

## Product Summary

V <sub>RRM</sub> (V)	I <sub>F</sub> (A)	V <sub>F</sub> Max (V) @ I <sub>F</sub> = 4A	I <sub>R</sub> Max (μA)
800	8	0.9	5

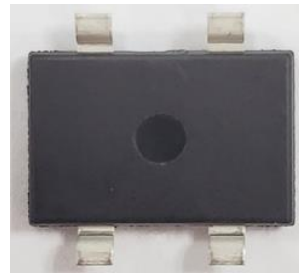
## Mechanical Data

- Package: TTL
- Package Material: "Green" Molding Compound, UL Flammability Classification 94V-0 (No Br. Sb. Cl.)
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish – Matte Tin Plated Leads, Solderable per MIL-STD-202, Method 208 (3)
- Polarity Indicator: As Marked on the Body
- Weight: 0.41 grams (Approximate)

## Features

- Glass Passivated Die Construction
- Low Forward Voltage Drop
- Ideal for Printed Circuit Board
- Reliable Low-Cost Construction Utilizing Molded Plastic Technique
- UL Recognized File # E364304
- **Lead-Free Finish; 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 [contact us](mailto:contact@diodes.com) or your local Diodes representative. <https://www.diodes.com/quality/product-definitions/>**

TTL

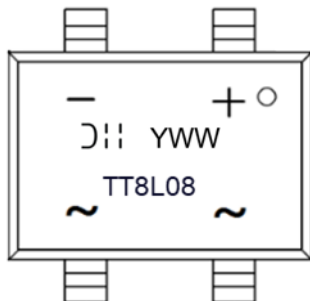


## Ordering Information (Note 4)

Orderable Part Number	Package	Packing	
		Qty.	Carrier
TT8L08-13	TTL	1500	Reel

- Notes:
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
  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



TT8L08 = Product Type Marking Code  
 DII = Manufacturer's Code Marking  
 YWW = Date Code Marking  
 Y = Last Digit of Year (ex: 4 = 2024)  
 WW = Week Code (01 to 53)

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

Characteristic	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	800	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	800	V
Average Rectified Output Current @T <sub>A</sub> = +25°C (Note 5)	I <sub>F(AV)</sub>	8.0	A
Peak Forward Surge Current 8.3ms Single Half Sine Wave	I <sub>FSM</sub>	@T <sub>A</sub> = +25°C	165
		@T <sub>A</sub> = +125°C	130
Peak Forward Surge Current 1.0ms Single Half Sine Wave	I <sub>FSM</sub>	@T <sub>A</sub> = +25°C	330
		@T <sub>A</sub> = +125°C	260
I <sup>2</sup> t Rating for Fusing (t = 8.3ms)	I <sup>2</sup> t	113	A <sup>2</sup> s
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

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

Characteristic	Test Condition	Symbol	Typ	Max	Unit
Forward Voltage (Note 5)	I <sub>F</sub> = 4A @T <sub>A</sub> = +25°C	V <sub>F</sub>	0.86	0.9	V
Leakage Current	V <sub>R</sub> = 800V @T <sub>A</sub> = +25°C	I <sub>R</sub>	0.3	5	μA
Typical Junction Capacitance (Note 6)	f = 1MHz, V <sub>DC</sub> = 4V	C <sub>T</sub>	90	—	pF

**Thermal Characteristics**

Characteristic	Symbol	Typ	Unit
Typical Thermal Resistance (Without Heatsink)	R <sub>θJC</sub>	12.5	°C/W
	R <sub>θJL</sub>	15.5	
	R <sub>θJA</sub>	77	
Typical Thermal Resistance (Note 7)	R <sub>θJC</sub>	4.5	°C/W
	R <sub>θJL</sub>	6.5	
	R <sub>θJA</sub>	11	

- Notes:
5. Perform static test after the temperature of oven is steady for 20 minutes.
  6. Measured at 1.0MHz and applied reverse voltage of 4.0V<sub>DC</sub>.
  7. Thermal resistance junction to case, lead and ambient in accordance with JESD-51.  
Device mounted on 60mm x 30mm Al pad & attached aluminum 170mm x 170mm x 43mm fin type heatsink.

