

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 @3
- Weight: 0.159 grams (Approximate)

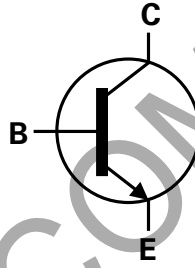
Applications

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

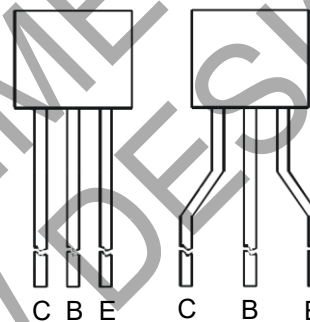
E-Line
(TO-92 Compatible)



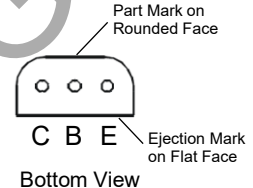
Flat Face View



Device Symbol



Rounded Face View



Bottom View

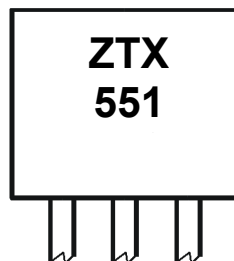
Pinout Configuration

Ordering Information (Note 4)

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



Rounded Face View

ZTX551 = Product Type Marking Code

E-Line® is a registered trademark of Diodes Incorporated.

Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	ZTX550 -60	V
		ZTX551 -80	
Collector-Emitter Voltage	V _{CEO}	ZTX550 -45	V
		ZTX551 -65	
Emitter-Base Voltage	V _{EBO}	-5	V
Continuous Collector Current	I _C	-1	A
Peak Pulse Current	I _{CM}	-2	A

Thermal Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P _D	1.5	W
Power Dissipation (Note 6)	P _D	1	W
Thermal Resistance Junction to Ambient (Note 5)	R _{θJA}	116	°C/W
Thermal Resistance Junction to Ambient (Note 6)	R _{θJA}	175	°C/W
Thermal Resistance Junction to Lead (Note 7)	R _{θJL}	63.75	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-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

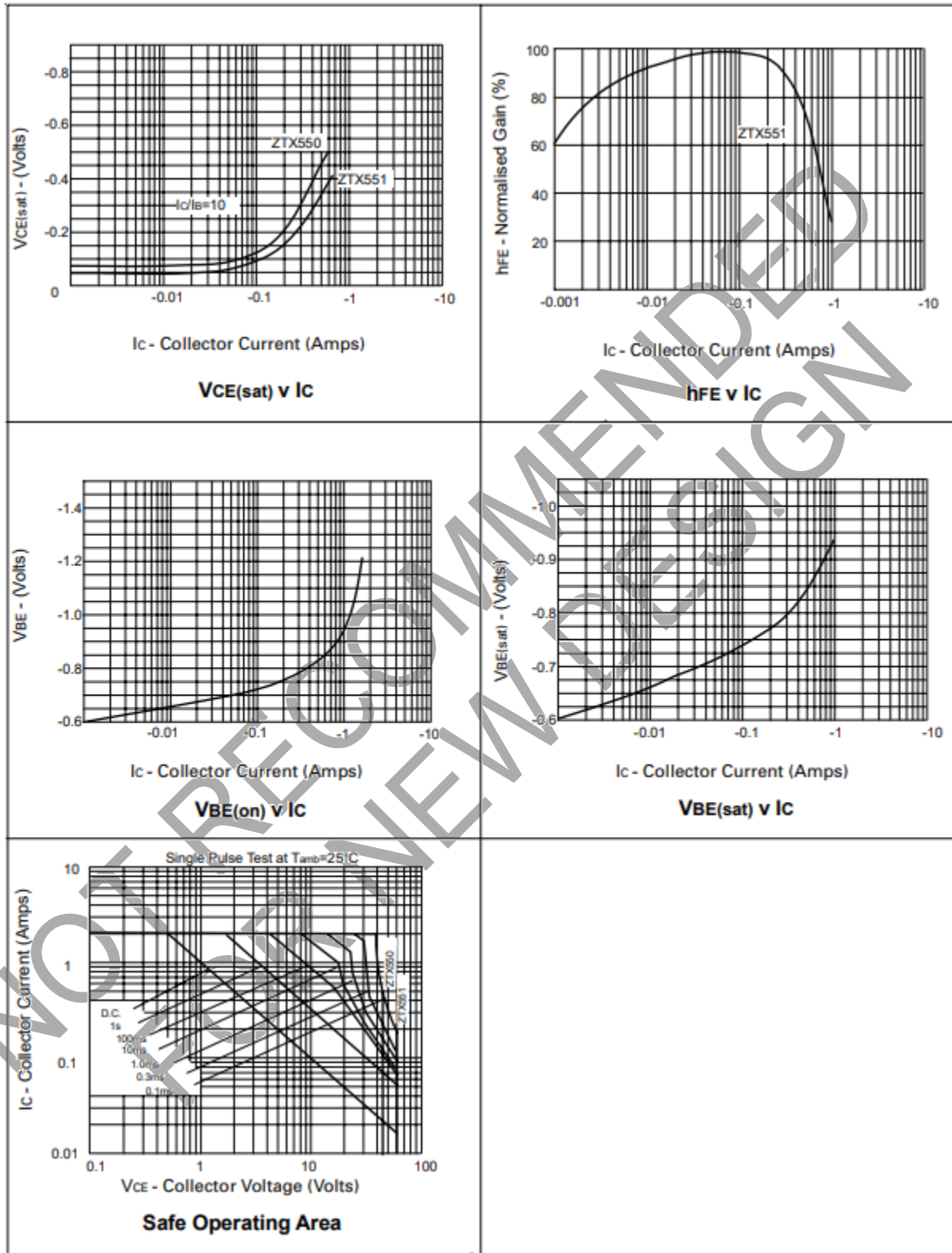
- Notes:
- For a through-hole device mounted at the seating plane (2.5mm lead length) with the collector lead on 25mm X 25mm 1oz weight copper that is on a single-sided FR4 PCB; device is measured under still air conditions whilst operating in a steady state.
 - Same as note (5), except the device is 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_A = +25°C, unless otherwise specified.)

