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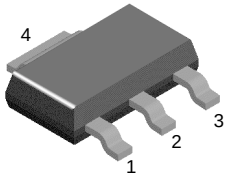
FZT790A

PNP Low Saturation Transistor

- These devices are designed with high current gain and low saturation voltage with collector currents up to 3A continuous.



SOT-223

1. Base 2.4. Collector 3. Emitter

Absolute Maximum Ratings * T_C=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage	-40	V
V_{CBO}	Collector-Base Voltage	-50	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current - Continuous	-3	A
T_J, T_{STG}	Operating and Storage Junction Temperature Range	- 55 ~ +150	°C

* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES:
1. These ratings are based on a maximum junction temperature of 150degrees C.
2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Electrical Characteristics T_A=25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min.	Max.	Units
Off Characteristics					
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C = -10mA, I_B = 0	-40		V
BV_{CBO}	Collector-Emitter Breakdown Voltage	I_C = -100µA, I_E = 0	-50		V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E = -100µA, I_C = 0	-5.0		V
I_{CBO}	Collector Cut-off Current	V_{CB} = -30V, I_E = 0 V_{CB} = -30V, I_E = 0, T_A = 100°C		-100 -10	nA µA
I_{EBO}	Emitter Cut-off Current	V_{EB} = -4V, I_C = 0		-100	nA
On Characteristics *					
h_{FE}	DC Current Gain	V_{CE} = -2.0V, I_C = -10mA V_{CE} = -2.0V, I_C = -500mA V_{CE} = -2.0V, I_C = -1.0A V_{CE} = -2.0V, I_C = -2.0A	300 250 200 150	800	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C = -500mA, I_B = -5.0mA I_C = -1.0A, I_B = -10mA I_C = -2.0A, I_B = -50mA		-0.25 -0.45 -0.75	mV
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C = -1.0A, I_B = -10mA		-1.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C = -1.0A, V_{CE} = -2.0V		-1.0	V
Small Signal Characteristics					
f_T	Transition Frequency	I_C = -50mA, V_{CE} = -5.0V, f = 50MHz	100		MHz

* Pulse Test: Pulse Width ≤300µs, Duty Cycle ≤ 2.0%

Thermal Characteristics

Symbol	Parameter	Max.	Units
P_D	Total Device Dissipation	2	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	62.5	°C/W

