HDS10M   
Document number: DS39 299 Rev. 3 - 2 1 of 5   
www.diodes.com December 2017   
© Diodes Incorporated   
   
HDS10M   
 ADVANCED INFORMATION   
   
   
1A SURFACE MOUNT GLASS PASSIVATED BRIDGE RECTIFIER   
   
Product Summary (@T A = +25° C )   
VRRM (V) IO (A) VF (V) IR (μA)   
1000 1 0.95 5   
   
   
   
   
   
Description and Applications   
Suitable for AC to DC bridge full wave rectification for SMPS, LED   
lighting, adapter, battery charger, home appliances, office equipment,   
and telecommunication applications.   
   
   
 Features and Benefits   
 Glass Passivated Die Construction   
 Miniature Package Saves Space on PC Boards   
 Low Leakage Current   
 Ideal for SMT Manufacturing   
 Low Forward Voltage Drop   
 Lead -Free Finish; RoHS Compliant (Notes 1 & 2)   
 Halogen and Antimony Free. “Green” Device (Note 3)   
   
Mechanical Data   
 Case: HDS   
 Case Material: Molded Plastic. UL Flammability Classification   
Rating 94V -0   
 Moisture Sensitivity: Level 1 per J -STD-020   
 Terminals: Lead Free Plating (Matte Tin Finish). Solderable per   
MIL-STD-202, Method 208   
 Polarity: As Marked on Body   
 Weight: 0. 0923 grams ( Approximate )   
   
   
   
   
   
   
   
   
   
   
   
   
   
   
Ordering Information (Note 4)   
Part Number Compliance Case Packaging   
HDS10M -13 Commercial HDS 5,000/Tape & Reel   
Note s: 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 for more information about Diodes Incorporated’s definitions of Hal ogen - 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   
   
   
   
   
   
   
   
   
   
   
   
   
   
Month Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec   
Code 1 2 3 4 5 6 7 8 9 O N D   
   
   
 GreenTop View Internal Schematic   
   
   
HDS10M = Product Type Marking Code   
= Manufacturers’ Code Marking   
YM = Date Code Marking   
Y = Last Digit of Year (ex: 7 = 2017)   
M = See Month/Code Table Below   
   
HDS10M YM   
Pin Diagram

HDS10M   
Document number: DS39 299 Rev. 3 - 2 2 of 5   
www.diodes.com December 2017   
© Diodes Incorporated   
   
HDS10M   
 ADVANCED INFORMATION   
   
   
Maximum Ratings (@TA = +25° C, unless otherwise specified.)   
Single phase, half wave, 60Hz, resistive or inductive load.   
For capacitive load, derate current by 20%.   
Characteristic Symbol Value Unit   
Peak Repetitive Reverse Voltage   
Working Peak Reverse Voltage   
DC Blocking Voltage VRRM   
VRWM   
VR 1000 V   
RMS Reverse Voltage VR(RMS) 700 V   
Average Rectified Output Current (Note 5) @ TC = +95°C IO 1.0 A   
Non-Repetitive Peak Forward Surge Current, 8.3ms   
Single Half Sine -Wave Superimposed on Rated Load IFSM 30 A   
Non-Repetitive Peak Forward Surge Current, 1ms   
Single Half Sine -Wave Superimposed on Rated Load IFSM 60 A   
I2t Rating for Fusing (1ms < t < 8.3ms) I2t 2.39 A2S   
   
   
   
   
Thermal Characteristics   
Characteristic Symbol Value Unit   
Typical Thermal Resistance, Junction to Ambient (Note 6)   
(Per Element) RθJA 40 °C/W   
Typical Thermal Resistance, Junction to Case (Per Element) RθJC 30 °C/W   
Typical Thermal Resistance, Junction to Lead ( Per Element) RθJL 18 °C/W   
Operating and Storage Temperature Range TJ, TSTG -55 to +150 °C   
   
   
   
