

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 μ s waveform (Note 1) | PPP | 3000 | W |
| Peak pulse current with a 10/1000 μ 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 _F | 3.5 / 5.0 | V |
| Operating junction and storage temperature range | T _J , T _{STG} | -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 VBR (V) @ IT | | | Maximum Reverse Leakage at VRWM IR (uA) | Working Peak Reverse Voltage VRWM (V) | Maximum Reverse Surge Current I _{PP} (A) | Maximum Clamping Voltage at IPP V _c (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 |

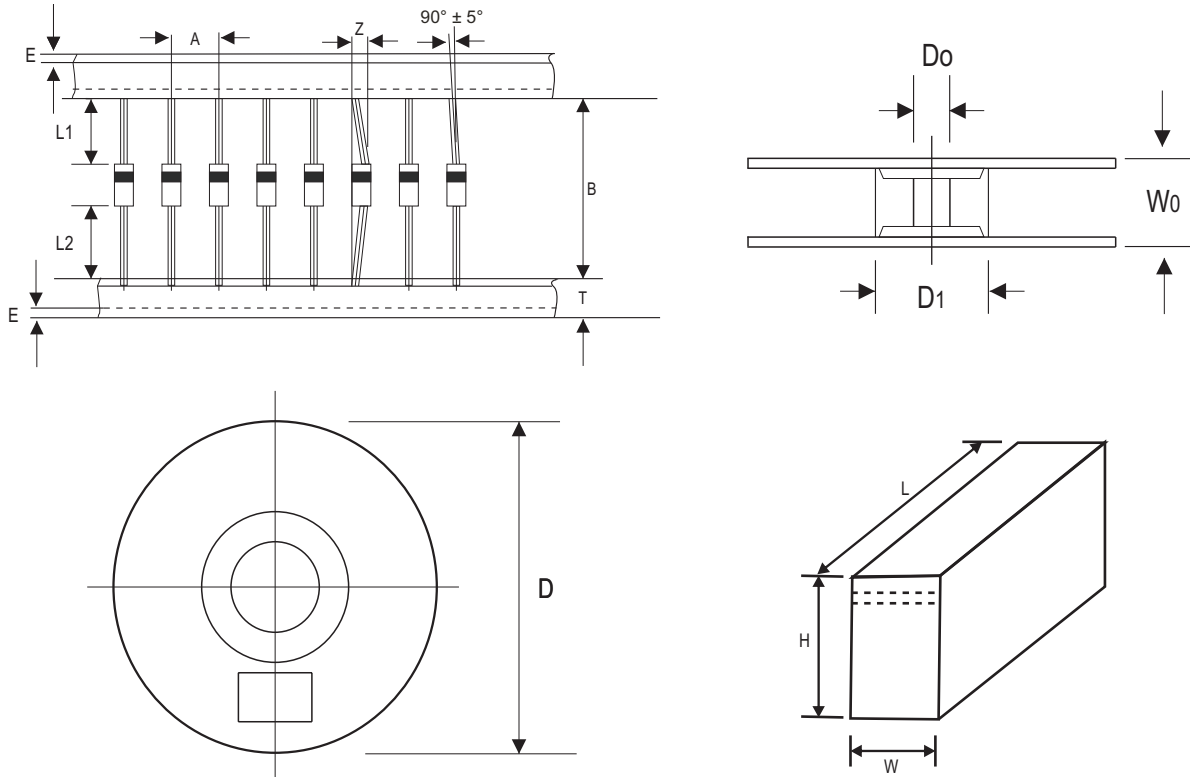
Electrical Characteristics (TA=25°C unless otherwise noted)

| Part No. | Breakdown Voltage VBR (V) @ IT | | | Maximum Reverse Leakage at VRWM IR (uA) | Working Peak Reverse Voltage VRWM (V) | Maximum Reverse Surge Current IPP(A) | Maximum Clamping Voltage at IPP 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 ± 0.50 | 52.00 ± 0.50 | 1.20 (max) | 6.00 ± 0.40 | 1.00 (max) | 1.00 (max) | 1.00 (max) |
| | (inch) | 0.394 ± 0.020 | 2.047 ± 0.020 | 0.047 (max) | 0.236 ± 0.016 | 0.039 (max) | 0.039 (max) | 0.039 (max) |

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

Standard Packaging

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



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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

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

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

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