

## Features

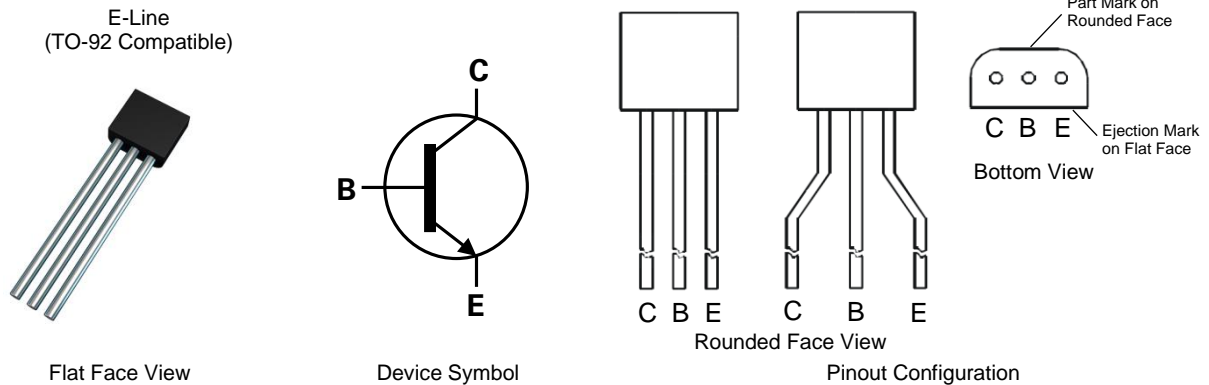
- $BV_{CEO} > -80V$
- $I_C = -1A$  High Continuous Collector Current
- $I_{CM} = -2A$  Peak Pulse Current
- $T_J$  up to  $+200^\circ C$  for High-Temperature Operation
- $P_D = 1W$  Power Dissipation
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" 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

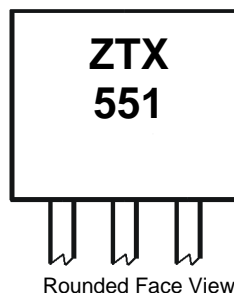


## Ordering Information (Note 4)

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
		ZTX551	-80
Collector-Emitter Voltage	V <sub>CEO</sub>	ZTX550	-45
		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

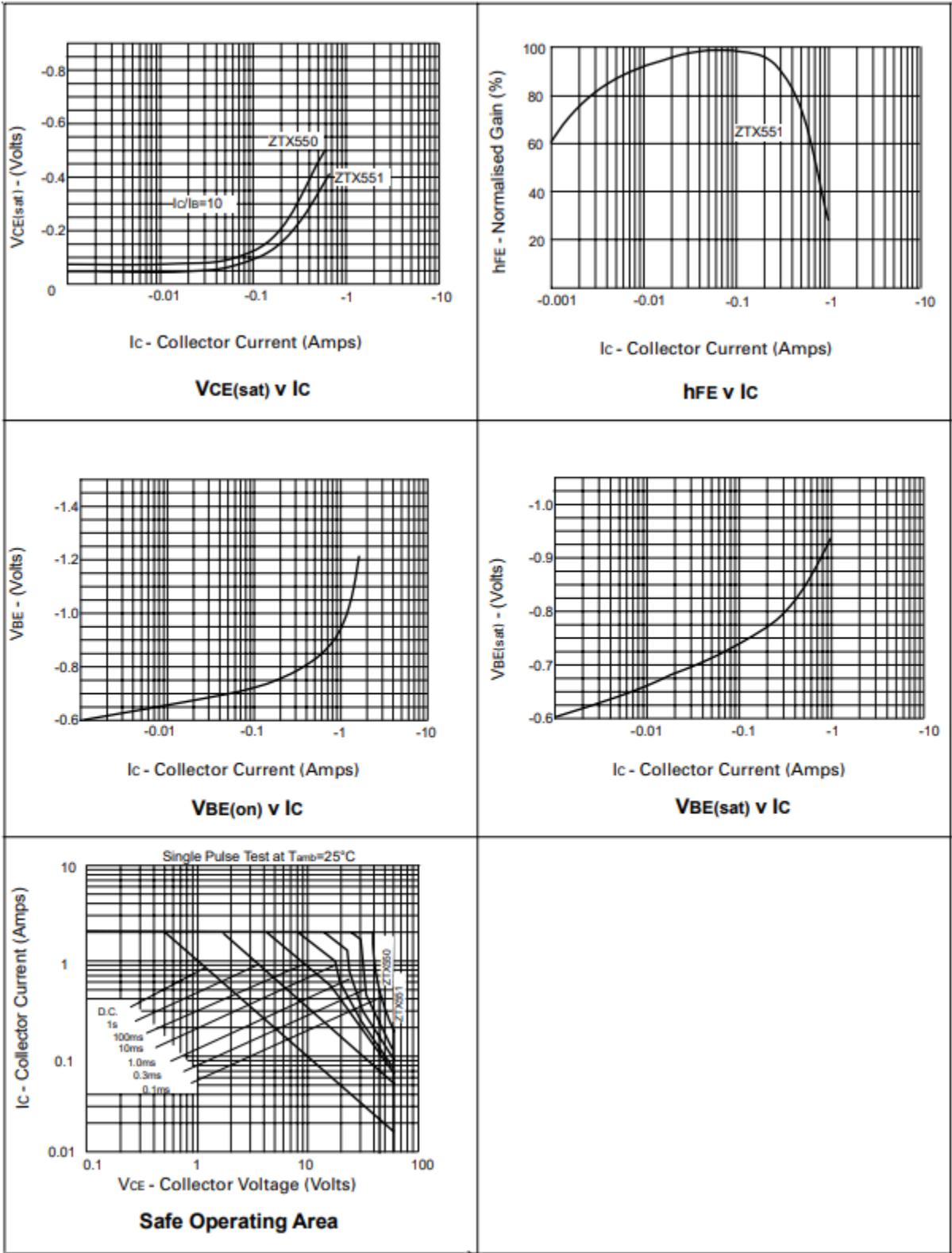
- Notes:
- For a through-hole device mounted at the seating plane (2.5mm lead length) with the collector lead on 25mm X 25mm 1oz weight copper that is on a single-sided FR4 PCB; device is measured under still air conditions whilst operating in a steady state.
  - Same as note (5), except the device is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