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

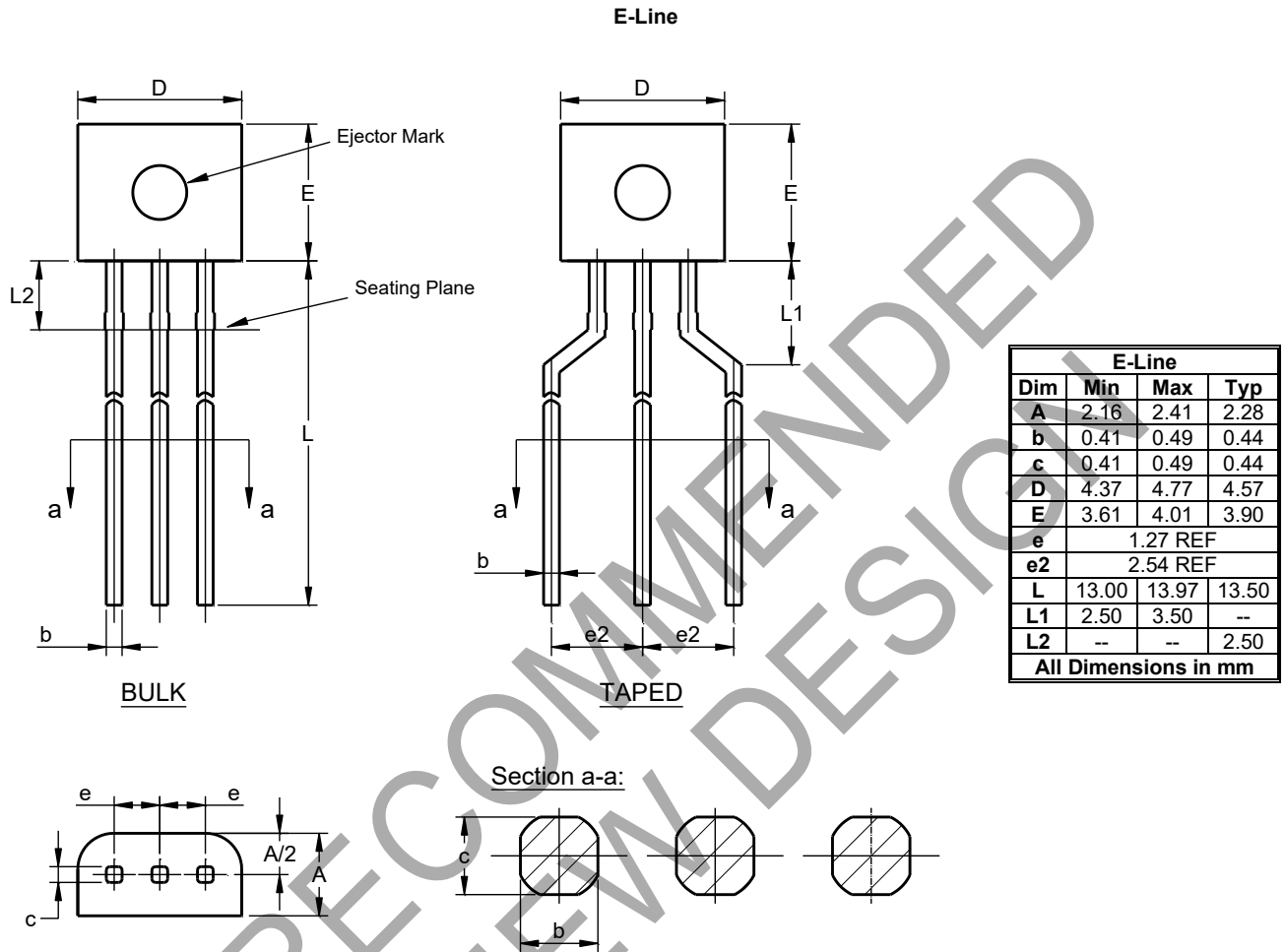
Note: 9. Measured under pulsed conditions. Pulse width ≤ 300μs. Duty cycle ≤ 2%

Typical Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)



Package Outline Dimensions

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



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