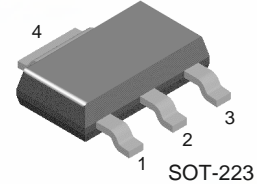


**FAIRCHILD**  
SEMICONDUCTOR®

## N2T753

### PNP Current Driver Transistor

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



1. Base 2. Collector 3. Emitter

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

Symbol	Parameter	Value	Units
$V_{CEO}$	Collector-Emitter Voltage	- 100	V
$V_{CBO}$	Collector-Base Voltage	- 120	V
$V_{EBO}$	Emitter-Base Voltage	- 5.0	V
$I_C$	Collector Current - 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:**

- These ratings are based on a maximum junction temperature of  $150^\circ\text{C}$ .
- 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.	Max.	Units
<b>Off Characteristics</b>					
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -10\text{mA}, I_B = 0$	-100		V
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C = -100\mu\text{A}, I_E = 0$	-120		V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E = -100\mu\text{A}, I_C = 0$	-5.0		V
$I_{CBO}$	Collector-Base Cutoff Current	$V_{CB} = -100\text{V}, I_E = 0$ $T_A = 100^\circ\text{C}$		-0.1 -10	$\mu\text{A}$ $\mu\text{A}$
$I_{EBO}$	Emitter-Base Cutoff Current	$V_{EB} = -4\text{V}, I_C = 0$		-0.1	$\mu\text{A}$
<b>On Characteristics *</b>					
$h_{FE}$	DC Current Gain	$V_{CE} = -2.0\text{V}, I_C = -50\text{mA}$ $V_{CE} = -2.0\text{V}, I_C = -500\text{mA}$ $V_{CE} = -2.0\text{V}, I_C = -1.0\text{A}$	70 100 55	300	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -1.0\text{A}, I_B = -50\text{mA}$		-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	$V_{CE} = -2.0\text{V}, I_C = -1.0\text{A}$		-1.0	V
<b>Small Signal Characteristics</b>					
$f_T$	Transition Frequency	$V_{CE} = -5\text{V}, I_C = -100\text{mA}, f = 100\text{MHz}$	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 $25^\circ\text{C}$	1.2 9.7	W $\text{mW}/^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	103	$^\circ\text{C}/\text{W}$

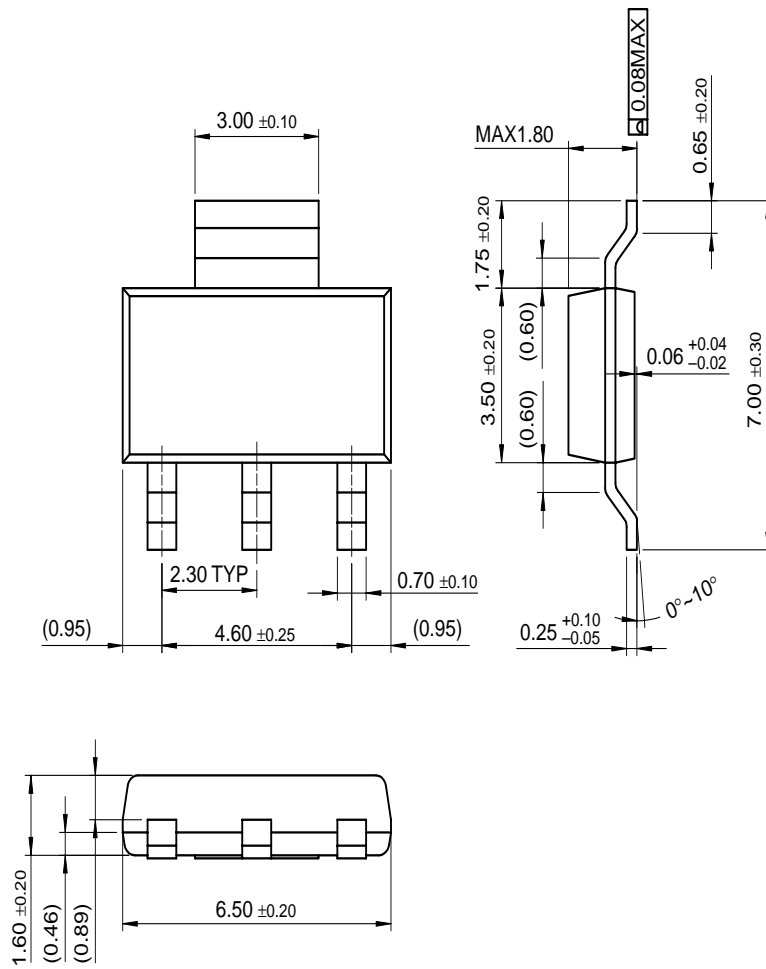
\* Device mounted on FR-4 PCB  $36\text{mm} \times 18\text{mm} \times 1.5\text{mm}$ ; mounting pad for the collector lead min  $6\text{cm}^2$ .



# Package Dimensions

NZT753

## SOT-223



Dimensions in Millimeters

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CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
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## PRODUCT STATUS DEFINITIONS

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Datasheet Identification	Product Status	Definition
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