

## 3KP-G Series

**Stand-off Voltage: 5.0 ~ 440V**  
**Power Dissipation: 3000 Watts**  
**RoHS Device**



### Features

- Glass passivated chip.
- Low leakage.
- Uni and Bidirection unit.
- Excellent clamping capability.
- Very Fast response time.

### Mechanical Data

- Case: Molded plastic R-6
- Epoxy: UL 94V-0 rate flame retardant.
- Lead: Solderable per MIL-STD-202, method 208 guranteed.
- Polarity: Color band denotes cathode end except Bipolar.
- Weight: 2.1 grams



### Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.  
 Single phase, half wave, 60Hz, resistive or inductive loaded.  
 For capacitive load, derated current by 20%.

| Parameter  | Symbol                            | Value          | Unit |
|--|-----------------------------------|----------------|------|
| Peak power dissipation with a 10/1000 $\mu$ s waveform (Note 1)                      | PPP                               | 3000           | W    |
| Peak pulse current with a 10/1000 $\mu$ s waveform (Note 1)                          | IPP                               | See Next Table | A    |
| Power dissipation on infinite heatsink at $T_L=75^\circ\text{C}$                     | PD                                | 6.5            | W    |
| Peak forward surge current, 8.3ms single half sine-wave unidirectional only (Note 2) | IFSM                              | 300            | A    |
| Maximum instantaneous forward voltage at 100A for unidirectional only (Note 3)       | V <sub>F</sub>                    | 3.5 / 5.0      | V    |
| Operating junction and storage temperature range                                     | T <sub>J</sub> , T <sub>STG</sub> | -55 to +150    | °C   |

NTOES:

- (1) Non-repetitive current pulse, per fig.3 and derated above  $T_A=25^\circ\text{C}$  per Fig. 1.
- (2) Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.
- (3)  $V_F < 3.5\text{V}$  for devices of  $V_{BR} < 200\text{V}$  and  $V_F < 5.0\text{V}$  for devices of  $V_{BR} > 201\text{V}$ .

## RATING AND CHARACTERISTIC (3KP-G Series)

Fig.1 Pulse Derating Curve



Fig.2 Max. Non-repetitive Surge Current



Fig.3 Peak Pulse Power Rating Curve



Fig.4 Steady State Power Derating Curve



Fig.5 Pulse Waveform



# 3000W Transient Voltage Suppressor



Electrical Characteristics (TA=25°C unless otherwise noted)

