ZXTP558L

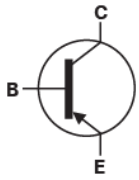
400V PNP MEDIUM POWER HIGH VOLTAGE TRANSISTOR

Features and Benefits

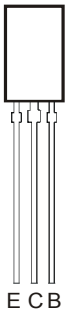
- V_{CEO} = 400V
- Power dissipation P_D = 1W
- **Lead, Halogen and Antimony Free, RoHS Compliant (Note 1)**
- **"Green" Device (Note 2)**

Mechanical Data

- Case: TO92L
- Case Material: Molded Plastic, “Green” Molding Compound. UL Flammability Classification Rating 94V-0
- Terminals: Pure Tin Finish.
- Weight: 0.272 grams (approximate)



Device Symbol



Top View
Pin-Out

Ordering Information (Note 3)

Product	Status	Marking	Quantity per box on tape
ZXTP558LSTZ	Active	ZXTP558	2,000

Notes:
1. No purposefully added lead. Halogen and Antimony free: <900ppm bromine, <900ppm chlorine (<1500ppm total) and <1000ppm antimony compounds.
2. Diodes Inc.’s “Green” Policy can be found on our website at http://www.diodes.com
3. For lead form and taping specification, please visit our website at http://www.diodes.com

Marking Information

ZXTP558 = Product Type Marking Code

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-400	V
Collector-Emitter Voltage	V_{CEO}	-400	V
Emitter-Base Voltage	V_{EBO}	-7	V
Continuous Collector Current	I_C	-500	mA

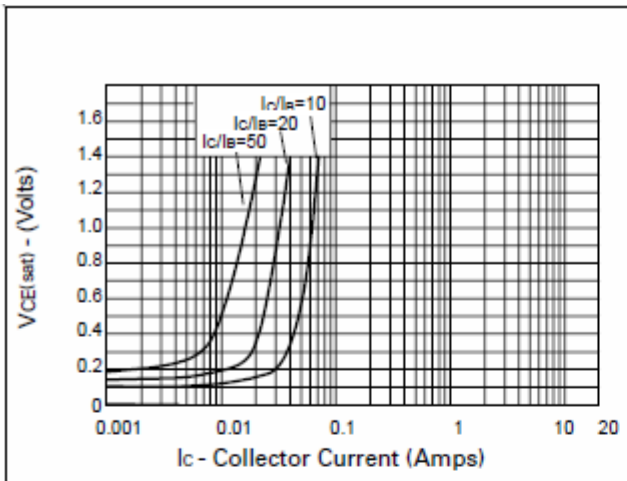
Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note x)	P_D	1	W
Thermal Resistance, Junction to Ambient @ T_A = 25°C	$R_{\theta JA}$	125	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

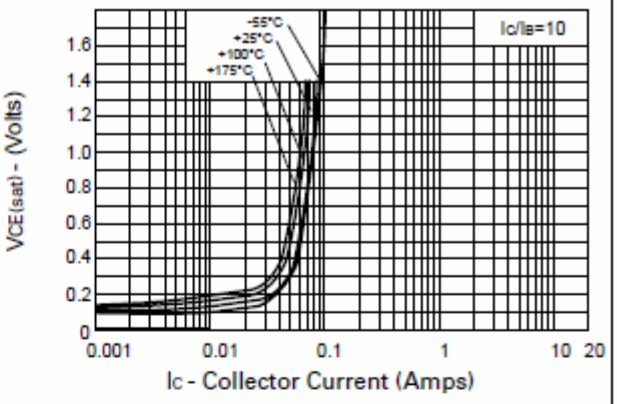
Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-400	—	—	V	I_C = -100μA
Collector-Emitter Breakdown Voltage (Note 4)	$V_{(BR)CEO}$	-400	—	—	V	I_C = -10mA
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-7	—	—	V	I_E = -100μA
Collector Cutoff Current	I_{CBO}	—	—	-100	nA	V_{CB} = -320V
Emitter Cutoff Current	I_{CES}	—	—	-100	nA	V_{CE} = -320V
Base Cutoff Current	I_{EBO}	—	—	-100	nA	V_{BE} = -4V
DC Current Gain (Note 4)	h_{FE}	100 100	— —	— 300	— —	V_{CE} = -10V, I_C = -1mA V_{CE} = -10V, I_C = -50mA
Collector-Emitter Saturation Voltage (Note 4)	$V_{CE(sat)}$	— —	— —	-0.2 -0.5	V	I_C = -20mA, I_B = -2mA I_C = -50mA, I_B = -6mA
Base-Emitter Turn-On Voltage	$V_{BE(on)}$	—	—	-0.9	V	V_{CE} = -10V, I_C = -50mA
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	—	—	-0.9	V	I_C = -50mA, I_B = -5mA
Output Capacitance (Note 4)	C_{obo}	—	—	5	pF	V_{CB} = -20V, f = 1.0MHz
Current Gain-Bandwidth Product	f_T	50	—	—	MHz	V_{CE} = -20V, I_C = -10mA, f = 20MHz
Turn-On Time	t_{on}	—	95	—	ns	V_{CE} = -100V, I_C = -50mA
Turn-Off Time	t_{off}	—	1600	—	ns	I_{B1} = 5mA, I_{B2} = -10mA

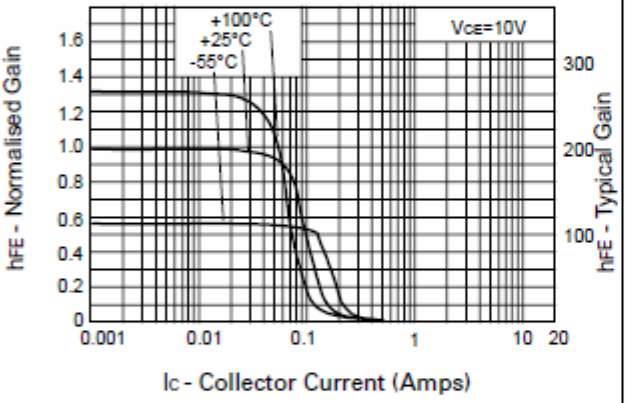
Notes: 4. Measured under pulsed conditions. Pulse width = 300μs; Duty cycle ≤ 2%.



