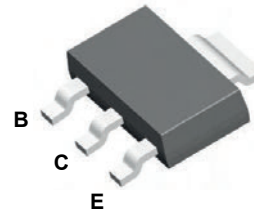
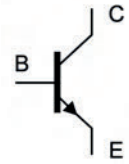


Features

- High breakdown voltage
- Low collector-emitter saturation voltage



SOT-223



Schematic Diagram

Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CB0}	300	V
Collector-Emitter Voltage	V_{CE0}	300	V
Emitter-Base Voltage	V_{EB0}	6	V
Collector Current-Continuous	I_C	0.2	A
Collector Current-Pulsed	I_{CM}	0.5	A
Collector Power Dissipation	P_C	1	W
Operation Junction and Storage Temperature Range	T_J, T_{stg}	-55 to +150	$^{\circ}\text{C}$

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CB0}$	$I_C=100\mu\text{A}, I_E=0$	300	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CE0}$	$I_C=1\text{mA}, I_B=0$	300	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EB0}$	$I_E=100\mu\text{A}, I_C=0$	6	-	-	V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=200\text{V}, I_E=0$	-	-	0.1	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=6\text{V}, I_C=0$	-	-	0.1	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=10\text{V}, I_C=1\text{mA}$	25	-	-	-
	$h_{FE(2)}$	$V_{CE}=10\text{V}, I_C=10\text{mA}$	40	-	-	-
	$h_{FE(3)}$	$V_{CE}=10\text{V}, I_C=30\text{mA}$	40	-	-	-
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=20\text{mA}, I_B=2\text{mA}$	-	-	0.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=20\text{mA}, I_B=2\text{mA}$	-	-	0.9	V
Transition Frequency	f_T	$V_{CE}=20\text{V}, I_C=10\text{mA}, F=100\text{MHz}$	50	-	-	MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=20\text{V}, I_E=0, F=1\text{MHz}$	-	-	3	pF

