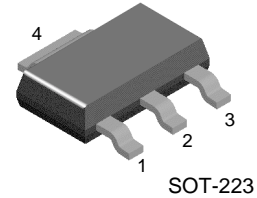


FZT790A

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. Collector 3. Emitter

Absolute Maximum Ratings * $T_C=25^\circ\text{C}$ 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	$^\circ\text{C}$

* 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 $T_A=25^\circ\text{C}$ unless otherwise noted

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

* Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2.0\%$

Thermal Characteristics

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

Typical Characteristics

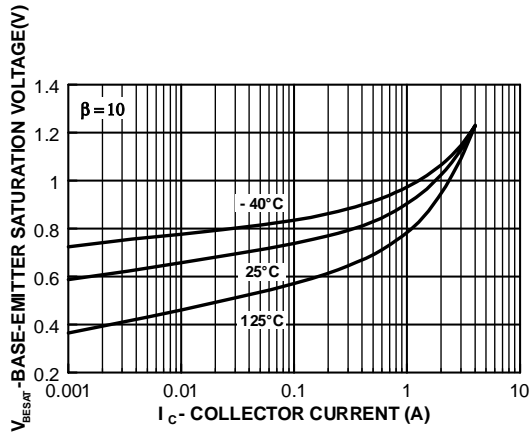


Figure 1. Base-Emitter Saturation Voltage vs Collector Current