| Part No.     | Breakdown Voltage<br>VBR (V) @ IT |         |        | Maximum<br>Reverse<br>Leakage<br>at VRWM<br>IR (uA) | Working<br>Peak<br>Reverse<br>Voltage<br>VRWM (V) | Maximum<br>Reverse<br>Surge<br>Current<br>I <sub>PP</sub> (A) | Maximum<br>Clamping<br>Voltage<br>at IPP<br>V <sub>c</sub> (V) | Marking Code |          |
|--------------|-----------------------------------|---------|--------|---|---|---|--|--------------|----------|
|              | MIN.(V)                           | MAX.(V) | IT(mA) |   |   |   |  | UNI          | BI       |
| 3KP5.0(C)A-G | 6.40                              | 7.00    | 50     | 5000  | 5.0   | 326.09  | 9.2  | 3KP5.0A      | 3KP5.0CA |
| 3KP6.0(C)A-G | 6.67                              | 7.37    | 50     | 5000  | 6.0   | 291.26  | 10.3   | 3KP6.0A      | 3KP6.0CA |
| 3KP6.5(C)A-G | 7.22                              | 7.98    | 50     | 2000  | 6.5   | 267.86  | 11.2   | 3KP6.5A      | 3KP6.5CA |
| 3KP7.0(C)A-G | 7.78                              | 8.60    | 50     | 1000  | 7.0   | 250.00  | 12.0   | 3KP7.0A      | 3KP7.0CA |
| 3KP7.5(C)A-G | 8.33                              | 9.21    | 5      | 250   | 7.5   | 232.56  | 12.9   | 3KP7.5A      | 3KP7.5CA |
| 3KP8.0(C)A-G | 8.89                              | 9.83    | 5      | 150   | 8.0   | 220.59  | 13.6   | 3KP8.0A      | 3KP8.0CA |
| 3KP8.5(C)A-G | 9.44                              | 10.4    | 5      | 50  | 8.5   | 208.33  | 14.4   | 3KP8.5A      | 3KP8.5CA |
| 3KP9.0(C)A-G | 10.0                              | 11.1    | 5      | 20  | 9.0   | 194.81  | 15.4   | 3KP9.0A      | 3KP9.0CA |
| 3KP10(C)A-G  | 11.1                              | 12.3    | 5      | 15  | 10.0  | 176.47  | 17.0   | 3KP10A       | 3KP10CA  |
| 3KP11(C)A-G  | 12.2                              | 13.5    | 5      | 2   | 11.0  | 164.84  | 18.2   | 3KP11A       | 3KP11CA  |
| 3KP12(C)A-G  | 13.3                              | 14.7    | 5      | 2   | 12.0  | 150.75  | 19.9   | 3KP12A       | 3KP12CA  |
| 3KP13(C)A-G  | 14.4                              | 15.9    | 5      | 2   | 13.0  | 139.53  | 21.5   | 3KP13A       | 3KP13CA  |
| 3KP14(C)A-G  | 15.6                              | 17.2    | 5      | 2   | 14.0  | 129.31  | 23.2   | 3KP14A       | 3KP14CA  |
| 3KP15(C)A-G  | 16.7                              | 18.5    | 5      | 2   | 15.0  | 122.95  | 24.4   | 3KP15A       | 3KP15CA  |
| 3KP16(C)A-G  | 17.8                              | 19.7    | 5      | 2   | 16.0  | 115.38  | 26.0   | 3KP16A       | 3KP16CA  |
| 3KP17(C)A-G  | 18.9                              | 20.9    | 5      | 2   | 17.0  | 108.70  | 27.6   | 3KP17A       | 3KP17CA  |
| 3KP18(C)A-G  | 20.0                              | 22.1    | 5      | 2   | 18.0  | 102.74  | 29.2   | 3KP18A       | 3KP18CA  |
| 3KP19(C)A-G  | 21.1                              | 23.3    | 5      | 2   | 19.0  | 97.47   | 30.8   | 3KP19A       | 3KP19CA  |
| 3KP20(C)A-G  | 22.2                              | 24.5    | 5      | 2   | 20.0  | 92.59   | 32.4   | 3KP20A       | 3KP20CA  |
| 3KP22(C)A-G  | 24.4                              | 26.9    | 5      | 2   | 22.0  | 84.51   | 35.5   | 3KP22A       | 3KP22CA  |
| 3KP24(C)A-G  | 26.7                              | 29.5    | 5      | 2   | 24.0  | 77.12   | 38.9   | 3KP24A       | 3KP24CA  |
| 3KP26(C)A-G  | 28.9                              | 31.9    | 5      | 2   | 26.0  | 71.26   | 42.1   | 3KP26A       | 3KP26CA  |
| 3KP28(C)A-G  | 31.1                              | 34.4    | 5      | 2   | 28.0  | 66.08   | 45.4   | 3KP28A       | 3KP28CA  |
| 3KP30(C)A-G  | 33.3                              | 36.8    | 5      | 2   | 30.0  | 61.98   | 48.4   | 3KP30A       | 3KP30CA  |
| 3KP33(C)A-G  | 36.7                              | 40.6    | 5      | 2   | 33.0  | 56.29   | 53.3   | 3KP33A       | 3KP33CA  |
| 3KP36(C)A-G  | 40.0                              | 44.2    | 5      | 2   | 36.0  | 51.64   | 58.1   | 3KP36A       | 3KP36CA  |
| 3KP40(C)A-G  | 44.4                              | 49.1    | 5      | 2   | 40.0  | 46.51   | 64.5   | 3KP40A       | 3KP40CA  |
| 3KP43(C)A-G  | 43.0                              | 47.8    | 5      | 2   | 43.0  | 43.23   | 69.4   | 3KP43A       | 3KP43CA  |
| 3KP45(C)A-G  | 50.0                              | 55.3    | 5      | 2   | 45.0  | 41.27   | 72.7   | 3KP45A       | 3KP45CA  |
| 3KP48(C)A-G  | 53.3                              | 58.9    | 5      | 2   | 48.0  | 38.76   | 77.4   | 3KP48A       | 3KP48CA  |
| 3KP51(C)A-G  | 56.7                              | 62.7    | 5      | 2   | 51.0  | 36.41   | 82.4   | 3KP51A       | 3KP51CA  |
| 3KP54(C)A-G  | 60.0                              | 66.3    | 5      | 2   | 54.0  | 34.44   | 87.1   | 3KP54A       | 3KP54CA  |

Company reserves the right to improve product design , functions and reliability without notice.

