

## Product Summary

$V_{RRM}$ (V)	$I_O$ (A)	$V_F$ max(V) @ +25°C	$I_R$ max (mA) @ +25°C
1000	1.0	1.15V	0.01

## Description and Applications

This 1.0A DiodeStar Rectifier has been designed for use in general purpose rectifier. It is ideally suited for use as a:

- Bridge Rectifier

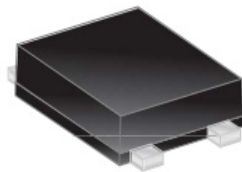
## Features and Benefits

- Low reverse leakage ensuring greater stability at higher temperatures
- Low forward voltage ( $V_F$ ) minimises conduction losses and improving efficiency.
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**

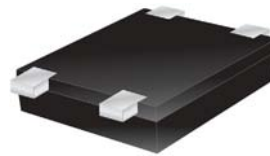
## Mechanical Data

- Case: T-MiniDIP
- Case Material: Molded Plastic "Green" Molding Compound, UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish – Matte Tin over Copper Lead Frame, Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Weight: 0.092 grams (approximate)

T-MiniDIP



Top View



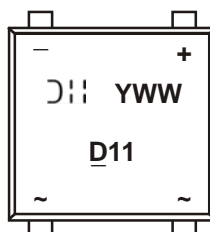
Bottom View

## Ordering Information (Note 4)

Part Number	Case	Packaging
DSRHD10-13	T-MiniDIP	5000/Tape & Reel

- Notes:
1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
  2. See [http://www.diodes.com/quality/lead\\_free.html](http://www.diodes.com/quality/lead_free.html) 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 <http://www.diodes.com/products/packages.html>.

## Marking Information



- DXX = Product Type Marking Code,  
(XX = 11 or 1A)  
 = Manufacturers' Code Marking  
 YWW = Date Code Marking  
 Y = Last Digit of Year (ex: 2 = 2012)  
 WW = Week Code (01 ~ 53)

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

Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitance load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	1000	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		
DC Blocking Voltage	V <sub>RM</sub>		
Average Rectified Output Current	I <sub>O</sub>	1.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (Per Diode)	I <sub>FSM</sub>	30	A

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Ambient (Note 5)	R <sub>θJA</sub>	107	°C/W
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	Symbol	Typ	Max	Unit	Test Condition
Forward Voltage (Per Diode)	V <sub>F</sub>	0.88	0.95	V	I <sub>F</sub> = 0.4A, T <sub>J</sub> = +25°C
		0.92	1.15		I <sub>F</sub> = 1.0A, T <sub>J</sub> = +25°C
Reverse Current (Note 6) (Per Diode)	I <sub>R</sub>	0.08	10	µA	V <sub>R</sub> = 1000V, T <sub>J</sub> = +25°C
		5	150		V <sub>R</sub> = 1000V, T <sub>J</sub> = +125°C

Notes: 5. Device mounted on FR-4 substrate, 1.0"x1.0", 2oz, single-sided, PC boards with 0.2"x0.25" copper pad.  
6. Short duration pulse test used to minimize self-heating effect.

