

## Features

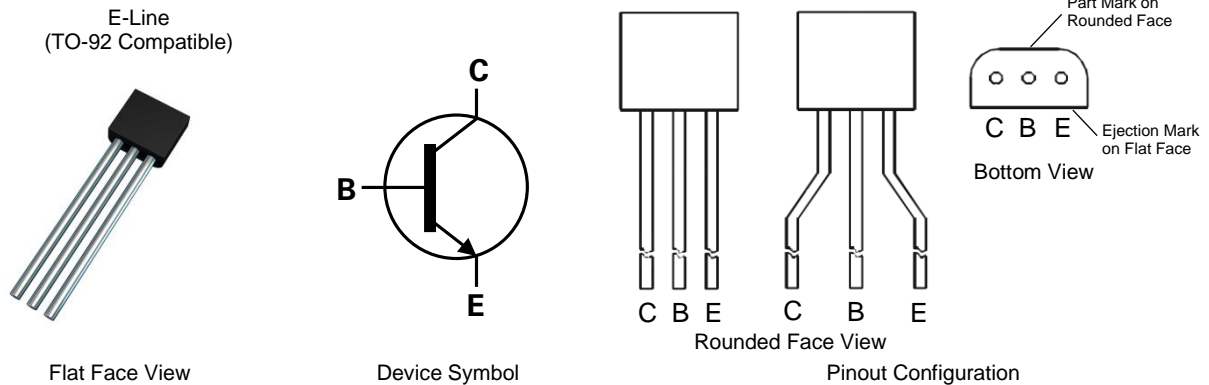
- $BV_{CEO} > -80V$
- $I_C = -1A$  High Continuous Collector Current
- $I_{CM} = -2A$  Peak Pulse Current
- $T_J$  up to  $+200^\circ C$  for High-Temperature Operation
- $P_D = 1W$  Power Dissipation
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **For automotive applications requiring specific change control (i.e.: parts qualified to AEC-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please refer to the related automotive grade (Q-suffix) part. A listing can be found at <https://www.diodes.com/products/automotive/automotive-products/>.**
- **This part is qualified to JEDEC standards (as references in AEC-Q) for High Reliability. <https://www.diodes.com/quality/product-definitions/>**

## Mechanical Data

- Package: E-Line
- Package Material: Molded Plastic, "Green" Molding Compound  
UL Flammability Classification Rating 94V-0
- Terminals: Finish – Matte Tin Plated Leads, Solderable per MIL-STD-202, Method 208 (E3)
- Weight: 0.159 grams (Approximate)

## Applications

- LCD backlight converters
- Emergency lighting
- DC-DC converters

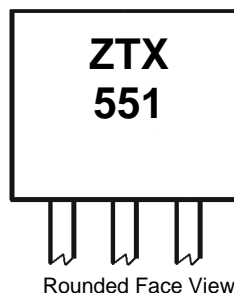


## Ordering Information (Note 4)

Part Number	Status	Package	Marking	Leads	Packing	
					Qty.	Carrier
ZTX550	Obsolete (Use ZTX551)	E-Line	ZTX550	Straight	4,000	Loose in a Box
ZTX550STZ	Obsolete (Use ZTX551STZ)	E-Line	ZTX550	Joggled	2,000	Taped per Ammo Box
ZTX551	Released	E-Line	ZTX551	Straight	4,000	Loose in a Box
ZTX551STZ	Released	E-Line	ZTX551	Joggled	2,000	Taped per Ammo Box

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
  2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
  3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
  4. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

## Marking Information



ZTX551 = Product Type Marking Code

### Maximum Ratings (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V <sub>CBO</sub>	ZTX550 -60	V
		ZTX551 -80	
Collector-Emitter Voltage	V <sub>CEO</sub>	ZTX550 -45	V
		ZTX551 -65	
Emitter-Base Voltage	V <sub>EBO</sub>	-5	V
Continuous Collector Current	I <sub>C</sub>	-1	A
Peak Pulse Current	I <sub>CM</sub>	-2	A

### Thermal Characteristics (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P <sub>D</sub>	1.5	W
Power Dissipation (Note 6)	P <sub>D</sub>	1	W
Thermal Resistance Junction to Ambient (Note 5)	R <sub>θJA</sub>	116	°C/W
Thermal Resistance Junction to Ambient (Note 6)	R <sub>θJA</sub>	175	°C/W
Thermal Resistance Junction to Lead (Note 7)	R <sub>θJL</sub>	63.75	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +200	°C

### ESD Ratings (Note 8)

Characteristic	Symbol	Value	Unit	JEDEC Class
Electrostatic Discharge - Human Body Model	ESD HBM	4,000	V	3A
Electrostatic Discharge - Machine Model	ESD MM	400	V	C

