# 1N5391/S - 1N5399/S

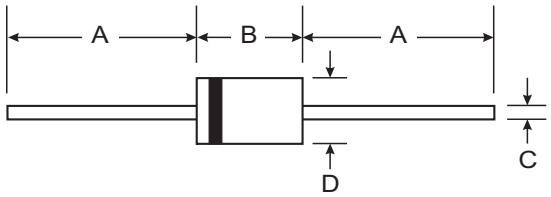
## 1.5A RECTIFIER

## Features

- Fast Switching for High Efficiency
- High Current Capability and Low Forward Voltage Drop
- Low Reverse Leakage Current
- Surge Overload Rating to 50A Peak
- **Lead Free Finish, RoHS Compliant (Note 3)**

## Mechanical Data

- Case: DO-41, DO-15
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish — Tin. Solderable per MIL-STD-202, Method 208 e3
- Polarity: Cathode Band
- Ordering Information: See Last Page
- Marking: Type Number
- Weight: DO-41 0.30 grams (approximate)
  DO-15 0.40 grams (approximate)




| Dim | DO-41 Plastic | | DO-15 | |
|---|---|---|---|---|
| | Min | Max | Min | Max |
| A | 25.40 | — | 25.40 | — |
| B | 4.06 | 5.21 | 5.50 | 7.62 |
| C | 0.71 | 0.864 | 0.686 | 0.889 |
| D | 2.00 | 2.72 | 2.60 | 3.60 |
| All Dimensions in mm | | | | |

"S" Suffix Designates DO-41 Package
No Suffix Designates DO-15 Package

## Maximum Ratings and Electrical Characteristics @ $T_A$ = 25°C unless otherwise specified

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

| Characteristic | Symbol | 1N 5391/S | 1N 5392/S | 1N 5393/S | 1N 5395/S | 1N 5397/S | 1N 5398/S | 1N 5399/S | Unit |
|---|---|---|---|---|---|---|---|---|---|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Average Rectified Output Current (Note 1) @ $T_A$ = 70°C | $I_O$ | 1.5 | | | | | | | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load | $I_{FSM}$ | 50 | | | | | | | A |
| Forward Voltage Drop @ $I_F$ = 1.5A | $V_{FM}$ | 1.1 | | | | | | | V |
| Peak Reverse Leakage Current @ $T_A$ = 25°C<br>at Rated DC Blocking Voltage @ $T_A$ = 100°C | $I_{RM}$ | 5.0<br>50 | | | | | | | μA |
| Typical Total Capacitance (Note 2) | $C_T$ | 20 | | | | | | | pF |
| Typical Thermal Resistance Junction to Lead | $R_{\theta JL}$ | 25 | | | | | | | °C/W |
| Typical Thermal Resistance Junction to Ambient (Note 1) | $R_{\theta JA}$ | 55 | | | | | | | °C/W |
| Operating and Storage Temperature Range | $T_j$, $T_{STG}$ | -65 to +150 | | | | | | | °C |

Notes: 1. Leads maintained at ambient temperature at a distance of 9.5mm from the case.
2. Measured at 1.0 MHz and Applied Reverse Voltage of 4.0V DC.
3. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see *EU Directive Annex Notes 5 and 7.*