   
Electrical Characteristics (@TA = +25° C, unless otherwise specified.)   
Characteristic Symbol Min Typ Max Unit Test Condition   
Reverse Breakdown Voltage (Note 7) V(BR)R 1,000 — — V IR = 5μA   
Forward Voltage (Per Element) VF — 0.92 0.95 V IF = 0.5A, TA = +25°C   
Leakage Current (Note 7) (Per Element) IR —   
— 0.08   
20 5   
100 μA VR = 1,000V , TA = +25° C   
VR = 1,000V , TA = +125° C   
Total Capacitance (Per Element) CT — 8.2 — pF VR = 4V, f = 1.0MHz   
Note s: 5. Device mounted on glass epoxy PC board with 1.3mm2 solder pad .   
6. Device mounted on glass epoxy substrate with 1oz/ft2, 15mm x15mm copper pad per pin.   
 7. Short duration pulse test used to minimize self -heating effect.

HDS10M   
Document number: DS39 299 Rev. 3 - 2 3 of 5   
www.diodes.com December 2017   
© Diodes Incorporated   
   
HDS10M   
 ADVANCED INFORMATION   
   
   
   
   
   
   
   
   
   
   
   
   
   
   
   
   
   
   
   
   
AMBIENT   
FIG.3 - TYPICAL FORWARD CHARACTERISTICS

HDS10M   
Document number: DS39 299 Rev. 3 - 2 4 of 5   
www.diodes.com December 2017   
© Diodes Incorporated   
   
HDS10M   
 ADVANCED INFORMATION   
   
   
Package Outline Dimensions   
Please see http://www.diodes.com/package -outlines.html for the latest version.   
   
HDS   
   
   
   
   
Suggested Pad Layout   
Please see http://www.diodes.com/package -outlines.html for the latest version.   
   
HDS   
   
   
   
   
   
   
   
   
   
D  
E1 E3Lc  
A2A1b  
A4A3E  
Pin#1 Depth 0.02-0.08  
 Dia. 0.6+/-0.03yx  
a  
ae  
C  
Y  
XY1HDS   
Dim Min Max Typ   
A1 0.00 0.15 --   
A2 1.20 1.30 --   
A3 0.43 0.63 --   
A4 1.20 1.40 --   
b 0.45 0.75 --   
c 0.10 0.30 --   
D 4.85 5.25 --   
E 6.40 6.80 --   
E1 4.25 4.65 --   
E3 5.20 5.60   
e -- -- 2.54   
L 0.40 0.80 --   
x 0.45 0.85 --   
y 0.45 0.85 --   
a -- -- 7°   
All Dimensions in mm   
Dimensions Value   
(in mm)   
C 2.54   
X 1.00   
Y 1.50   
Y1 7.10

HDS10M   
Document number: DS39 299 Rev. 3 - 2 5 of 5   
www.diodes.com December 2017   
© Diodes Incorporated   
   
HDS10M   
 ADVANCED INFORMATION   
   
   
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 lia bility arising out of the   
application or use of this document or any product described herein; neither does Diodes Incorporated convey any license unde r its patent or   
trademark rights, nor the rights of others. Any Customer or user of this document or prod ucts 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 Diod es Incorporated   
website, harmless against all damages.   
   
Diodes Incorporat ed does not warrant or accept any liability whatsoever in respect of any products purchased through unauthorized sales channe l.   
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 ou t of, directly or   
indirectly, any claim of personal injury or death associated with such unintended or unauthorized app lication.   
   
Products described herein may be covered by one or more United States, international or foreign patents pending. Product name s and markings   
noted herein may also be covered by one or more United States, international or foreign trademarks.   
   
This document is written in English but may be translated into multiple languages for reference. Only the English version of this document is the   
final and determinative format released by Diodes Incorporated.   
   
LIFE SUPPORT   
   
Diodes Incorporated products are sp ecifically 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 sys tems 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 i n 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 expe cted to cause the   
 failure of the life support device or to affect its safety or effectiven ess.   
   
Customers represent that they have all necessary expertise in the safety and regulatory ramifications of their life support d evices or systems, and   
acknowledge and agree that they are solely responsible for all legal, regulatory and safety -related re quirements 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. F urther, 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.   
   
Copyright © 2017 , Diodes Incorporated   
   
www.diodes.com