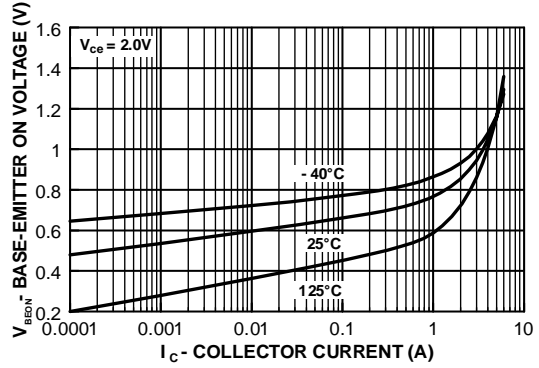


Figure 2. Base-Emitter On Voltage vs Collector Current

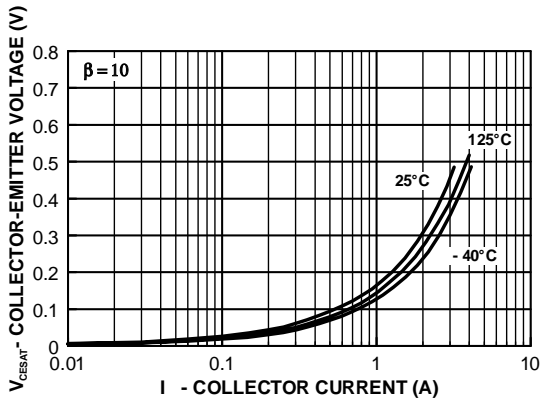


Figure 3. Collector-Emitter Saturation Voltage vs Collector Current

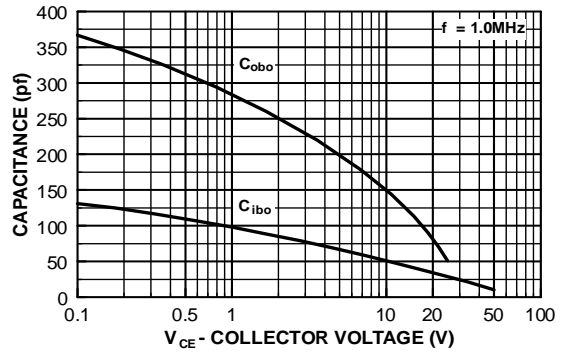


Figure 4. Input/Output Capacitance vs Reverse Bias Voltage

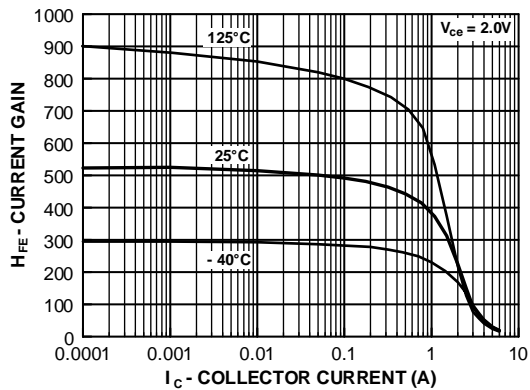


Figure 5. Current Gain vs Collector Current

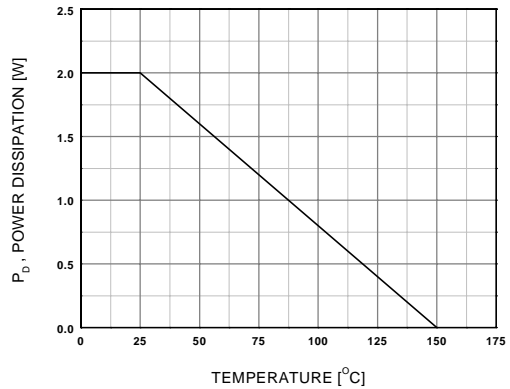
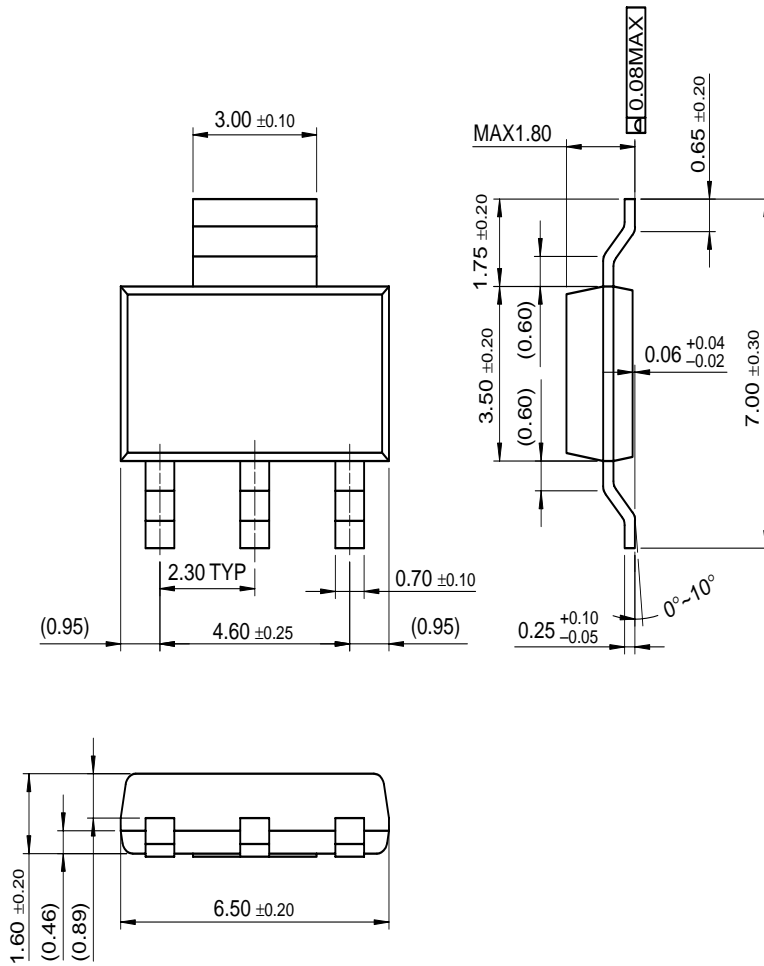


Figure 6. Power Dissipation vs Ambient Temperature

Package Dimensions

FZT790A

SOT-223



Dimensions in Millimeters

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