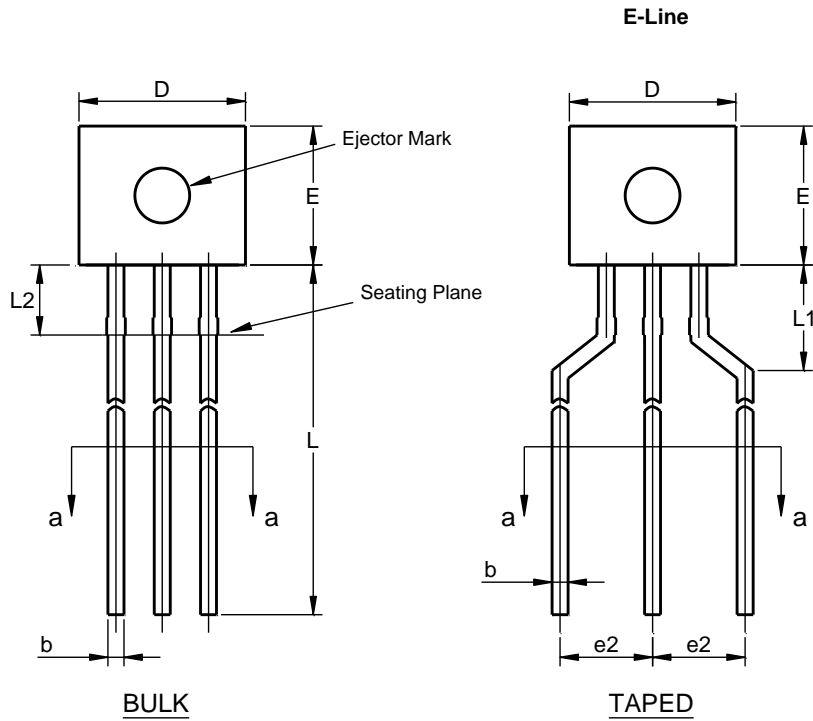
Note: 9. Measured under pulsed conditions. Pulse width ≤ 300μs. Duty cycle ≤ 2%

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

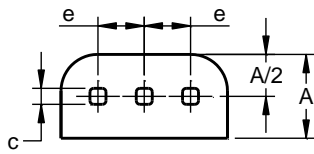


## Package Outline Dimensions

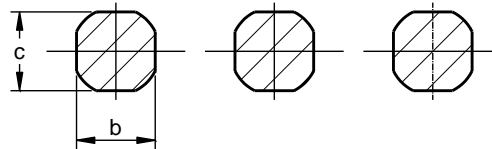
Please see <http://www.diodes.com/package-outlines.html> for the latest version.



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>			



**Section a-a:**



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