO}	$V_{CB}=-40\text{V}, I_E=0$			-1	μA
Collector cut-off current	I_{CEO}	$V_{CE}=-30\text{V}, I_B=0$			-10	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=-6\text{V}, I_C=0$			-1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=-2\text{V}, I_C=-1\text{A}$	60		400	
	$h_{FE(2)}$	$V_{CE}=-2\text{V}, I_C=-100\text{mA}$	32			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-2\text{A}, I_B=-0.2\text{A}$			-0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=-2\text{A}, I_B=-0.2\text{A}$			-1.5	V
Transition frequency	f_T	$V_{CE}=-5\text{V}, I_C=-0.1\text{A}$ $f=10\text{MHz}$	50			MHz

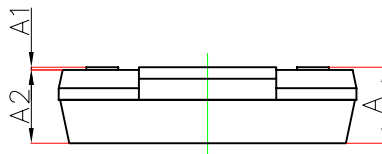
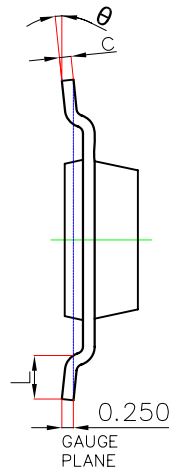
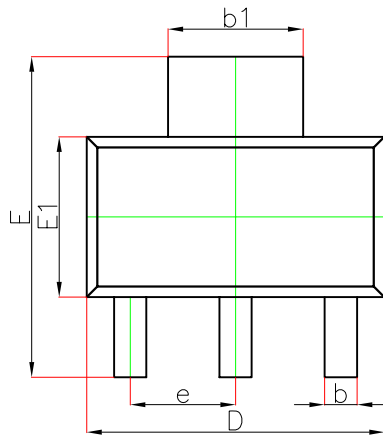
CLASSIFICATION of $h_{FE(1)}$

Rank	R	O	Y	GR
Range	60-120	100-200	160-320	200-400

Typical Characteristics

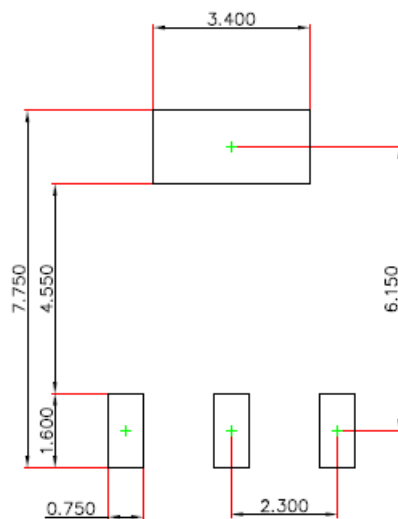


SOT-223 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	—	1.800	—	0.071
A1	0.020	0.100	0.001	0.004
A2	1.500	1.700	0.059	0.067
b	0.660	0.840	0.026	0.033
b_1	2.900	3.100	0.114	0.122
c	0.230	0.350	0.009	0.014
D	6.300	6.700	0.248	0.264
E	6.700	7.300	0.264	0.287
E1	3.300	3.700	0.130	0.146
e	2.300(BSC)		0.091(BSC)	
L	0.750	—	0.030	—
θ	0°	10°	0°	10°

SOT-223 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.050 mm.
3. The pad layout is for reference purposes only.