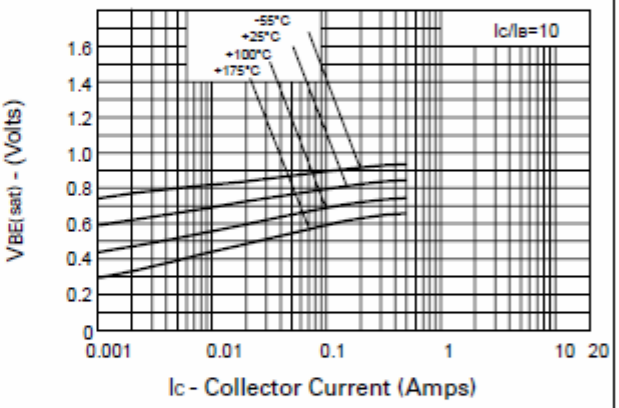
VCE(sat) v IC



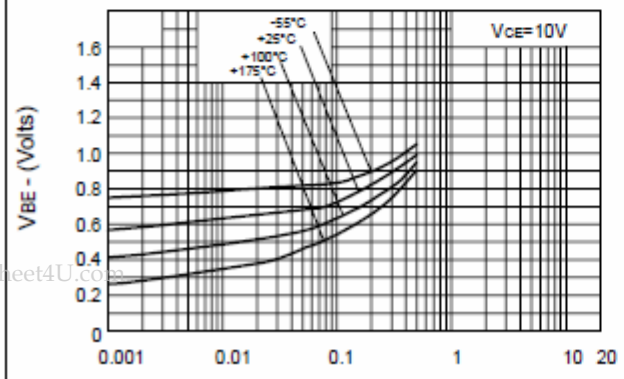
VCE(sat) v IC



hFE v IC

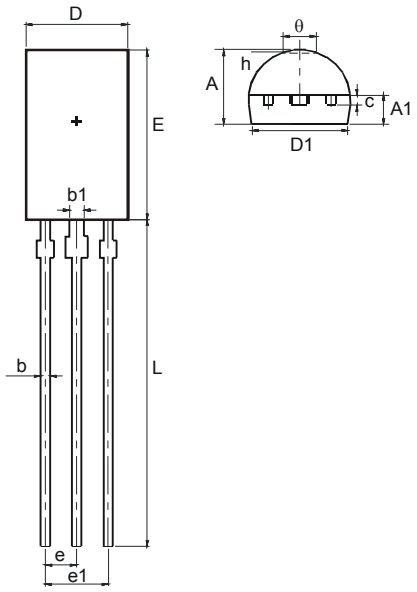


VBE(sat) v IC



VBE(on) v IC

Package Outline Dimensions



TO92L		
Dim	**Min**	**Max**
A	3.70	4.10
A1	1.28	1.58
b	0.35	0.55
b1	0.60	0.80
c	0.35	0.45
D	4.70	5.10
D1	4.00	-
e	1.270 Typ	
e1	2.44	2.64
E	7.80	8.20
L	13.80	14.20
h	0.00	0.30
θ	-	1.60
All Dimensions in mm		

IMPORTANT NOTICE

DIODES INCORPORATED MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH REGARDS TO THIS DOCUMENT, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION).

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to this document and any product described herein. Diodes Incorporated does not assume any liability arising out of the application or use of this document or any product described herein; neither does Diodes Incorporated convey any license under its patent or trademark rights, nor the rights of others. Any Customer or user of this document or products described herein in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on Diodes Incorporated website, harmless against all damages.

Diodes Incorporated does not warrant or accept any liability whatsoever in respect of any products purchased through unauthorized sales channel. Should Customers purchase or use Diodes Incorporated products for any unintended or unauthorized application, Customers shall indemnify and hold Diodes Incorporated and its representatives harmless against all claims, damages, expenses, and attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized application.

Products described herein may be covered by one or more United States, international or foreign patents pending. Product names and markings noted herein may also be covered by one or more United States, international or foreign trademarks.

LIFE SUPPORT

Diodes Incorporated products are specifically not authorized for use as critical components in life support devices or systems without the express written approval of the Chief Executive Officer of Diodes Incorporated. As used herein:

A. Life support devices or systems are devices or systems which:

1. are intended to implant into the body, or

2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.

B. A critical component is any component in a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or to affect its safety or effectiveness.

Customers represent that they have all necessary expertise in the safety and regulatory ramifications of their life support devices or systems, and acknowledge and agree that they are solely responsible for all legal, regulatory and safety-related requirements concerning their products and any use of Diodes Incorporated products in such safety-critical, life support devices or systems, notwithstanding any devices- or systems-related information or support that may be provided by Diodes Incorporated. Further, Customers must fully indemnify Diodes Incorporated and its representatives against any damages arising out of the use of Diodes Incorporated products in such safety-critical, life support devices or systems.

www.diodes.com