

## Product Summary

$V_{RRM}$ (V)	$I_F$ (A)	$V_F$ Max (V) @ $I_F = 5A$	$I_R$ Max ( $\mu A$ )
1000	10	1.05	5

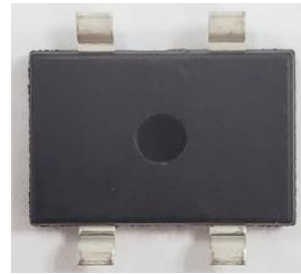
## Mechanical Data

- 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
- Ideal for Printed Circuit Board
- Reliable Low Cost Construction Utilizing Molded Plastic Technique
- 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](https://www.diodes.com/quality/product-definitions/) or your local Diodes representative.**

TTL

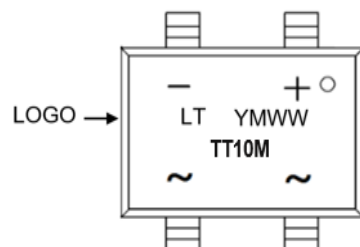


## Ordering Information (Note 4)

Part Number	Package	Packing	
		Qty.	Carrier
TT10M_HF	TTL	1500	Reel

- Notes:
- EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
  - 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.
  - Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
  - For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

## Marking Information



TT10M = Product Type Marking Code  
YMWW = Date Code Marking  
Y = Year Code (ex: 2 = 2022)  
M = Manufacturer's Internal Code  
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>	1000	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	1000	V
Average Rectified Output Current @T <sub>A</sub> = +25°C (Note 5)	I <sub>F(AV)</sub>	10	A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave @T <sub>A</sub> = +25°C	I <sub>FSM</sub>	180	A
@T <sub>A</sub> = +125°C		144	
Peak Forward Surge Current 1.0ms Single Half Sine-Wave @T <sub>A</sub> = +25°C	I <sub>FSM</sub>	360	A
@T <sub>A</sub> = +125°C		288	
I <sup>2</sup> t Rating for Fusing (t = 8.3ms)	I <sup>2</sup> t	135	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> = 5A	T <sub>A</sub> = +25°C	V <sub>F</sub>	0.98	1.05	V
		T <sub>A</sub> = +125°C		0.88	—	
Leakage Current	V <sub>R</sub> = 1000V	T <sub>A</sub> = +25°C	I <sub>R</sub>	0.2	5	μA
		T <sub>A</sub> = +125°C		70	500	
Typical Junction Capacitance (Note 6)			C <sub>T</sub>	50		pF

**Thermal Characteristics**

Characteristic	Symbol	Typ.	Unit
Typical Thermal Resistance (Without Heatsink)	R <sub>θJC</sub>	11	°C/W
	R <sub>θJL</sub>	13	
	R <sub>θJA</sub>	72	
Typical Thermal Resistance (Note 7)	R <sub>θJC</sub>	2	°C/W
	R <sub>θJL</sub>	5	
	R <sub>θJA</sub>	10	

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 DC.  
7. Thermal resistance junction to case, lead and ambient in accordance with JESD-51.

