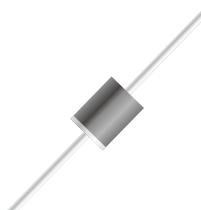


AUTOMOTIVE TRANSIENT VOLTAGE SUPPRESSOR PEAK PULSE POWER-5000 Watts

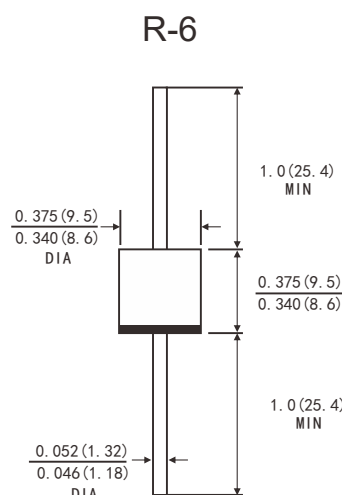
FEATURES

- 5000 Watts Pulse capability
- Excellent clamping capability
- Uni- and Bi-Directional Versions Available
- Fast response time
- High temperature soldering guaranteed: 260°C/10 seconds at terminals
- Component in accordance to RoHS 2015/863/EU
- Part no. with suffix “-V” means AEC-Q101 qualified



MECHANICAL DATA

- Case: R-6 Molded Plastic
- Terminals: Solder Plated
- Mounting Position: Any
- Polarity: By cathode band denotes uni-directional device,
 • none cathode band denotes bi-directional device.



Dimensions in inches and (millimeters)

DEVICES FOR BIDIRECTIONAL APPLICATIONS

1. For bi-directional use C suffix for Types .
2. Electrical characteristics apply in both directions.

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(Rating at 25°C ambient temperature unless otherwise specified)

| Characteristic | Symbol | Value | Unit |
|---|-----------------------------------|-------------|------|
| Peak Pulse Power Dissipation on 10/1000µS Waveform (Note 1, 2, 5) | PPPM | 5000 | W |
| Peak Pulse Current on 10/1000µS Waveform (Note 1) | I _{PPM} | See Table 1 | A |
| Peak Forward Surge Current (Note 2, 3) | I _{FSM} | 400 | A |
| Maximum Instantaneous Forward Voltage at 100A (Note 3, 4) | V _F | 3.5 / 5.0 | V |
| Power Dissipation at T _L = 75°C (Note 2) | P _D | 8.0 | W |
| Typical Thermal Resistance, Junction to Ambient (Note 2) | R _{JA} | 40 | °C/W |
| Typical Thermal Resistance, Junction to Lead (Note 2) | R _{JL} | 8.0 | °C/W |
| Operating and Storage Temperature Range | T _J , T _{STG} | -55 to +150 | °C |

- Note: 1. Non-repetitive current pulse per Figure 5 and derated above T_A = 25°C per Figure 1.
 2. Mounted on 20 x 20 x 1.0mm thick copper pads to each terminal that maintained at a distance of 9.5mm from the case.
 3. Measured on 8.3ms single half sine-wave, duty cycle = 4 pulses per minute maximum. For uni-directional devices only.
 4. V_F < 3.5V for V_{BR} ≤ 200V and V_F < 5.0V for V_{BR} ≥ 201V.
 5. Peak pulse power waveform is 10/1000µS.

