

### Features

- 1500W Peak Pulse Power Dissipation
- Voltage Range 6.8V - 400V
- Constructed with Glass Passivated Die
- Uni and Bidirectional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Lead Free Finish, RoHS Compliant (Note 3)**



### Mechanical Data

- Case: DO-201
- Case Material: Transfer Molding Epoxy. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish - Tin. Leads: Axial, Solderable per MIL-STD-202 Method 208
- Ordering Information: See Page 4
- Marking: Unidirectional - Type Number and Cathode Band
- Marking: Bidirectional - Type Number Only
- Weight: 1.12 grams (approximate)

| DO-201               |       |      |
|----------------------|-------|------|
| Dim                  | Min   | Max  |
| A                    | 25.40 | —    |
| B                    | 8.50  | 9.53 |
| C                    | 0.96  | 1.06 |
| D                    | 4.80  | 5.21 |
| All Dimensions in mm |       |      |

### Maximum Ratings @ T<sub>A</sub> = 25°C unless otherwise specified

| Characteristic   | Symbol                            | Value       | Unit |
|--|-----------------------------------|-------------|------|
| Peak Power Dissipation at t <sub>p</sub> = 1.0ms (Non-repetitive current pulse, derated above T <sub>A</sub> = 25°C)                                     | P <sub>pk</sub>                   | 1500        | W    |
| Steady State Power Dissipation at T <sub>L</sub> = 75°C Lead Lengths 9.5 mm  | P <sub>d</sub>                    | 5.0         | W    |
| Peak Forward Surge Current, 8.3 Single Half Sine Wave Superimposed on Rated Load (8.3ms Single Half Sine Wave, Duty Cycle = 4 pulses per minute maximum) | I <sub>FSM</sub>                  | 200         | A    |
| Forward Voltage @ I <sub>F</sub> = 50A 300µs Square Wave Pulse, Unidirectional Only  | V <sub>F</sub>                    | 3.5<br>5.0  | V    |
| Operating and Storage Temperature Range  | T <sub>j</sub> , T <sub>STG</sub> | -55 to +175 | °C   |

- Notes:
1. Suffix 'C' denotes bidirectional device.
  2. For bidirectional devices having V<sub>R</sub> of 10 volts and under, the I<sub>R</sub> limit is doubled.
  3. RoHS revision 13.2.2003. Glass and high temperature solder exemptions applied, see *EU Directive Annex Notes 5 and 7*.