Typical Electrical Characteristic Curves

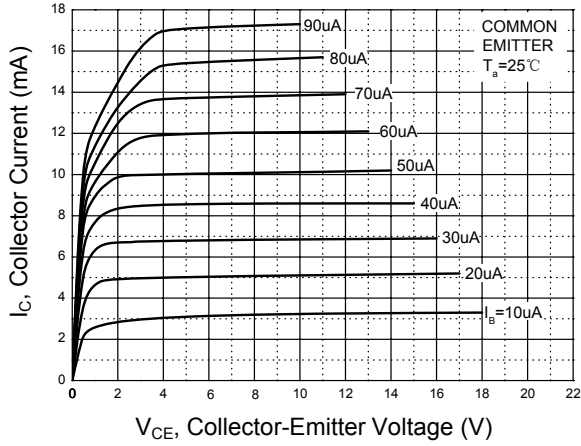


Figure 1. $I_C - V_{CE}$

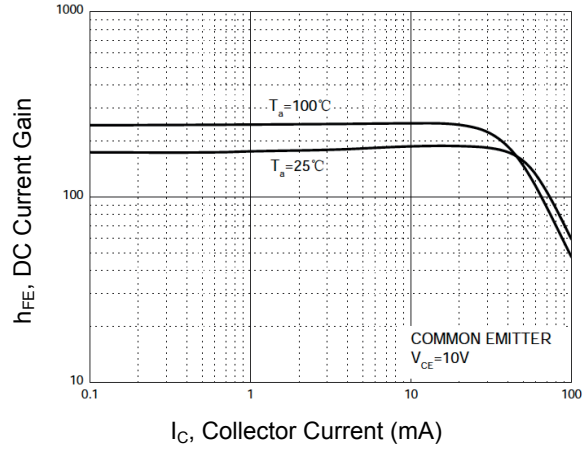


Figure 2. $h_{FE} - I_C$

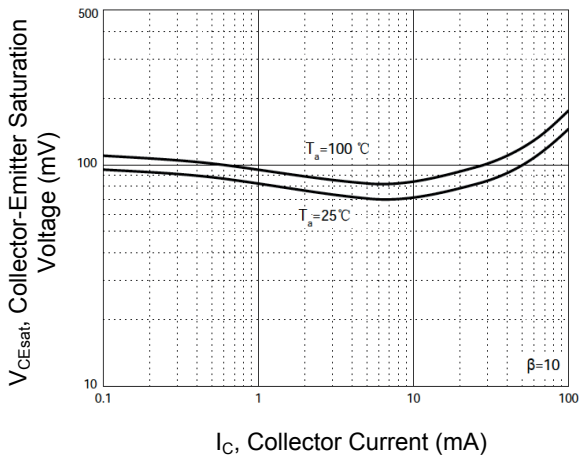


Figure 3. $V_{CE(sat)} - I_C$

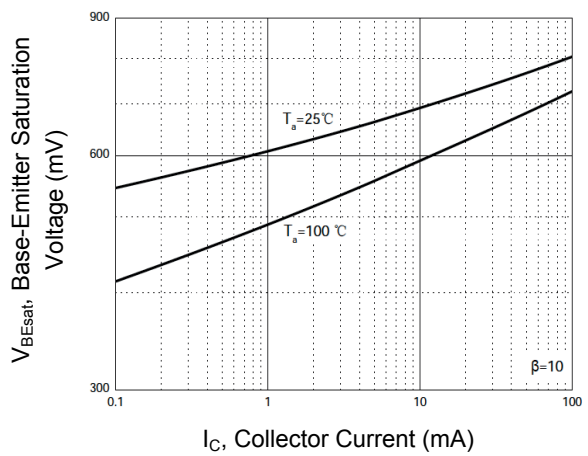


Figure 4. $V_{BE(sat)} - I_C$

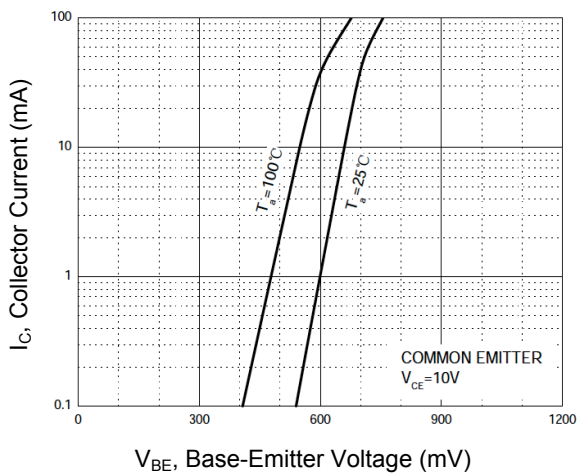


Figure 5. $I_C - V_{BE}$

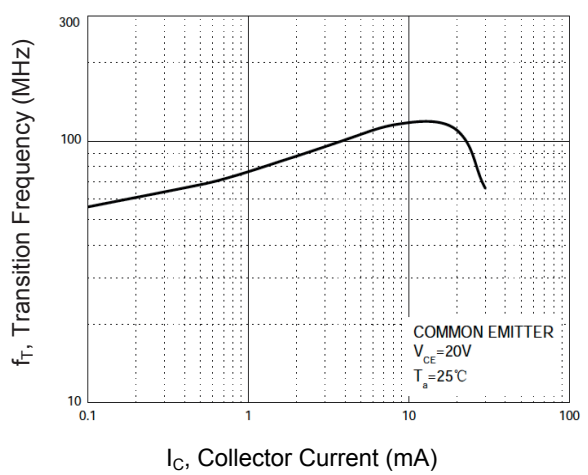


Figure 6. $f_T - I_C$

Typical Electrical Characteristic Curves

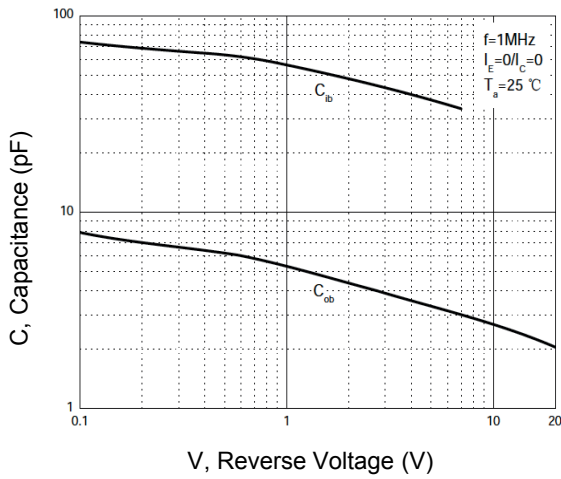