REV:B

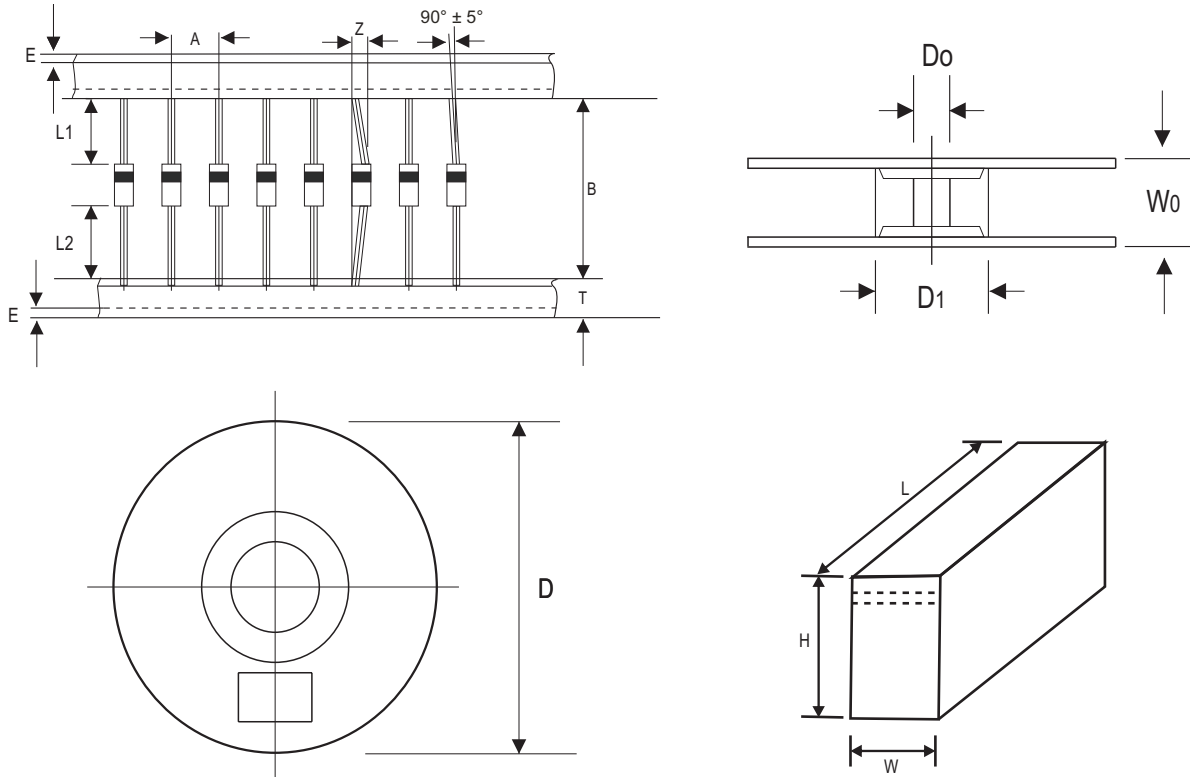
## Electrical Characteristics (TA=25°C unless otherwise noted)