| Uni-Directional Part No. | Bi-Directional Part No. | Reverse Stand-Off Voltage V_{RWM} (V) | Breakdown Voltage V_{BR} (V) @ I_T | | Test Current I_T (mA) | Maximum Clamping Voltage @ I_{PP} V_C (V) | Peak Pulse Current I_{PP} (A) | Reverse Leakage* @ V_{RWM} I_R (μ A) |
|--------------------------|-------------------------|---|--|-------|-------------------------|---|---------------------------------|---|
| | | | Min. | Max. | | | | |
| 5KP5.0-V | 5KP5.0C-V | 5.0 | 6.40 | 7.30 | 50 | 9.6 | 520.83 | 5000 |
| 5KP5.0A-V | 5KP5.0CA-V | 5.0 | 6.40 | 7.00 | 50 | 9.2 | 543.48 | 5000 |
| 5KP6.0-V | 5KP6.0C-V | 6.0 | 6.67 | 8.15 | 50 | 11.4 | 438.60 | 5000 |
| 5KP6.0A-V | 5KP6.0CA-V | 6.0 | 6.67 | 7.37 | 50 | 10.3 | 485.44 | 5000 |
| 5KP6.5-V | 5KP6.5C-V | 6.5 | 7.22 | 8.82 | 50 | 12.3 | 406.50 | 2000 |
| 5KP6.5A-V | 5KP6.5CA-V | 6.5 | 7.22 | 7.98 | 50 | 11.2 | 446.43 | 2000 |
| 5KP7.0-V | 5KP7.0C-V | 7.0 | 7.78 | 9.51 | 50 | 13.3 | 375.94 | 1000 |
| 5KP7.0A-V | 5KP7.0CA-V | 7.0 | 7.78 | 8.60 | 50 | 12.0 | 416.67 | 1000 |
| 5KP7.5-V | 5KP7.5C-V | 7.5 | 8.33 | 10.20 | 5 | 14.3 | 349.65 | 250 |
| 5KP7.5A-V | 5KP7.5CA-V | 7.5 | 8.33 | 9.21 | 5 | 12.9 | 387.60 | 250 |
| 5KP8.0-V | 5KP8.0C-V | 8.0 | 8.89 | 10.90 | 5 | 15.0 | 333.33 | 150 |
| 5KP8.0A-V | 5KP8.0CA-V | 8.0 | 8.89 | 9.83 | 5 | 13.6 | 367.65 | 150 |
| 5KP8.5-V | 5KP8.5C-V | 8.5 | 9.44 | 11.50 | 5 | 15.9 | 314.47 | 50 |
| 5KP8.5A-V | 5KP8.5CA-V | 8.5 | 9.44 | 10.40 | 5 | 14.4 | 347.22 | 50 |
| 5KP9.0-V | 5KP9.0C-V | 9.0 | 10.00 | 12.20 | 5 | 16.9 | 295.86 | 20 |
| 5KP9.0A-V | 5KP9.0CA-V | 9.0 | 10.00 | 11.10 | 5 | 15.4 | 324.68 | 20 |
| 5KP10-V | 5KP10C-V | 10.0 | 11.10 | 13.60 | 5 | 18.8 | 265.96 | 15 |
| 5KP10A-V | 5KP10CA-V | 10.0 | 11.10 | 12.30 | 5 | 17.0 | 294.12 | 15 |
| 5KP11-V | 5KP11C-V | 11.0 | 12.20 | 14.90 | 5 | 20.1 | 248.76 | 2 |
| 5KP11A-V | 5KP11CA-V | 11.0 | 12.20 | 13.50 | 5 | 18.2 | 274.73 | 2 |
| 5KP12-V | 5KP12C-V | 12.0 | 13.30 | 16.30 | 5 | 22.0 | 227.27 | 2 |
| 5KP12A-V | 5KP12CA-V | 12.0 | 13.30 | 14.70 | 5 | 19.9 | 251.26 | 2 |
| 5KP13-V | 5KP13C-V | 13.0 | 14.40 | 17.60 | 5 | 23.8 | 210.08 | 2 |
| 5KP13A-V | 5KP13CA-V | 13.0 | 14.40 | 15.90 | 5 | 21.5 | 232.56 | 2 |
| 5KP14-V | 5KP14C-V | 14.0 | 15.60 | 19.10 | 5 | 25.8 | 193.80 | 2 |
| 5KP14A-V | 5KP14CA-V | 14.0 | 15.60 | 17.20 | 5 | 23.2 | 215.52 | 2 |
| 5KP15-V | 5KP15C-V | 15.0 | 16.70 | 20.40 | 5 | 26.9 | 185.87 | 2 |
| 5KP15A | 5KP15CA-V | 15.0 | 16.70 | 18.50 | 5 | 24.4 | 204.92 | 2 |
| 5KP16-V | 5KP16C-V | 16.0 | 17.80 | 21.80 | 5 | 28.8 | 173.61 | 2 |