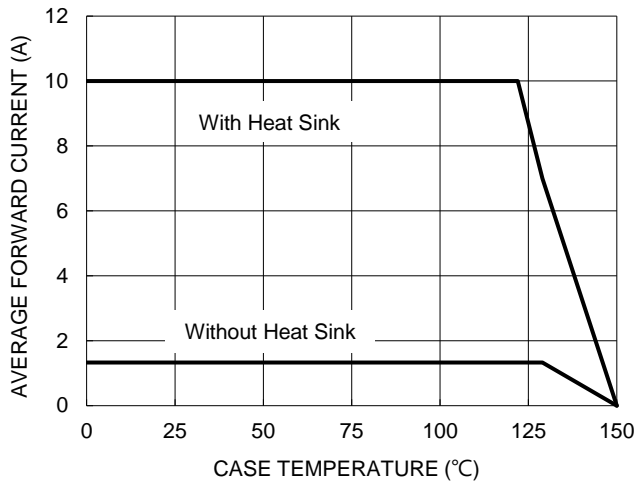


Figure 1. Forward Current Derating Curve

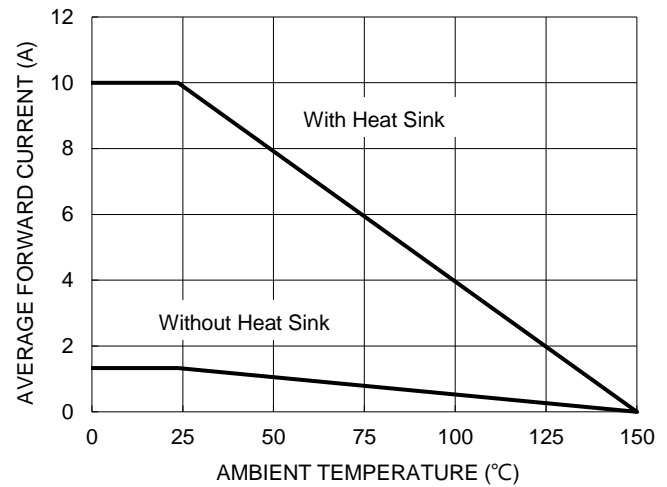


Figure 2. Forward Current Derating Curve

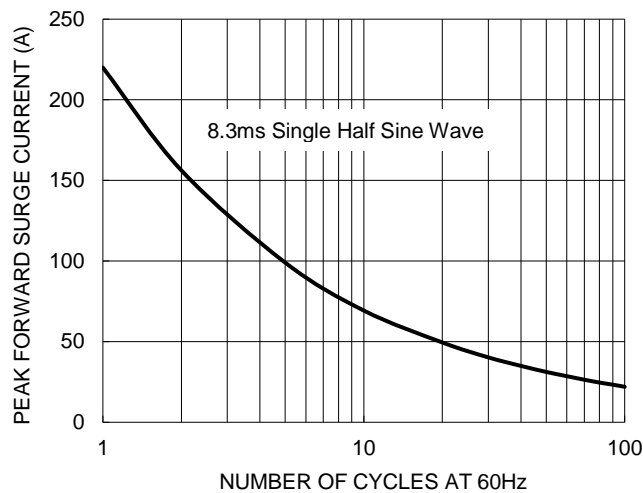


Figure 3. Maximum Non-Repetitive Surge Current

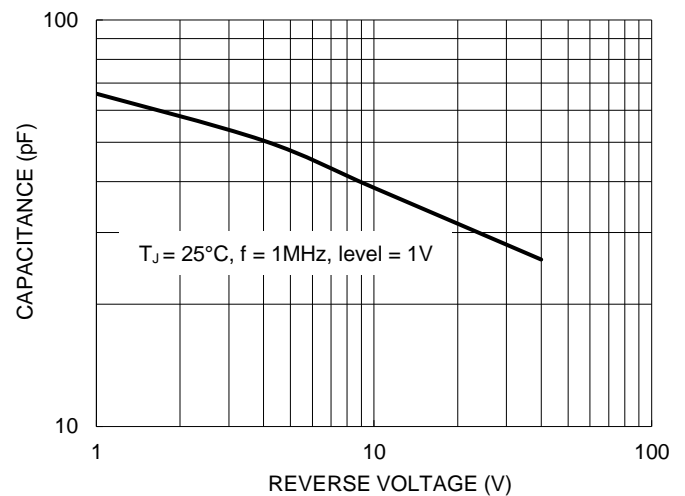


Figure 4. Typical Junction Capacitance

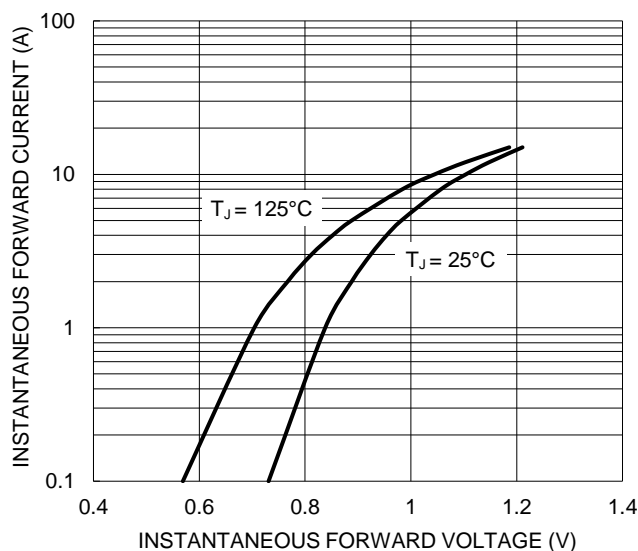


Figure 5. Typical Forward Characteristics