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Typical Characteristics

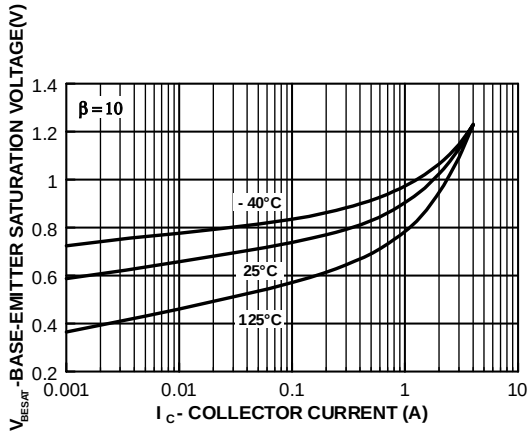

Figure 1. Base-Emitter Saturation Voltage vs Collector Current

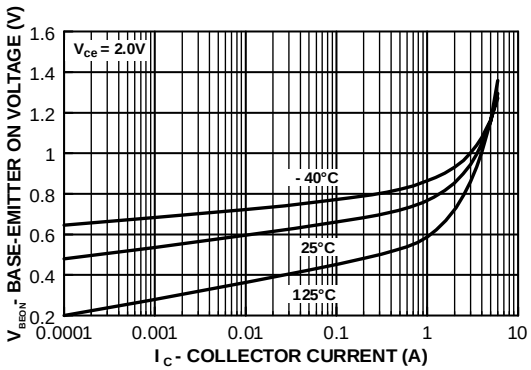

Figure 2. Base-Emitter On Voltage vs Collector Current

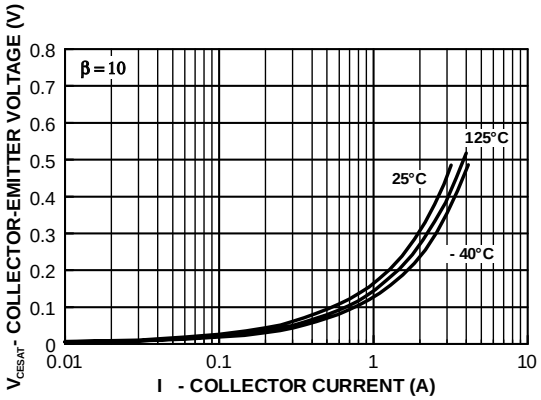

Figure 3. Collector-Emitter Saturation Voltage vs Collector Current

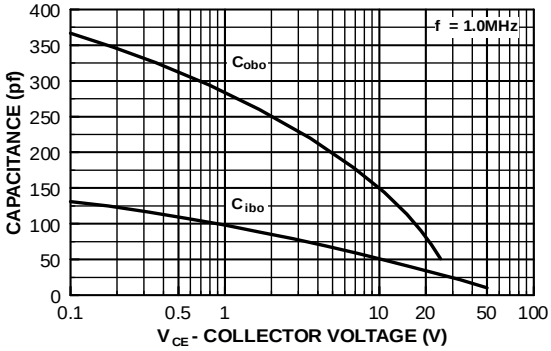

Figure 4. Input/Output Capacitance vs Reverse Bias Voltage

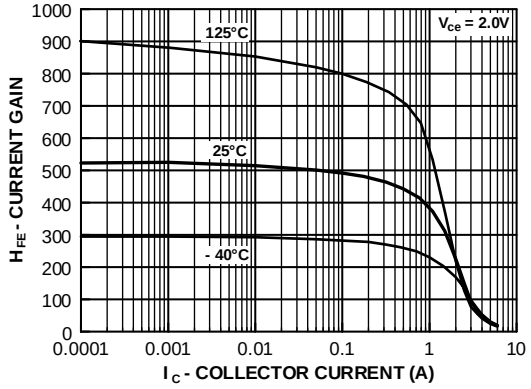

Figure 5. Current Gain vs Collector Current

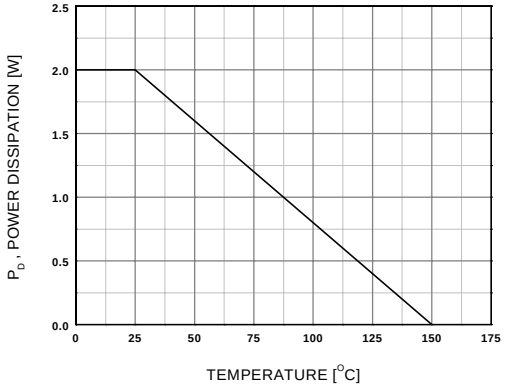

Figure 6. Power Dissipation vs Ambient Temperature

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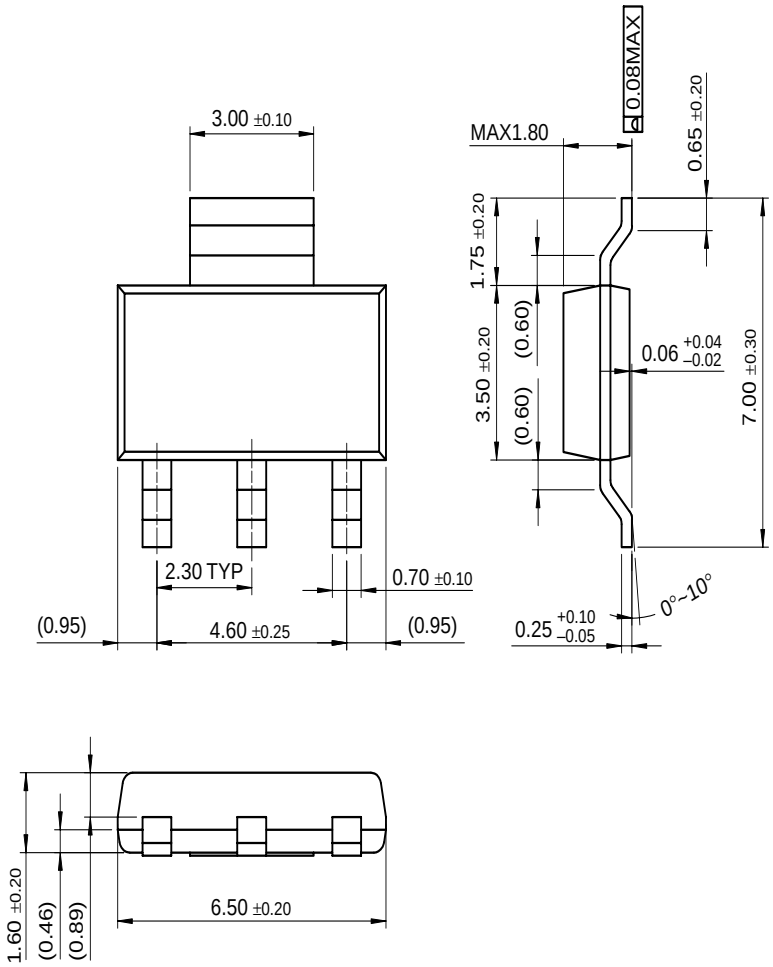
Package Dimensions

SOT-223



Dimensions in Millimeters

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CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
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Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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