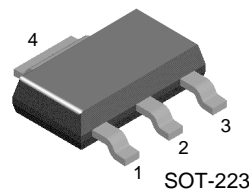


NZT753

NZT753

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°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
Off Characteristics					
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	μA
I_{EBO}	Emitter-Base Cutoff Current	$V_{EB} = -4\text{V}, I_C = 0$		-0.1	μA
On Characteristics *					
h_{FE}	DC Current Gain	$V_{CE} = -2.0\text{V}, I_C = -50\text{mA}$ $V_{CE} = -2.0\text{V}, I_C = -500\text{mA}$ $V_{CE} = -2.0\text{V}, I_C = -1.0\text{A}$	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
Small Signal Characteristics					
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°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 6cm^2 .

Technical drawing of a mechanical part, showing three views: Top View, Side View, and Front View.

Top View Dimensions:

- Overall width: 6.50 ± 0.25
- Overall height: 3.00 ± 0.10
- Central raised section width: 3.00 ± 0.10
- Central raised section height: 0.70 ± 0.10
- Distance from left edge to first mounting hole: 2.30 TYP
- Distance between mounting holes: 0.70 ± 0.10
- Distance from right edge to last mounting hole: 0.70 ± 0.10
- Mounting hole diameter: $\varnothing 0.08 \text{ MAX}$

Side View Dimensions:

- Overall height: 7.00 ± 0.30
- Top surface slope: $0^\circ \sim 10^\circ$
- Top surface thickness: $0.25^{+0.10}_{-0.05}$
- Central raised section height: 1.75 ± 0.20
- Central raised section width: 3.50 ± 0.20
- Central raised section thickness: $0.06^{+0.04}_{-0.02}$
- Distance from top surface to central raised section: 1.75 ± 0.20
- Distance from central raised section to bottom surface: 0.65 ± 0.20
- Bottom surface thickness: 0.65 ± 0.20

Front View Dimensions:

- Overall width: 6.50 ± 0.20
- Overall height: 1.60 ± 0.20
- Mounting hole diameter: $\varnothing 0.08 \text{ MAX}$

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