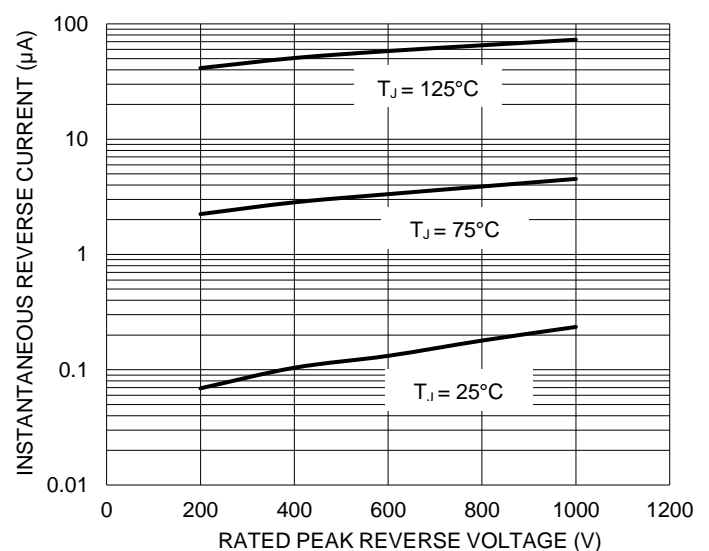
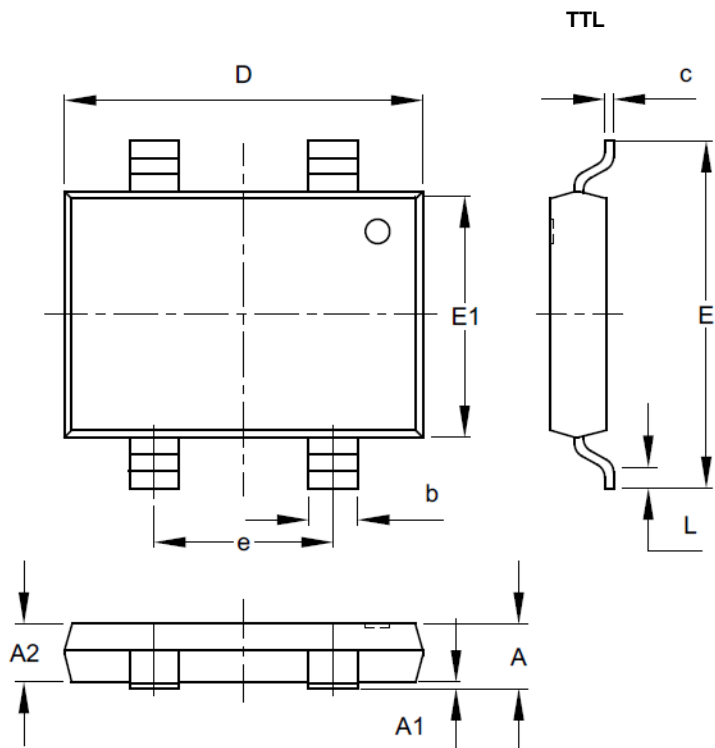


Figure 6. Typical Reverse Characteristics

## Package Outline Dimensions

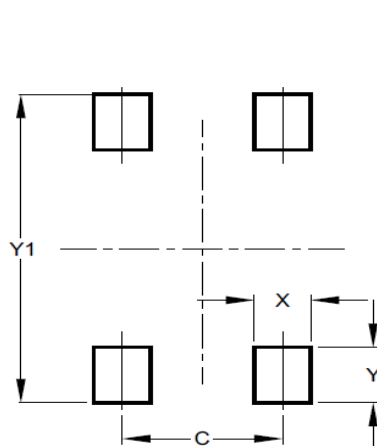
Please see <http://www.diodes.com/package-outlines.html> for the latest version.



TTL			
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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