| Type Number (Note 1) | Type Number (Note 1) | Reverse Standoff Voltage | Breakdown Voltage $V_{BR}$ @ $I_T$ |        | Test Current | Max. Reverse Leakage (Note 2) @ $V_R$ | Max. Clamping Voltage @ $I_{PP}$ | Max. Peak Pulse Current | Max. Voltage Temp. Variation of $V_{BR}$ |
|----------------------|----------------------|--------------------------|------------------------------------|--------|--------------|---------------------------------------|----------------------------------|-------------------------|--|
|                      |                      |                          | (UNI)                              | (BI)   |              |                                       |                                  |                         |  |
| 1.5KE6V8A            | 1.5KE6V8CA           | 5.80                     | 6.45                               | 7.14   | 10           | 1000                                  | 10.5                             | 143.0                   | 0.057                                    |
| 1.5KE7V5A            | 1.5KE7V5CA           | 6.40                     | 7.13                               | 7.88   | 10           | 500                                   | 11.3                             | 132.0                   | 0.061                                    |
| 1.5KE8V2A            | 1.5KE8V2CA           | 7.02                     | 7.79                               | 8.61   | 10           | 200                                   | 12.1                             | 124.0                   | 0.065                                    |
| 1.5KE9V1A            | 1.5KE9V1CA           | 7.78                     | 8.65                               | 9.55   | 1.0          | 50                                    | 13.4                             | 112.0                   | 0.068                                    |
| 1.5KE10A             | 1.5KE10CA            | 8.55                     | 9.50                               | 10.50  | 1.0          | 10                                    | 14.5                             | 103.0                   | 0.073                                    |
| 1.5KE11A             | 1.5KE11CA            | 9.40                     | 10.50                              | 11.60  | 1.0          | 5.0                                   | 15.6                             | 96.0                    | 0.075                                    |
| 1.5KE12A             | 1.5KE12CA            | 10.20                    | 11.40                              | 12.60  | 1.0          | 5.0                                   | 16.7                             | 90.0                    | 0.078                                    |
| 1.5KE13A             | 1.5KE13CA            | 11.10                    | 12.40                              | 13.70  | 1.0          | 5.0                                   | 18.2                             | 82.0                    | 0.081                                    |
| 1.5KE15A             | 1.5KE15CA            | 12.80                    | 14.30                              | 15.80  | 1.0          | 5.0                                   | 21.2                             | 71.0                    | 0.084                                    |
| 1.5KE16A             | 1.5KE16CA            | 13.60                    | 15.20                              | 16.80  | 1.0          | 5.0                                   | 22.5                             | 67.0                    | 0.086                                    |
| 1.5KE18A             | 1.5KE18CA            | 15.30                    | 17.10                              | 18.90  | 1.0          | 5.0                                   | 25.2                             | 59.5                    | 0.088                                    |
| 1.5KE20A             | 1.5KE20CA            | 17.10                    | 19.00                              | 21.00  | 1.0          | 5.0                                   | 27.7                             | 54.0                    | 0.090                                    |
| 1.5KE22A             | 1.5KE22CA            | 18.80                    | 20.90                              | 23.10  | 1.0          | 5.0                                   | 30.6                             | 49.0                    | 0.092                                    |
| 1.5KE24A             | 1.5KE24CA            | 20.50                    | 22.80                              | 25.20  | 1.0          | 5.0                                   | 33.2                             | 45.0                    | 0.094                                    |
| 1.5KE27A             | 1.5KE27CA            | 23.10                    | 25.70                              | 28.40  | 1.0          | 5.0                                   | 37.5                             | 40.0                    | 0.096                                    |
| 1.5KE30A             | 1.5KE30CA            | 25.60                    | 28.50                              | 31.50  | 1.0          | 5.0                                   | 41.4                             | 36.0                    | 0.097                                    |
| 1.5KE33A             | 1.5KE33CA            | 28.20                    | 31.40                              | 34.70  | 1.0          | 5.0                                   | 45.7                             | 33.0                    | 0.098                                    |
| 1.5KE36A             | 1.5KE36CA            | 30.80                    | 34.20                              | 37.80  | 1.0          | 5.0                                   | 49.9                             | 30.0                    | 0.099                                    |
| 1.5KE39A             | 1.5KE39CA            | 33.30                    | 37.10                              | 41.00  | 1.0          | 5.0                                   | 53.9                             | 28.0                    | 0.100                                    |
| 1.5KE43A             | 1.5KE43CA            | 36.80                    | 40.90                              | 45.20  | 1.0          | 5.0                                   | 59.3                             | 25.3                    | 0.101                                    |