Figure 7. $C_{ob}/C_{ib} - V_{CB}/V_{EB}$

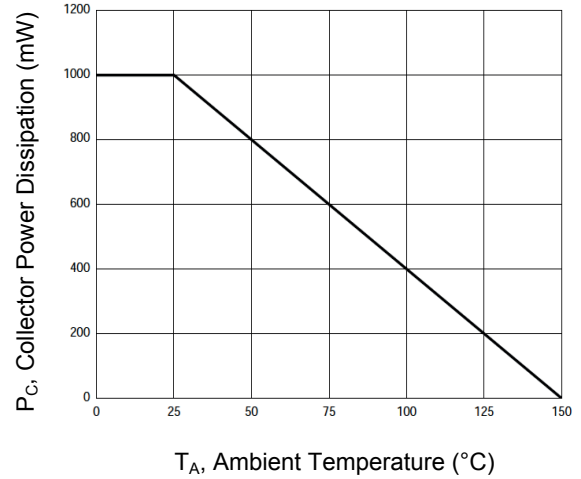
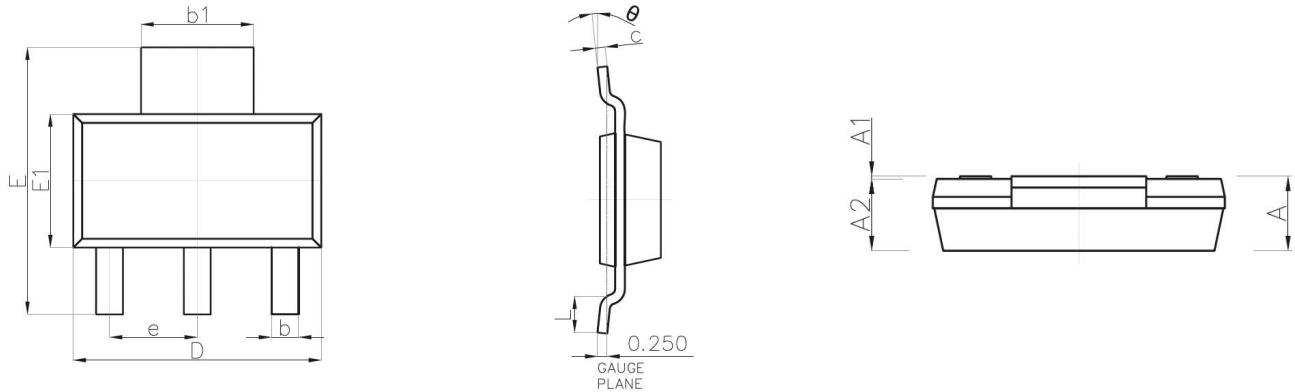


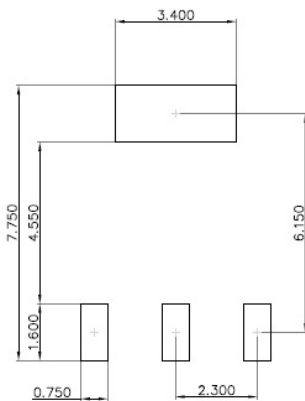
Figure 8. $P_C - T_a$

Package Outline Dimensions (SOT-223)



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
b1	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°

Recommended Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

Order Information

Device	Package	Marking	Quantity	HSF Status
PZTA42	SOT-223	ZTA42	2,500pcs / Reel	RoHS Compliant