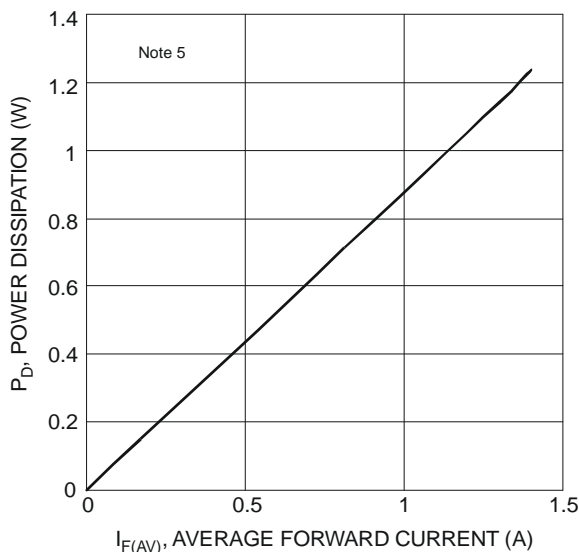


Figure 1 Forward Power Dissipation

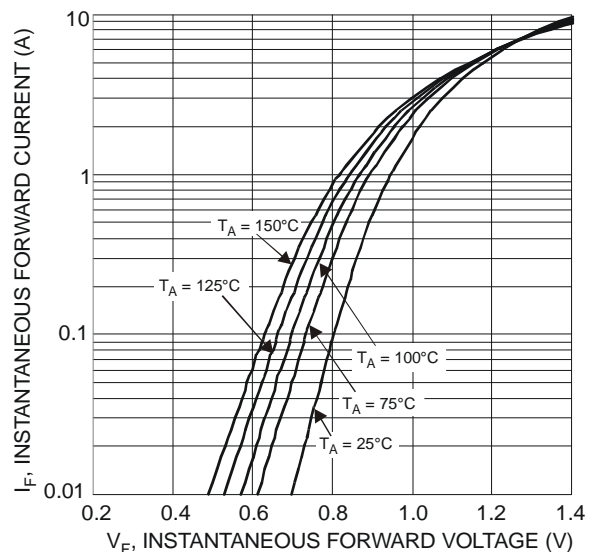


Figure 2 Typical Forward Characteristics

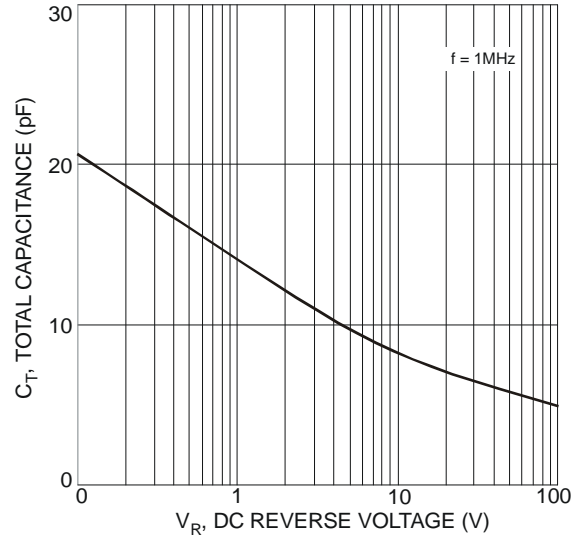
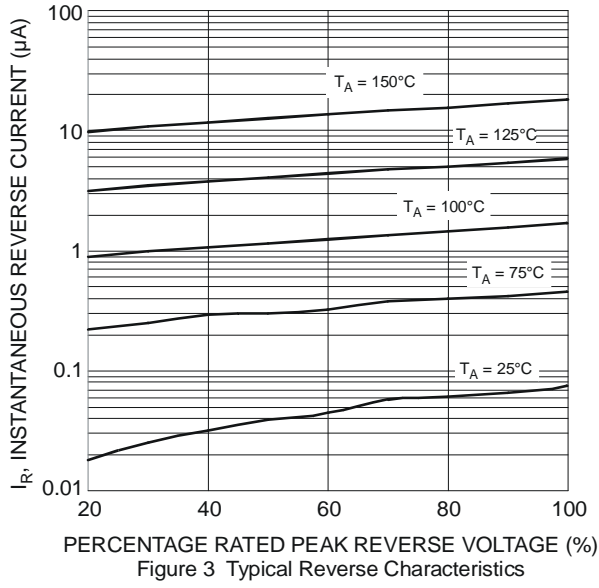


