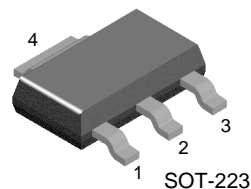


NZT660/NZT660A

PNP Low Saturation Transistor

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



1. Base 2. Collector 3. Emitter

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

Symbol	Parameter	NZT660	NZT660A	Units
V_{CEO}	Collector-Emitter Voltage	60	60	V
V_{CBO}	Collector-Base Voltage	80	60	V
V_{EBO}	Emitter-Base Voltage	5	5	V
I_C	Collector Current - Continuous	3	3	A
T_J, T_{STG}	Operating and Storage Junction Temperature Range	- 55 ~ +150	- 55 ~ +150	$^\circ\text{C}$

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

NOTES:

- These ratings are based on a maximum junction temperature of 150°C .
- 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.	Typ.	Max.	Units
Off Characteristics						
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C = 10\text{mA}$	60			V
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C = 100\mu\text{A}$	80			V
		NZT660	60			V
		NZT660A				
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E = 100\mu\text{A}$	5			V
I_{CBO}	Collector-Base Cutoff Current	$V_{CB} = 30\text{V}$ $V_{CB} = 30\text{V}, T_A = 100^\circ\text{C}$			100	nA
					10	μA
I_{EBO}	Emitter-Base Cutoff Current	$V_{EB} = 4\text{V}$			100	nA
On Characteristics *						
h_{FE}	DC Current Gain	$I_C = 100\text{mA}, V_{CE} = 2\text{V}$ $I_C = 500\text{mA}, V_{CE} = 2\text{V}$	70		300	
		NZT660	100			
		NZT660A	250		550	
		$I_C = 1\text{A}, V_{CE} = 2\text{V}$ $I_C = 3\text{A}, V_{CE} = 2\text{V}$	80			
			25			
$V_{CE}(\text{sat})$	Collector-Emitter Saturation Voltage	$I_C = 1\text{A}, I_B = 100\text{mA}$ $I_C = 3\text{A}, I_B = 300\text{mA}$			300	mV
		NZT660			550	mV
		NZT660A			500	mV
$V_{BE}(\text{sat})$	Base-Emitter Saturation Voltage	$I_C = 1\text{A}, I_B = 100\text{mA}$			1.25	V
$V_{BE}(\text{on})$	Base-Emitter On Voltage	$I_C = 1\text{A}, V_{CE} = 2\text{V}$			1	V
Small Signal Characteristics						
C_{obo}	Output Capacitance	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$			45	pF
f_T	Transition Frequency	$I_C = 100\text{mA}, V_{CE} = 5\text{V}, f = 100\text{MHz}$	75			MHz

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

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

Symbol	Parameter	Max.	Units
		NZT660/NZT660A	
P_D	Total Device Dissipation	2	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	62.5	$^{\circ}\text{C}/\text{W}$

