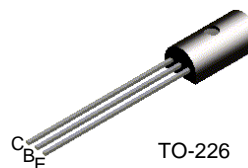


# ZTX614

ZTX614

## NPN Darlington Transistor

- This device is designed for applications requiring extremely high gain at collector currents to 0.5A and high breakdown voltage.
- Sourced from process 06.



## 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	10	V
$I_C$	Collector Current - Continuous	800	mA
$T_J, T_{STG}$	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  $150^\circ\text{C}$ .
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

## Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
<b>Off Characteristics</b>						
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage*	$I_C = 10\text{mA}, I_B = 0$	100			V
$V_{(BR)CBO}$	Collector-Emitter Breakdown Voltage	$I_C = 100\mu\text{A}, I_E = 0$	120			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = 100\mu\text{A}, I_C = 0$	10			
$I_{CBO}$	Collector Cutoff Current	$V_{CB} = 60\text{V}, I_E = 0$			0.1	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB} = 8\text{V}, I_C = 0$			0.1	$\mu\text{A}$
<b>On Characteristics*</b>						
$h_{FE}$	DC Current Gain	$I_C = 100\text{mA}, V_{CE} = 5\text{V}$ $I_C = 500\text{mA}, V_{CE} = 5\text{V}$	5000 10000			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 800\text{mA}, I_B = 8\text{mA}$			1.25	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = 800\text{mA}, V_{BE} = 5\text{V}$			1.8	V

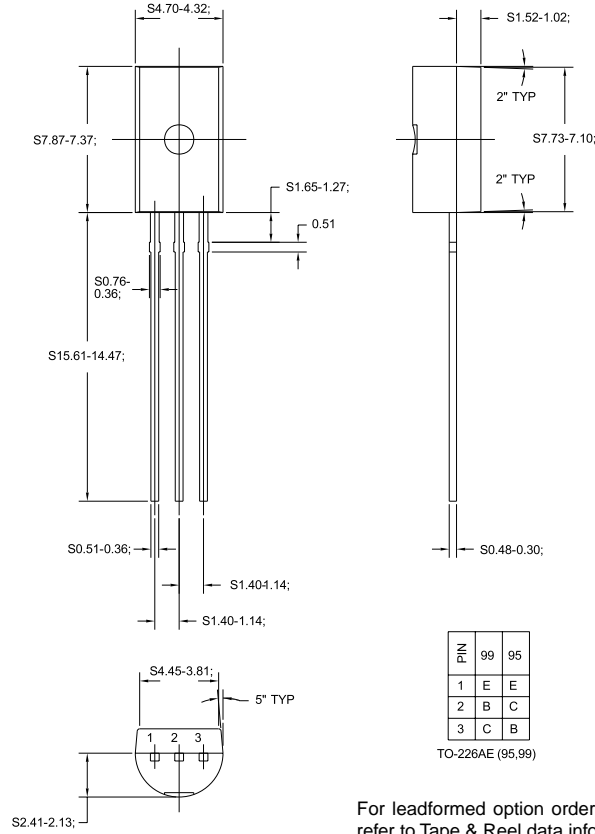
\* Pulse Test: Pulse Width  $\leq 300\mu\text{s}$ , Duty Cycle  $\leq 1.0\%$

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

Symbol	Parameter	Max.	Units
$P_D$	Total Device Dissipation Derate above $25^\circ\text{C}$	1000 8	mW $\text{mW}/^\circ\text{C}$
$R_{\theta JC}$	Thermal Resistance, Junction to Case	50	$^\circ\text{C}/\text{W}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	125	$^\circ\text{C}/\text{W}$

# Package Dimensions

## TO-226



For leadformed option ordering,  
refer to Tape & Reel data information.

Dimensions in Millimeters

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