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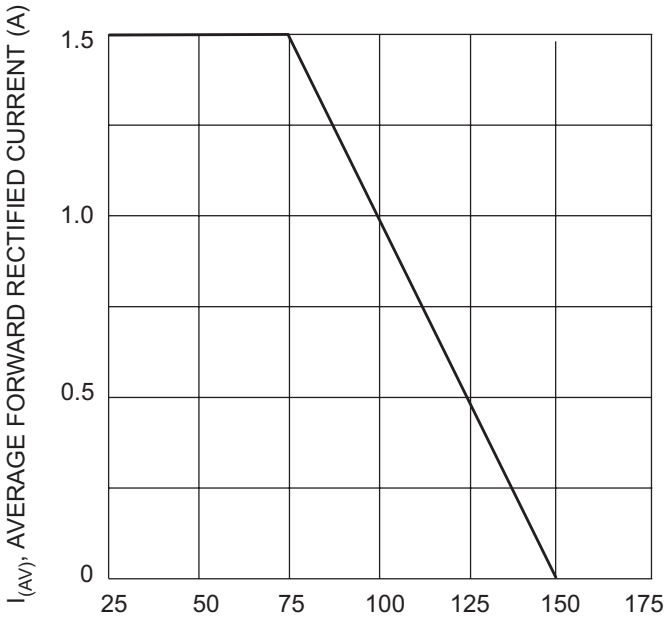



