



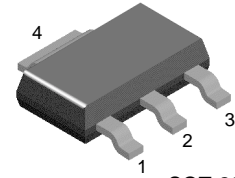
THE DATASHEET OF
NZT749



NZT749

PNP Current Driver Transistor

- This device is designed for power amplifier, regulator and switching circuit where speed is important.
- Sourced from process 5P.



SOT-223

1. Base 2, 4. Collector 3. Emitter

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

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage	-25	V
V_{CBO}	Collector-Base Voltage	-35	V
V_{EBO}	Emitter-Base Voltage	-5.0	V
I_C	Collector Current (DC) - Continuous	-4.0	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 150 degrees 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 Condition	Min.	Max.	Units
Off Characteristics					
$V_{(BR)CEO}$	Collector-Emitter Voltage	$I_C = -10\text{mA}, I_B = 0$	-25		V
$V_{(BR)CBO}$	Collector-Base Voltage	$I_C = -100\mu\text{A}, I_E = 0$	-35		V
$V_{(BR)EBO}$	Emitter-Base Voltage	$I_E = -10\mu\text{A}, I_C = 0$	-5.0		V
I_{CBO}	Collector Cut-off Current	$V_{CB} = -30\text{V}, I_E = 0$		-100	nA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = -4\text{V}, I_C = 0$		-0.1	μA
On Characteristics *					
h_{FE}	DC Current Gain	$V_{CE} = -2.0\text{V}, I_C = -50\text{mA}$ $V_{CE} = -2.0\text{V}, I_C = -1.0\text{A}$ $V_{CE} = -2.0\text{V}, I_C = -2.0\text{A}$	70 80 65	300	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -1.0\text{A}, I_B = -100\text{mA}$		-0.3	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = -1.0\text{A}, I_B = -100\text{mA}$		-1.25	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	Current gain Bandwidth Product	$V_{CE} = -5.0\text{V}, I_C = -50\text{mA}$ $f = 100\text{MHz}$	75		MHz

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

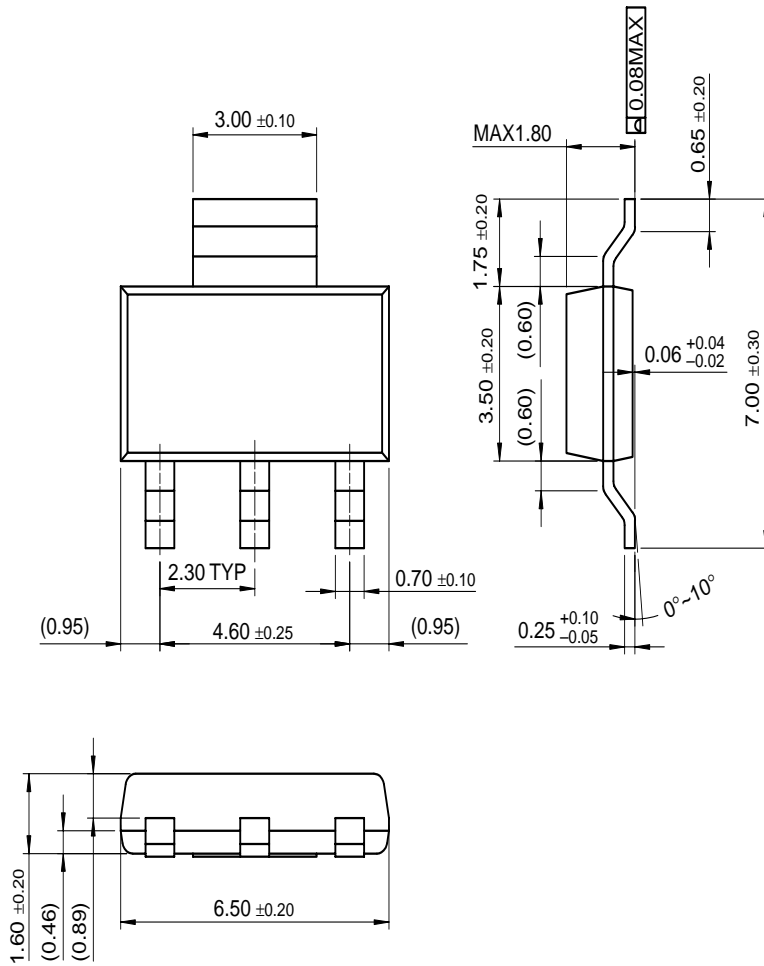
Thermal Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Max.	Units
P_D	Total Device Dissipation Derate above 25°C	1.2 9.7	W $\text{mW}/^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	103	$^\circ\text{C}/\text{W}$

Package Dimensions

NZT749

SOT-223



Dimensions in Millimeters

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