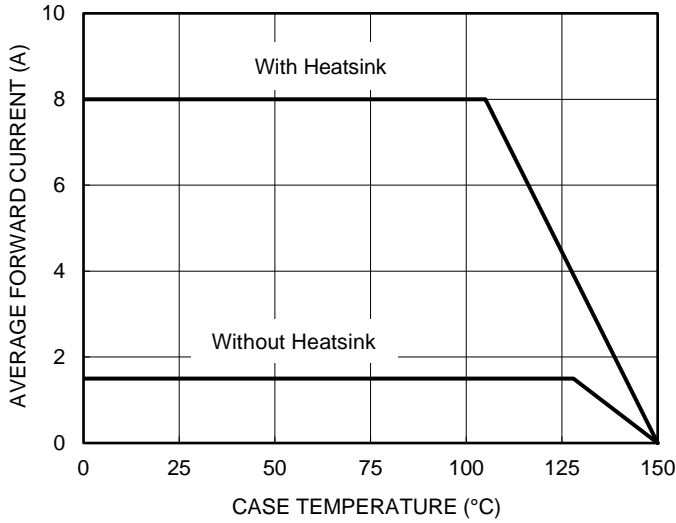


Figure 1. Forward Current Derating Curve

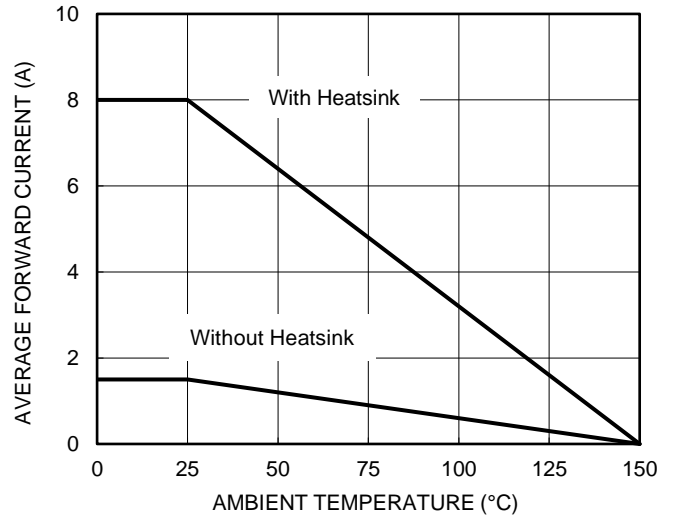


Figure 2. Forward Current Derating Curve

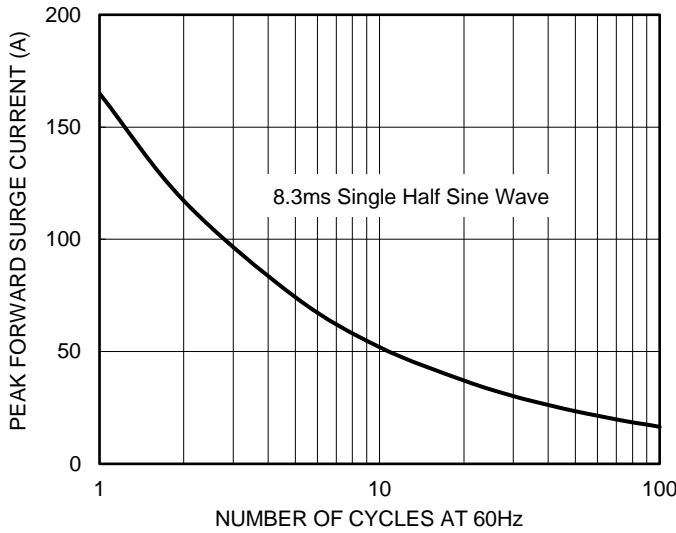


Figure 3. Maximum Non-Repetitive Surge Current

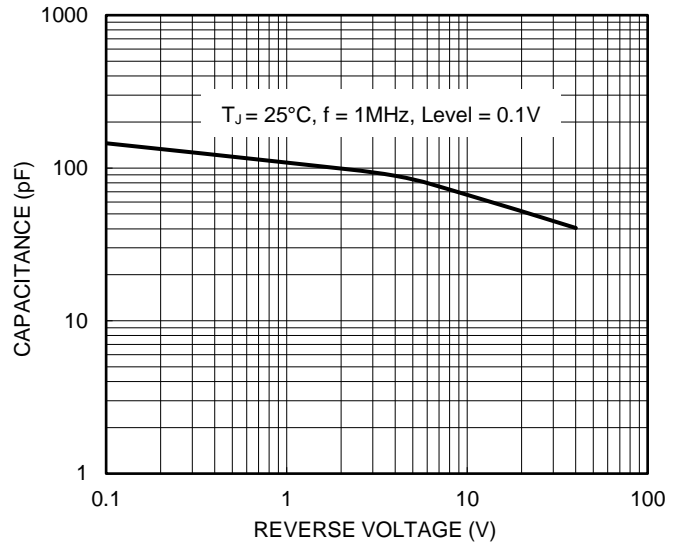


Figure 4. Typical Junction Capacitance

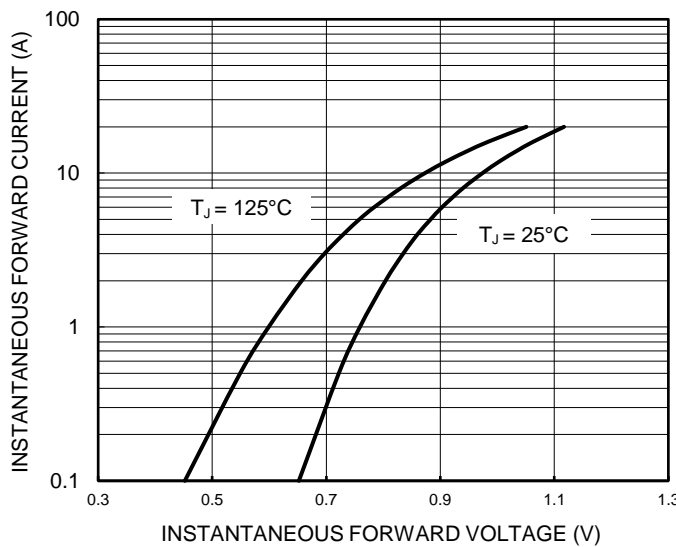


Figure 5. Typical Forward Characteristics

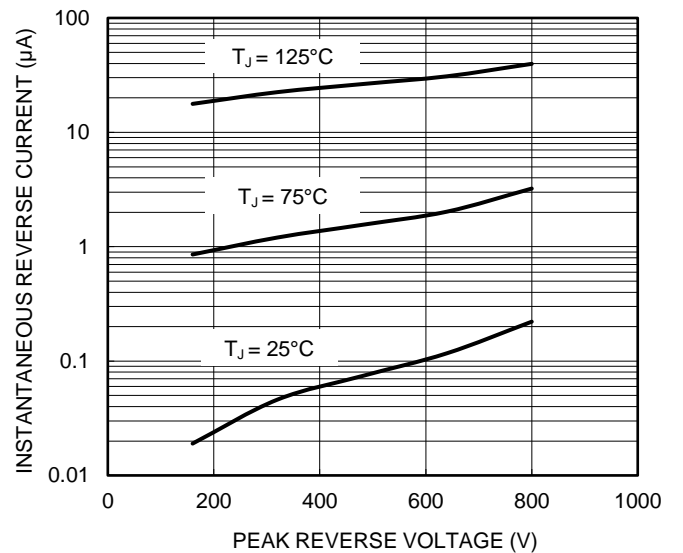
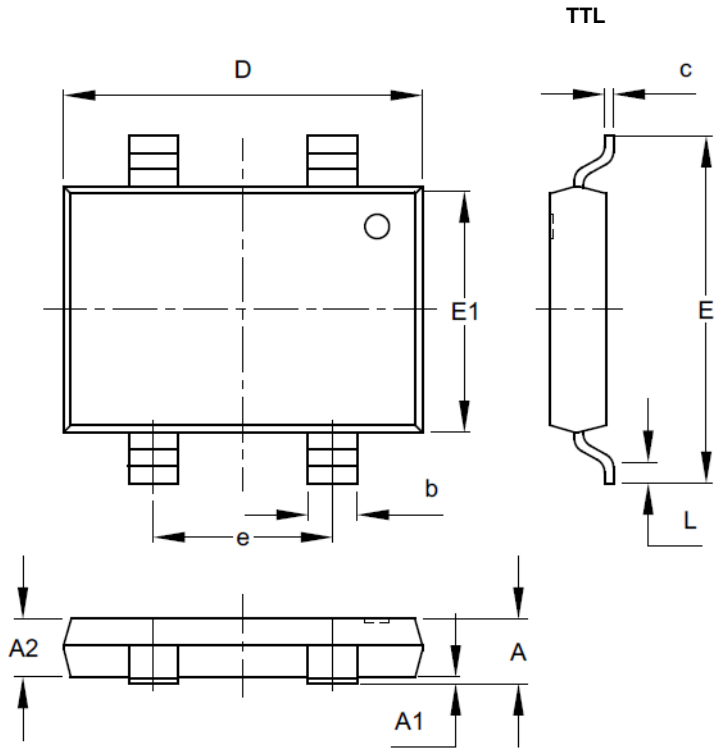


Figure 6. Typical Reverse Characteristics

**Package Outline Dimensions**

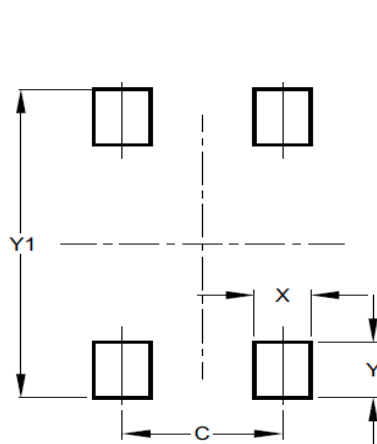
Please see <http://www.diodes.com/package-outlines.html> for the latest version.



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Dim	Min	Max	TYP
A	1.45	1.80	1.65
A1	0.00	0.15	0.10
A2	1.45	1.65	1.55
b	1.30	1.50	1.40
c	0.15	0.35	0.25
D	10.05	10.35	10.20
E	9.75	10.05	9.90
E1	6.85	7.15	7.00
e	4.90	5.10	5.00
L	0.45	0.95	0.70
All Dimensions in mm			

**Suggested Pad Layout**

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



Dimensions	Value (in mm)
C	5.00
X	1.80
Y	2.10
Y1	11.70

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