| 5KP16A-V | 5KP16CA-V | 16.0 | 17.80 | 19.70 | 5 | 26.0 | 192.31 | 2 |
| 5KP17-V | 5KP17C-V | 17.0 | 18.90 | 23.10 | 5 | 30.5 | 163.93 | 2 |
| 5KP17A-V | 5KP17CA-V | 17.0 | 18.90 | 20.90 | 5 | 27.6 | 181.16 | 2 |
| 5KP18-V | 5KP18C-V | 18.0 | 20.00 | 24.40 | 5 | 32.2 | 155.28 | 2 |
| 5KP18A-V | 5KP18CA-V | 18.0 | 20.00 | 22.10 | 5 | 29.2 | 171.23 | 2 |
| 5KP20-V | 5KP20C-V | 20.0 | 22.20 | 27.10 | 5 | 35.8 | 139.66 | 2 |
| 5KP20A-V | 5KP20CA-V | 20.0 | 22.20 | 24.50 | 5 | 32.4 | 154.32 | 2 |
| 5KP22-V | 5KP22C-V | 22.0 | 24.40 | 29.80 | 5 | 39.4 | 126.90 | 2 |
| 5KP22A-V | 5KP22CA-V | 22.0 | 24.40 | 26.90 | 5 | 35.5 | 140.85 | 2 |
| 5KP24-V | 5KP24C-V | 24.0 | 26.70 | 32.60 | 5 | 43.0 | 116.28 | 2 |
| 5KP24A-V | 5KP24CA-V | 24.0 | 26.70 | 29.50 | 5 | 38.9 | 128.53 | 2 |
| 5KP26-V | 5KP26C-V | 26.0 | 28.90 | 35.30 | 5 | 46.6 | 107.30 | 2 |
| 5KP26A-V | 5KP26CA-V | 26.0 | 28.90 | 31.90 | 5 | 42.1 | 118.76 | 2 |
| 5KP28-V | 5KP28C-V | 28.0 | 31.10 | 38.00 | 5 | 50.0 | 100.00 | 2 |
| 5KP28A-V | 5KP28CA-V | 28.0 | 31.10 | 34.40 | 5 | 45.4 | 110.13 | 2 |
| 5KP30-V | 5KP30C-V | 30.0 | 33.30 | 40.70 | 5 | 53.5 | 93.46 | 2 |
| 5KP30A-V | 5KP30CA-V | 30.0 | 33.30 | 36.80 | 5 | 48.4 | 103.31 | 2 |
| 5KP33-V | 5KP33C-V | 33.0 | 36.70 | 44.90 | 5 | 59.0 | 84.75 | 2 |
| 5KP33A-V | 5KP33CA-V | 33.0 | 36.70 | 40.60 | 5 | 53.3 | 93.81 | 2 |
| 5KP36-V | 5KP36C-V | 36.0 | 40.00 | 48.90 | 5 | 64.3 | 77.76 | 2 |
| 5KP36A-V | 5KP36CA-V | 36.0 | 40.00 | 44.20 | 5 | 58.1 | 86.06 | 2 |
| 5KP40-V | 5KP40C-V | 40.0 | 44.40 | 54.30 | 5 | 71.4 | 70.03 | 2 |
| 5KP40A-V | 5KP40CA-V | 40.0 | 44.40 | 49.10 | 5 | 64.5 | 77.52 | 2 |
| 5KP43-V | 5KP43C-V | 43.0 | 47.80 | 58.40 | 5 | 76.7 | 65.19 | 2 |
| 5KP43A-V | 5KP43CA-V | 43.0 | 47.80 | 52.80 | 5 | 69.4 | 72.05 | 2 |
| 5KP45-V | 5KP45C-V | 45.0 | 50.00 | 61.10 | 5 | 80.3 | 62.27 | 2 |
| 5KP45A-V | 5KP45CA-V | 45.0 | 50.00 | 55.30 | 5 | 72.7 | 68.78 | 2 |
| 5KP48-V | 5KP48C-V | 48.0 | 53.30 | 65.10 | 5 | 85.5 | 58.48 | 2 |
| 5KP48A-V | 5KP48CA-V | 48.0 | 53.30 | 58.90 | 5 | 77.4 | 64.60 | 2 |
| 5KP51-V | 5KP51C-V | 51.0 | 56.70 | 69.30 | 5 | 91.1 | 54.88 | 2 |
| 5KP51A-V | 5KP51CA-V | 51.0 | 56.70 | 62.70 | 5 | 82.4 | 60.68 | 2 |
| 5KP54-V | 5KP54C-V | 54.0 | 60.00 | 73.30 | 5 | 96.3 | 51.92 | 2 |
| 5KP54A-V | 5KP54CA-V | 54.0 | 60.00 | 66.30 | 5 | 87.1 | 57.41 | 2 |
| 5KP58-V | 5KP58C-V | 58.0 | 64.40 | 78.70 | 5 | 103.0 | 48.54 | 2 |
| 5KP58A-V | 5KP58CA-V | 58.0 | 64.40 | 71.20 | 5 | 93.6 | 53.42 | 2 |