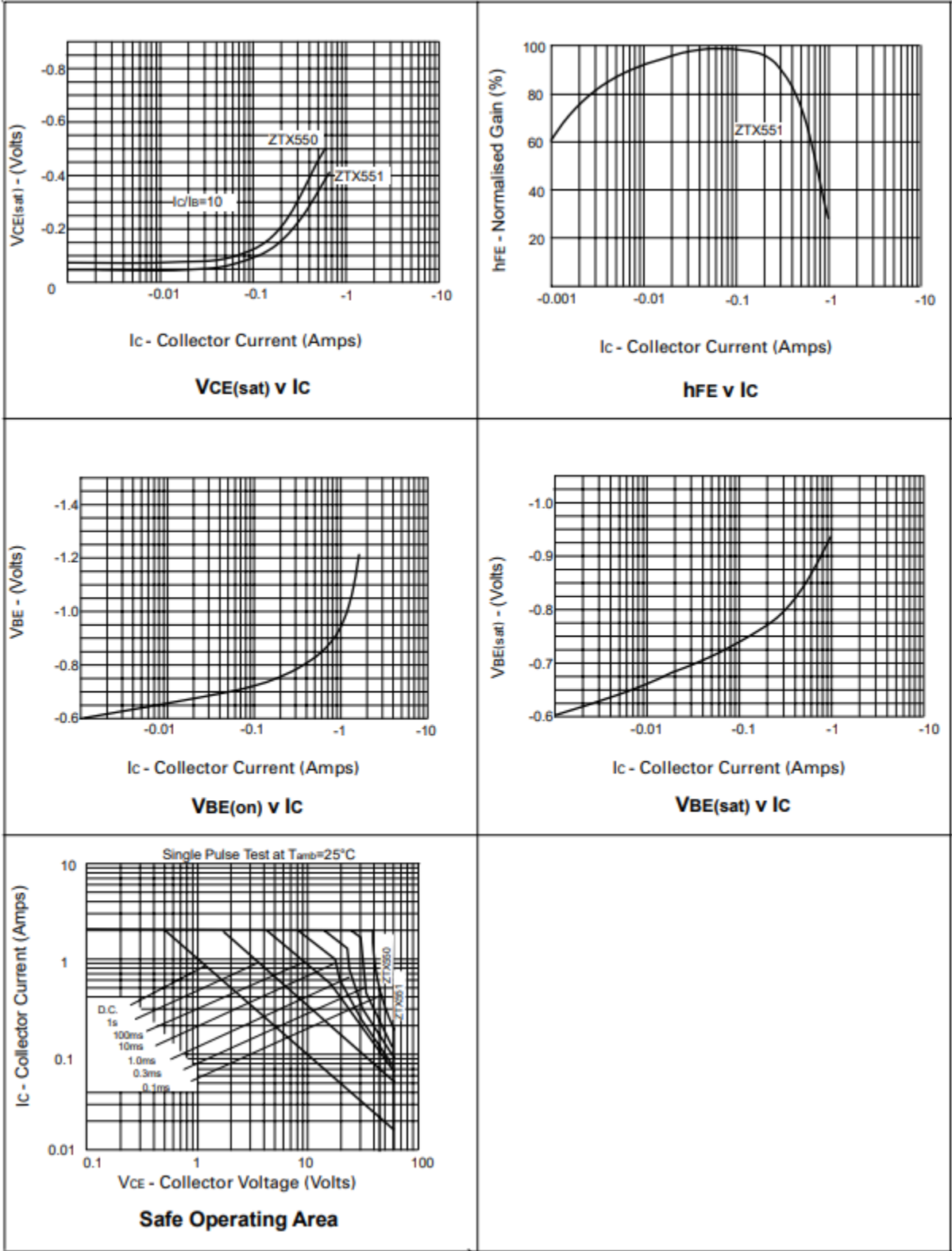
- Notes:
5. For a through-hole device mounted at the seating plane (2.5mm lead length) with the collector lead on 25mm X 25mm 1oz weight copper that is on a single-sided FR4 PCB; device is measured under still air conditions whilst operating in a steady state.
  6. Same as note (5), except the device is mounted on minimum recommended pad layout with 12mm lead length from the bottom of package to the board.
  7. Thermal resistance from junction to solder-point at the seating plane (2.5mm from the bottom of package along the collector lead).
  8. Refer to JEDEC specification JESD22-A114 and JESD22-A115.