| 1.5KE47A             | 1.5KE47CA            | 40.20                    | 44.70                              | 49.40  | 1.0          | 5.0                                   | 64.8                             | 23.2                    | 0.101                                    |
| 1.5KE51A             | 1.5KE51CA            | 43.60                    | 48.50                              | 53.60  | 1.0          | 5.0                                   | 70.1                             | 21.4                    | 0.102                                    |
| 1.5KE56A             | 1.5KE56CA            | 47.80                    | 53.20                              | 58.80  | 1.0          | 5.0                                   | 77.0                             | 19.5                    | 0.103                                    |
| 1.5KE62A             | 1.5KE62CA            | 53.00                    | 58.90                              | 65.10  | 1.0          | 5.0                                   | 85.0                             | 17.7                    | 0.104                                    |
| 1.5KE68A             | 1.5KE68CA            | 58.10                    | 64.60                              | 71.40  | 1.0          | 5.0                                   | 92.0                             | 16.3                    | 0.104                                    |
| 1.5KE75A             | 1.5KE75CA            | 64.10                    | 71.30                              | 78.80  | 1.0          | 5.0                                   | 103.0                            | 14.6                    | 0.105                                    |
| 1.5KE82A             | 1.5KE82CA            | 70.10                    | 77.90                              | 86.10  | 1.0          | 5.0                                   | 113.0                            | 13.3                    | 0.105                                    |
| 1.5KE91A             | 1.5KE91CA            | 77.80                    | 86.50                              | 95.50  | 1.0          | 5.0                                   | 125.0                            | 12.0                    | 0.106                                    |
| 1.5KE100A            | 1.5KE100CA           | 85.50                    | 95.00                              | 105.00 | 1.0          | 5.0                                   | 137.0                            | 11.0                    | 0.106                                    |
| 1.5KE110A            | 1.5KE110CA           | 94.00                    | 105.00                             | 116.00 | 1.0          | 5.0                                   | 152.0                            | 9.9                     | 0.107                                    |
| 1.5KE120A            | 1.5KE120CA           | 102.00                   | 114.00                             | 126.00 | 1.0          | 5.0                                   | 165.0                            | 9.1                     | 0.107                                    |
| 1.5KE130A            | 1.5KE130CA           | 111.00                   | 124.00                             | 137.00 | 1.0          | 5.0                                   | 179.0                            | 8.4                     | 0.107                                    |
| 1.5KE150A            | 1.5KE150CA           | 128.00                   | 143.00                             | 158.00 | 1.0          | 5.0                                   | 207.0                            | 7.2                     | 0.108                                    |
| 1.5KE160A            | 1.5KE160CA           | 136.00                   | 152.00                             | 168.00 | 1.0          | 5.0                                   | 219.0                            | 6.8                     | 0.108                                    |
| 1.5KE170A            | 1.5KE170CA           | 145.00                   | 162.00                             | 179.00 | 1.0          | 5.0                                   | 234.0                            | 6.4                     | 0.108                                    |
| 1.5KE180A            | 1.5KE180CA           | 154.00                   | 171.00                             | 189.00 | 1.0          | 5.0                                   | 246.0                            | 6.1                     | 0.108                                    |
| 1.5KE200A            | 1.5KE200CA           | 171.00                   | 190.00                             | 210.00 | 1.0          | 5.0                                   | 274.0                            | 5.5                     | 0.108                                    |
| 1.5KE220A            | 1.5KE220CA           | 185.00                   | 209.00                             | 231.00 | 1.0          | 5.0                                   | 328.0                            | 4.6                     | 0.108                                    |
| 1.5KE250A            | 1.5KE250CA           | 214.00                   | 237.00                             | 263.00 | 1.0          | 5.0                                   | 344.0                            | 5.0                     | 0.110                                    |
| 1.5KE300A            | 1.5KE300CA           | 256.00                   | 285.00                             | 315.00 | 1.0          | 5.0                                   | 414.0                            | 5.0                     | 0.110                                    |
| 1.5KE350A            | 1.5KE350CA           | 300.00                   | 332.00                             | 368.00 | 1.0          | 5.0                                   | 482.0                            | 4.0                     | 0.110                                    |
| 1.5KE400A            | 1.5KE400CA           | 342.00                   | 380.00                             | 420.00 | 1.0          | 5.0                                   | 548.0                            | 4.0                     | 0.110                                    |