*For bi-directional devices $V_{RWM} \leq 10V$, the I_R limit is double.

| Uni-Directional Part No. | Bi-Directional Part No. | Reverse Stand-Off Voltage V_{RWM} (V) | Breakdown Voltage V_{BR} (V) @ I_T | | Test Current I_T (mA) | Maximum Clamping Voltage @ I_{PP} V_C (V) | Peak Pulse Current I_{PP} (A) | Reverse Leakage* @ V_{RWM} I_R (μ A) |
|--------------------------|-------------------------|---|--|--------|-------------------------|---|---------------------------------|---|
| | | | Min. | Max. | | | | |
| 5KP60-V | 5KP60C-V | 60.0 | 66.70 | 81.50 | 5 | 107.0 | 46.73 | 2 |
| 5KP60A-V | 5KP60CA-V | 60.0 | 66.70 | 73.70 | 5 | 96.8 | 51.65 | 2 |
| 5KP64-V | 5KP64C-V | 64.0 | 71.10 | 86.90 | 5 | 114.0 | 43.86 | 2 |
| 5KP64A-V | 5KP64CA-V | 64.0 | 71.10 | 78.60 | 5 | 103.0 | 48.54 | 2 |
| 5KP70-V | 5KP70C-V | 70.0 | 77.80 | 95.10 | 5 | 125.0 | 40.00 | 2 |
| 5KP70A-V | 5KP70CA-V | 70.0 | 77.80 | 86.00 | 5 | 113.0 | 44.25 | 2 |
| 5KP75-V | 5KP75C-V | 75.0 | 83.30 | 102.00 | 5 | 134.0 | 37.31 | 2 |
| 5KP75A-V | 5KP75CA-V | 75.0 | 83.30 | 92.10 | 5 | 121.0 | 41.32 | 2 |
| 5KP78-V | 5KP78C-V | 78.0 | 86.70 | 106.00 | 5 | 139.0 | 35.97 | 2 |
| 5KP78A-V | 5KP78CA-V | 78.0 | 86.70 | 95.80 | 5 | 126.0 | 39.68 | 2 |
| 5KP85-V | 5KP85C-V | 85.0 | 94.40 | 115.00 | 5 | 151.0 | 33.11 | 2 |
| 5KP85A-V | 5KP85CA-V | 85.0 | 94.40 | 104.00 | 5 | 137.0 | 36.50 | 2 |
| 5KP90-V | 5KP90C-V | 90.0 | 100.00 | 122.00 | 5 | 160.0 | 31.25 | 2 |
| 5KP90A-V | 5KP90CA-V | 90.0 | 100.00 | 111.00 | 5 | 146.0 | 34.25 | 2 |
| 5KP100-V | 5KP100C-V | 100.0 | 111.00 | 136.00 | 5 | 179.0 | 27.93 | 2 |
| 5KP100A-V | 5KP100CA-V | 100.0 | 111.00 | 123.00 | 5 | 162.0 | 30.86 | 2 |
| 5KP110-V | 5KP110C-V | 110.0 | 122.00 | 149.00 | 5 | 196.0 | 25.51 | 2 |