**Electrical Characteristics** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic		Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage	ZTX550	BV <sub>CBO</sub>	-60	—	—	V	I <sub>C</sub> = -100μA
	ZTX551		-80				
Collector-Emitter Breakdown Voltage (Note 9)	ZTX550	BV <sub>CEO</sub>	-45	—	—	V	I <sub>C</sub> = -10mA
	ZTX551		-65				
Emitter-Base Breakdown Voltage		BV <sub>EBO</sub>	-5	—	—	V	I <sub>E</sub> = -100μA
Collector Cut-off Current	ZTX550	I <sub>CBO</sub>	—	—	-0.1	μA	V <sub>CB</sub> = -45V
	ZTX551						V <sub>CB</sub> = -65V
Emitter Cut-off Current		I <sub>EBO</sub>	—	—	-0.1	μA	V <sub>EB</sub> = -4V
Collector-Emitter Saturation Voltage (Note 9)	ZTX550	V <sub>CE(sat)</sub>	—	—	-250	mV	I <sub>C</sub> = -150mA, I <sub>B</sub> = -15mA
	ZTX551				-350		
Base-Emitter Saturation Voltage (Note 9)		V <sub>BE(sat)</sub>	—	—	-1.1	V	I <sub>C</sub> = -150mA, I <sub>B</sub> = -15mA
DC Current Gain (Note 9)	ZTX550	h <sub>FE</sub>	100	—	300	—	I <sub>C</sub> = -150mA, V <sub>CE</sub> = -10V
			15				I <sub>C</sub> = -1A, V <sub>CE</sub> = -10V
	ZTX551		50	—	150	—	I <sub>C</sub> = -150mA, V <sub>CE</sub> = -10V
			10				I <sub>C</sub> = -1A, V <sub>CE</sub> = -10V
Current Gain-Bandwidth Product (Note 9)		f <sub>T</sub>	—	150	—	MHz	V <sub>CE</sub> = -10V, I <sub>C</sub> = -150mA f = 100MHz

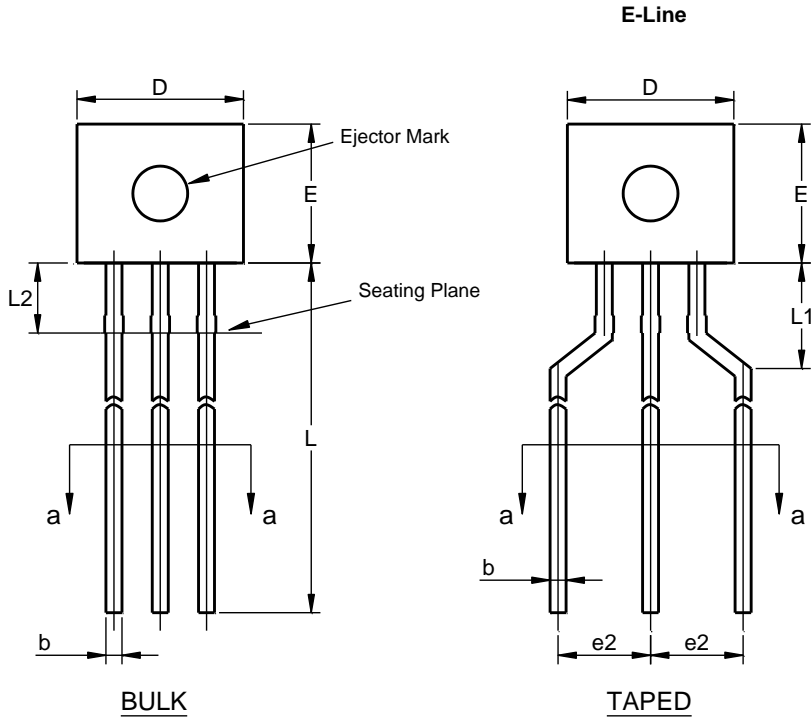
Note: 9. Measured under pulsed conditions. Pulse width ≤ 300μs. Duty cycle ≤ 2%

**Typical Electrical Characteristics** (@ $T_A = +25^\circ\text{C}$ , unless otherwise specified.)

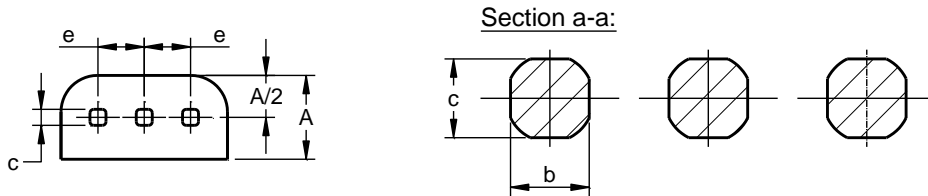


**Package Outline Dimensions**

Please see <http://www.diodes.com/package-outlines.html> for the latest version.



E-Line			
Dim	Min	Max	Typ
A	2.16	2.41	2.28
b	0.41	0.49	0.44
c	0.41	0.49	0.44
D	4.37	4.77	4.57
E	3.61	4.01	3.90
e	1.27 REF		
e2	2.54 REF		
L	13.00	13.97	13.50
L1	2.50	3.50	--
L2	--	--	2.50
<b>All Dimensions in mm</b>			



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