Figure 4 Total Capacitance vs. Reverse Voltage

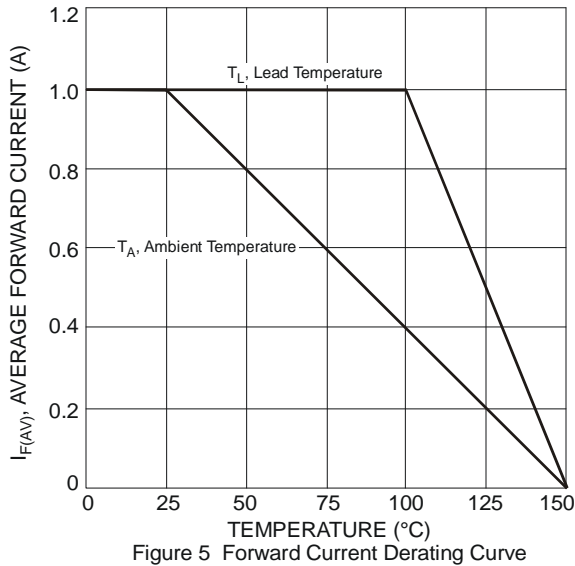


Figure 5 Forward Current Derating Curve

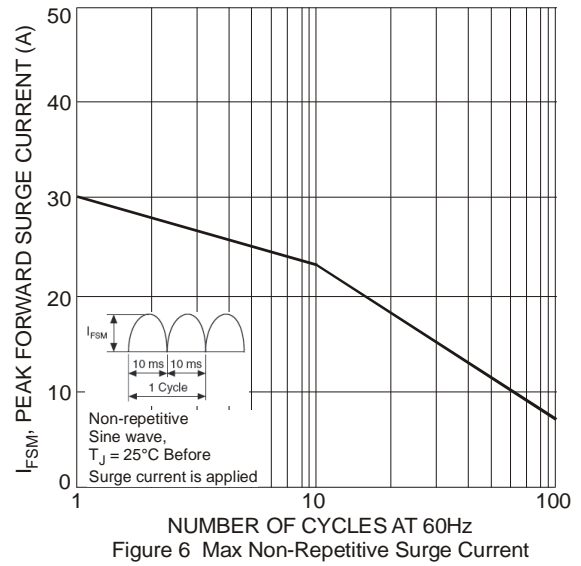
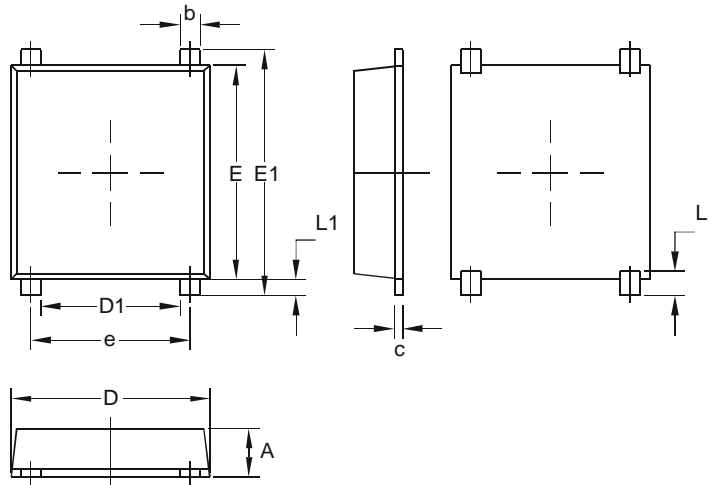


Figure 6 Max Non-Repetitive Surge Current

## Package Outline Dimensions

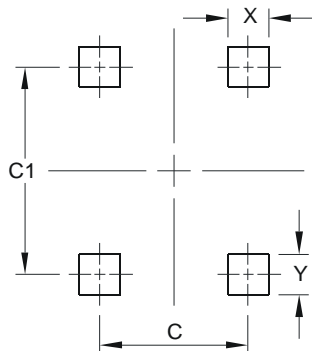
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for latest version.



T-MiniDIP		
Dim	Min	Max
<b>A</b>	1.15	1.27
<b>b</b>	0.60	0.70
<b>c</b>	0.15	0.25
<b>D</b>	4.90	5.10
<b>D1</b>	3.20	3.50
<b>E</b>	5.30	5.50
<b>E1</b>	6.00	6.40
<b>e</b>	3.90	4.10
<b>L</b>	0.25	0.80
<b>L1</b>	0.25	0.55
All Dimensions in mm		

## Suggested Pad Layout

Please see AP02001 at <http://www.diodes.com/datasheets/ap02001.pdf> for the latest version.



Dimensions	Value (in mm)
<b>C</b>	4.00
<b>C1</b>	5.60
<b>X</b>	0.75
<b>Y</b>	0.85

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