NZT660/NZT660A

Typical Characteristics

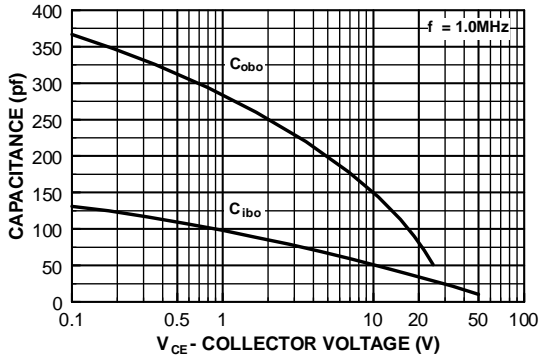


Figure 1. Base-Emitter Saturation Voltage vs Collector Current

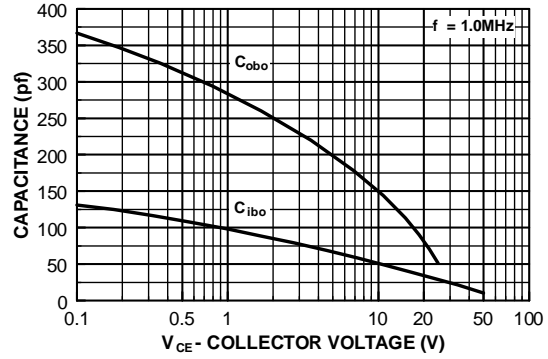


Figure 2. Base-Emitter On Voltage vs Collector Current

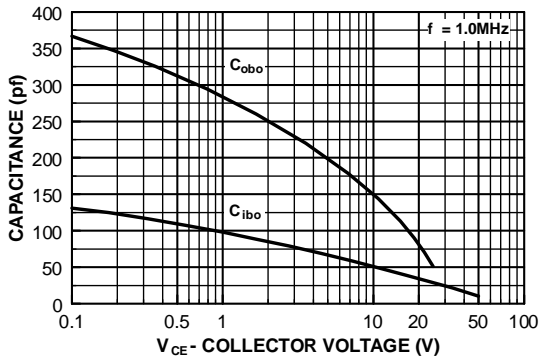


Figure 3. Collector-Emitter Saturation Voltage vs Collector Current

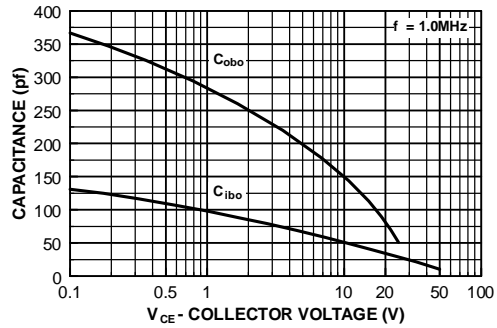


Figure 4. Input/Output Capacitance vs Reverse Bias Voltage

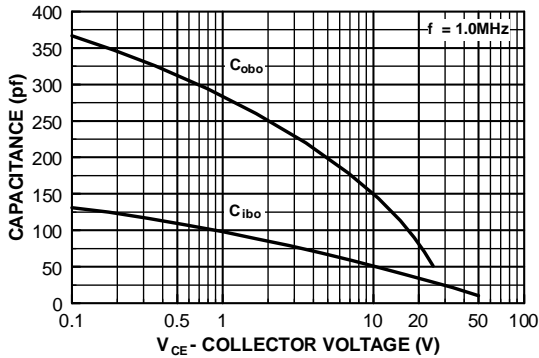
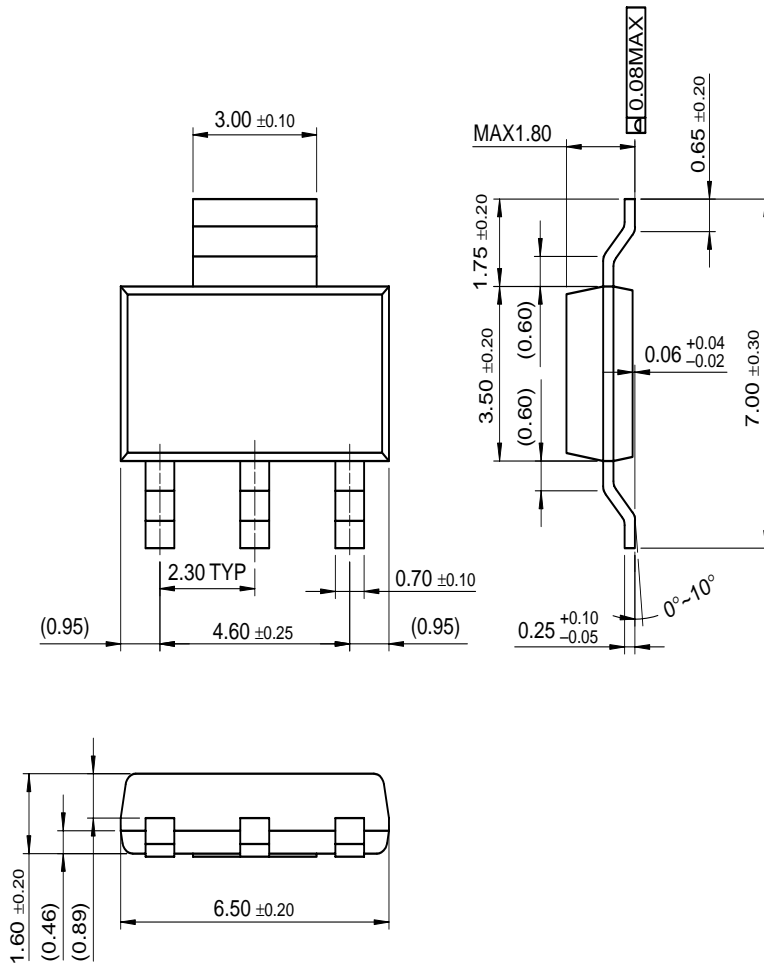


Figure 5. Current Gain vs Collector Current

Package Dimensions

SOT-223

NZT1660/NZT1660A



Dimensions in Millimeters

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