| Part No.     | Breakdown Voltage<br>VBR (V) @ IT |         |        | Maximum<br>Reverse<br>Leakage<br>at VRWM<br>IR (uA) | Working<br>Peak<br>Reverse<br>Voltage<br>VRWM (V) | Maximum<br>Reverse<br>Surge<br>Current<br>IPP(A) | Maximum<br>Clamping<br>Voltage<br>at IPP<br>Vc(V) | Marking Code |          |
|--------------|-----------------------------------|---------|--------|---|---|--|---|--------------|----------|
|              | MIN.(V)                           | MAX.(V) | IT(mA) |   |   |  |   | UNI          | BI       |
| 3KP58(C)A-G  | 64.4                              | 71.2    | 5      | 2   | 58.0  | 32.05  | 93.6  | 3KP58A       | 3KP58CA  |
| 3KP60(C)A-G  | 66.7                              | 73.7    | 5      | 2   | 60.0  | 30.99  | 96.8  | 3KP60A       | 3KP60CA  |
| 3KP64(C)A-G  | 71.1                              | 78.6    | 5      | 2   | 64.0  | 29.13  | 103.0   | 3KP64A       | 3KP64CA  |
| 3KP70(C)A-G  | 77.8                              | 86.0    | 5      | 2   | 70.0  | 26.55  | 113.0   | 3KP70A       | 3KP70CA  |
| 3KP75(C)A-G  | 83.3                              | 92.1    | 5      | 2   | 75.0  | 24.79  | 121.0   | 3KP75A       | 3KP75CA  |
| 3KP78(C)A-G  | 86.7                              | 95.8    | 5      | 2   | 78.0  | 23.81  | 126.0   | 3KP78A       | 3KP78CA  |
| 3KP80(C)A-G  | 88.8                              | 97.6    | 5      | 2   | 80.0  | 23.15  | 137.0   | 3KP80A       | 3KP80CA  |
| 3KP85(C)A-G  | 94.4                              | 104.0   | 5      | 2   | 85.0  | 21.9   | 137.0   | 3KP85A       | 3KP85CA  |
| 3KP90(C)A-G  | 100                               | 111     | 5      | 2   | 90  | 20.55  | 146   | 3KP90A       | 3KP90CA  |
| 3KP100(C)A-G | 111                               | 123     | 5      | 2   | 100   | 18.52  | 162   | 3KP100A      | 3KP100CA |
| 3KP110(C)A-G | 122                               | 135     | 5      | 2   | 110   | 16.95  | 177   | 3KP110A      | 3KP110CA |
| 3KP120(C)A-G | 133                               | 147     | 5      | 2   | 120   | 15.54  | 193   | 3KP120A      | 3KP120CA |
| 3KP130(C)A-G | 144                               | 159     | 5      | 2   | 130   | 14.35  | 209   | 3KP130A      | 3KP130CA |
| 3KP140(C)A-G | 155                               | 171     | 5      | 2   | 140   | 13.23  | 227   | 3KP140A      | 3KP140CA |
| 3KP150(C)A-G | 167                               | 185     | 5      | 2   | 150   | 12.35  | 243   | 3KP150A      | 3KP150CA |
| 3KP160(C)A-G | 178                               | 197     | 5      | 2   | 160   | 11.58  | 259   | 3KP160A      | 3KP160CA |
| 3KP170(C)A-G | 189                               | 209     | 5      | 2   | 170   | 10.91  | 275   | 3KP170A      | 3KP170CA |
| 3KP180(C)A-G | 200                               | 220     | 5      | 2   | 180   | 10.29  | 292   | 3KP180A      | 3KP180CA |
| 3KP190(C)A-G | 211                               | 232     | 5      | 2   | 190   | 9.75   | 308   | 3KP190A      | 3KP190CA |
| 3KP200(C)A-G | 224                               | 247     | 5      | 2   | 200   | 9.26   | 324   | 3KP200A      | 3KP200CA |
| 3KP210(C)A-G | 233                               | 258     | 5      | 2   | 210   | 8.58   | 350   | 3KP210A      | 3KP210CA |
| 3KP220(C)A-G | 246                               | 272     | 5      | 2   | 220   | 8.43   | 356   | 3KP220A      | 3KP220CA |
| 3KP250(C)A-G | 279                               | 309     | 5      | 2   | 250   | 7.41   | 405   | 3KP250A      | 3KP250CA |
| 3KP300(C)A-G | 335                               | 371     | 5      | 2   | 300   | 6.17   | 486   | 3KP300A      | 3KP300CA |
| 3KP350(C)A-G | 391                               | 432     | 5      | 2   | 350   | 5.29   | 567   | 3KP350A      | 3KP350CA |
| 3KP400(C)A-G | 447                               | 494     | 5      | 2   | 400   | 4.63   | 648   | 3KP400A      | 3KP400CA |
| 3KP440(C)A-G | 492                               | 543     | 5      | 2   | 440   | 4.21   | 713   | 3KP440A      | 3KP440CA |

NOTES:

1. Suffix 'A ' denotes 5% tolerance device.
2. Add suffix 'C 'or ' CA ' after part number to specify Bi-directional devices.
3. For Bi-Directional devices having Vr of 10 volts and under, the Ir limit is double.

## Taping Specification For Axial Lead Diodes



| R-6 | SYMBOL | A                 | B                 | Z           | T                 | E           | L1          | L2          |
|-----|--------|-------------------|-------------------|-------------|-------------------|-------------|-------------|-------------|
|     | (mm)   | $10.00 \pm 0.50$  | $52.00 \pm 0.50$  | 1.20 (max)  | $6.00 \pm 0.40$   | 1.00 (max)  | 1.00 (max)  | 1.00 (max)  |
|     | (inch) | $0.394 \pm 0.020$ | $2.047 \pm 0.020$ | 0.047 (max) | $0.236 \pm 0.016$ | 0.039 (max) | 0.039 (max) | 0.039 (max) |

| R-6 | SYMBOL | D1                | D0                | D      | W0                | L      | W     | H      |
|-----|--------|-------------------|-------------------|--------|-------------------|--------|-------|--------|
|     | (mm)   | $85.70 \pm 0.30$  | $16.60 \pm 0.40$  | 330.00 | $72.00 \pm 3.00$  | 260.00 | 75.00 | 145.00 |
|     | (inch) | $3.374 \pm 0.012$ | $0.654 \pm 0.016$ | 13.000 | $2.835 \pm 0.118$ | 10.236 | 2.953 | 5.709  |

## Standard Packaging

| Case Type | AMMO PACK      |                   |
|-----------|----------------|-------------------|
|           | BOX<br>( pcs ) | CARTON<br>( pcs ) |
| R-6       | 250            | 3,750             |



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:

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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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