Fig. 1, Forward Current Derating Curve

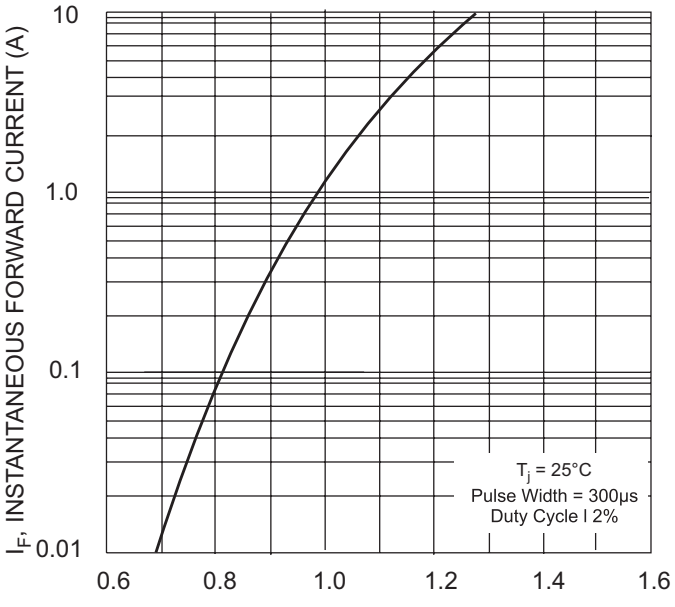



Fig. 2 Typical Forward Characteristics

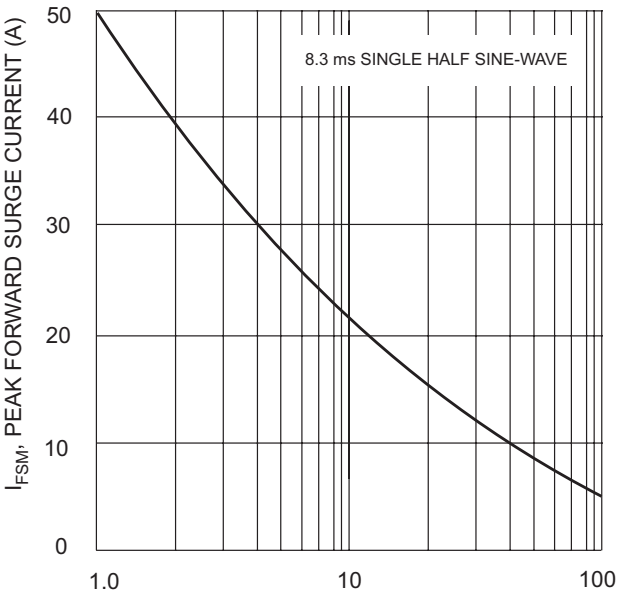



Fig. 3 Maximum Non-Repetitive Peak Forward Surge Current

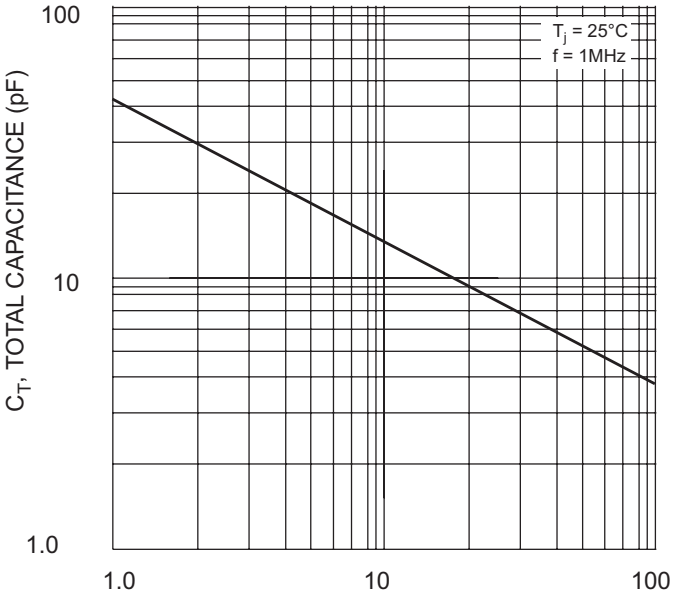



Fig. 4 Typical Total Capacitance

## Ordering Information (Note 4)

| Device | Packaging | Shipping |
|---|---|---|
| 1N5391-B | DO-15 | 1K/Bulk |
| 1N5391-T | DO-15 | 4K/Tape & Reel, 13-inch |
| 1N5391S-A | DO-41 | 5K/Ammo Pack |
| 1N5391S-B | DO-41 | 1K/Bulk |
| 1N5391S-T | DO-41 | 5K/Tape & Reel, 13-inch |
| 1N5392-B | DO-15 | 1K/Bulk |
| 1N5392-T | DO-15 | 4K/Tape & Reel, 13-inch |
| 1N5392S-A | DO-41 | 5K/Ammo Pack |
| 1N5392S-B | DO-41 | 1K/Bulk |
| 1N5392S-T | DO-41 | 5K/Tape & Reel, 13-inch |
| 1N5393-B | DO-15 | 1K/Bulk |
| 1N5393-T | DO-15 | 4K/Tape & Reel, 13-inch |
| 1N5393S-A | DO-41 | 5K/Ammo Pack |
| 1N5393S-B | DO-41 | 1K/Bulk |
| 1N5393S-T | DO-41 | 5K/Tape & Reel, 13-inch |
| 1N5395-B | DO-15 | 1K/Bulk |
| 1N5395-T | DO-15 | 4K/Tape & Reel, 13-inch |
| 1N5395S-A | DO-41 | 5K/Ammo Pack |
| 1N5395S-B | DO-41 | 1K/Bulk |
| 1N5395S-T | DO-41 | 5K/Tape & Reel, 13-inch |
| 1N5397-B | DO-15 | 1K/Bulk |
| 1N5397-T | DO-15 | 4K/Tape & Reel, 13-inch |
| 1N5397S-A | DO-41 | 5K/Ammo Pack |
| 1N5397S-B | DO-41 | 1K/Bulk |
| 1N5397S-T | DO-41 | 5K/Tape & Reel, 13-inch |
| 1N5398-B | DO-15 | 1K/Bulk |
| 1N5398-T | DO-15 | 4K/Tape & Reel, 13-inch |
| 1N5398S-A | DO-41 | 5K/Ammo Pack |
| 1N5398S-B | DO-41 | 1K/Bulk |
| 1N5398S-T | DO-41 | 5K/Tape & Reel, 13-inch |
| 1N5399-B | DO-15 | 1K/Bulk |
| 1N5399-T | DO-15 | 4K/Tape & Reel, 13-inch |
| 1N5399S-A | DO-41 | 5K/Ammo Pack |
| 1N5399S-B | DO-41 | 1K/Bulk |
| 1N5399S-T | DO-41 | 5K/Tape & Reel, 13-inch |

Notes: 4. For packaging details, visit our website at http://www.diodes.com/datasheets/ap02008.pdf

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