Notes: 1. Suffix 'C' denotes bidirectional device.  
2. For bidirectional devices having  $V_R$  of 10 volts and under, the  $I_R$  limit is doubled.



Fig. 1 Pulse Waveform



Fig. 2 Typical Total Capacitance

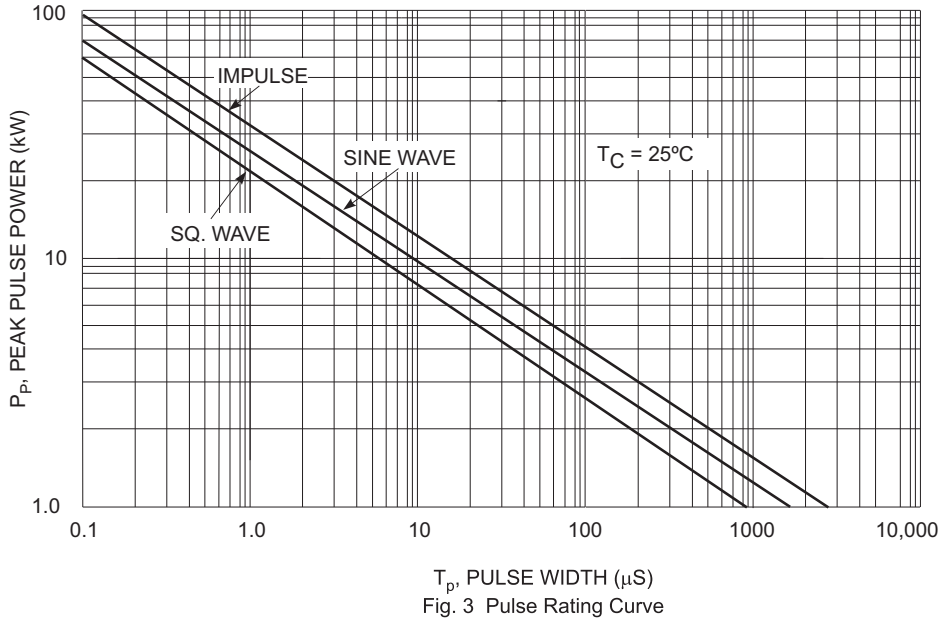


Fig. 3 Pulse Rating Curve



Fig. 4 Pulse Derating Curve

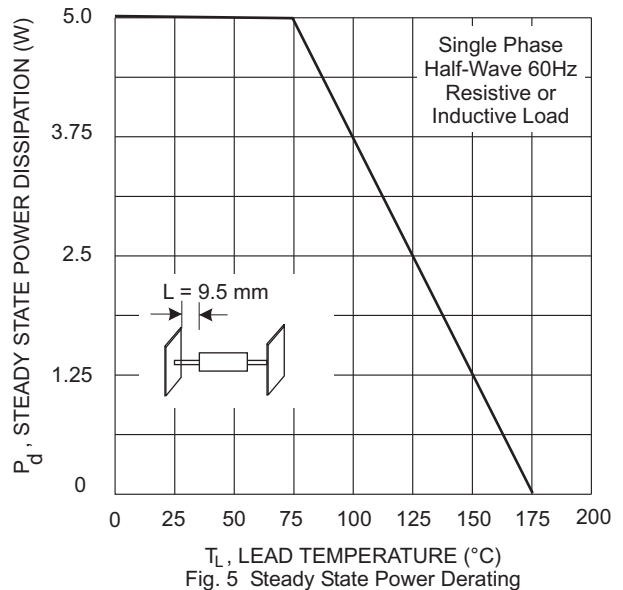


Fig. 5 Steady State Power Derating

**Ordering Information** (Note 4 & 5)

| Device           | Packaging | Shipping                |
|------------------|-----------|-------------------------|
| (Type Number)-B* | DO-201    | 1K/Bulk                 |
| (Type Number)-T* | DO-201    | 1K/Tape & Reel, 13-inch |

- Notes:
- \*Add "-B" or "-T" to the appropriate type number in Table 1. Example: 6.40 Reverse Standoff Voltage, UNI = 1.5KE7V5A-B.
  - For packaging details, visit our website at <http://www.diodes.com/datasheets/ap02008.pdf>.

**IMPORTANT NOTICE**

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. Diodes Incorporated does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products 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 our website, harmless against all damages.

**LIFE SUPPORT**

Diodes Incorporated products are not authorized for use as critical components in life support devices or systems without the expressed written approval of the President of Diodes Incorporated.



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.