| 5KP110A-V | 5KP110CA-V | 110.0 | 122.00 | 135.00 | 5 | 177.0 | 28.25 | 2 |
| 5KP120-V | 5KP120C-V | 120.0 | 133.00 | 163.00 | 5 | 214.0 | 23.26 | 2 |
| 5KP120A-V | 5KP120CA-V | 120.0 | 133.00 | 147.00 | 5 | 193.0 | 25.91 | 2 |
| 5KP130-V | 5KP130C-V | 130.0 | 144.00 | 176.00 | 5 | 231.0 | 21.65 | 2 |
| 5KP130A-V | 5KP130CA-V | 130.0 | 144.00 | 159.00 | 5 | 209.0 | 23.92 | 2 |
| 5KP150-V | 5KP150C-V | 150.0 | 167.00 | 204.00 | 5 | 268.0 | 18.66 | 2 |
| 5KP150A-V | 5KP150CA-V | 150.0 | 167.00 | 185.00 | 5 | 243.0 | 20.58 | 2 |
| 5KP160-V | 5KP160C-V | 160.0 | 178.00 | 218.00 | 5 | 287.0 | 17.42 | 2 |
| 5KP160A-V | 5KP160CA-V | 160.0 | 178.00 | 197.00 | 5 | 259.0 | 19.31 | 2 |
| 5KP170-V | 5KP170C-V | 170.0 | 189.00 | 231.00 | 5 | 304.0 | 16.45 | 2 |
| 5KP170A-V | 5KP170CA-V | 170.0 | 189.00 | 209.00 | 5 | 275.0 | 18.18 | 2 |
| 5KP180-V | 5KP180C-V | 180.0 | 200.00 | 244.80 | 5 | 322.2 | 15.52 | 2 |
| 5KP180A-V | 5KP180CA-V | 180.0 | 200.00 | 220.00 | 5 | 291.6 | 17.15 | 2 |
| 5KP190-V | 5KP190C-V | 190.0 | 211.00 | 258.40 | 5 | 340.1 | 14.70 | 2 |
| 5KP190A-V | 5KP190CA-V | 190.0 | 211.00 | 232.00 | 5 | 307.8 | 16.24 | 2 |
| 5KP200A-V | 5KP200CA-V | 200.0 | 224.00 | 247.00 | 5 | 324.0 | 15.43 | 2 |
| 5KP210A-V | 5KP210CA-V | 210.0 | 233.00 | 258.00 | 5 | 349.5 | 14.30 | 2 |
| 5KP220A-V | 5KP220CA-V | 220.0 | 246.00 | 272.00 | 5 | 356.0 | 14.00 | 2 |
| 5KP250A-V | 5KP250CA-V | 250.0 | 279.00 | 309.00 | 5 | 405.0 | 12.30 | 2 |
| 5KP300A-V | 5KP300CA-V | 300.0 | 335.00 | 371.00 | 5 | 486.0 | 10.30 | 2 |
| 5KP350A-V | 5KP350CA-V | 350.0 | 391.00 | 432.00 | 5 | 567.0 | 8.80 | 2 |
| 5KP400A-V | 5KP400CA-V | 400.0 | 447.00 | 494.00 | 5 | 648.0 | 7.72 | 2 |
| 5KP440A-V | 5KP440CA-V | 440.0 | 492.00 | 543.00 | 5 | 713.0 | 7.01 | 2 |

