

# Silicon Avalanche Diodes

## 15000 Watt Axial Leaded Transient Voltage Suppressor

### RoHS 15KP Series



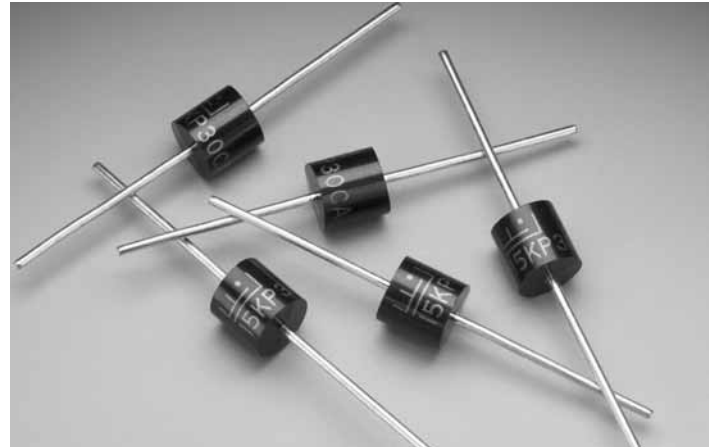
The 15KP Series is designed specifically to protect sensitive electronics equipment from voltage transients induced by lightning and other transient voltage events. These devices are ideal for the protection of I/O interfaces, Vcc bus and other vulnerable circuits used in automotive, industrial and consumer electronic applications.

#### FEATURES

- RoHS Compliant
- 17.0 to 280 Volts
- Uni-directional and Bi-directional
- Glass passivated junction
- 15000W peak pulse power capability on 10/1000µs waveform
- Excellent clamping capability
- Repetition rate(duty cycle): 0.05%
- Low incremental surge resistance
- Fast response time: typically less than 1.0ps from 0 Volts to BV, Bidirectional less than 10ns
- High temperature soldering guaranteed: 265°C/10 seconds/.375", (9.5mm) lead length, 51bs.(2.3kg) tension

**Agency Approvals:** Recognized under the components program of underwriters laboratories.

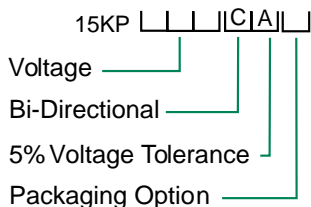
**Agency File Number:** E128662



#### MAXIMUM RATINGS AND CHARACTERISTICS @25°C AMBIENT TEMPERATURE (unless otherwise noted)

| RATING  | SYMBOL                            | VALUE       | UNIT  |
|---|-----------------------------------|-------------|-------|
| Peak Pulse Power Dissipation on 10/1000µs waveform (note 1, FIG.1)                          | P <sub>PPM</sub>                  | Min 15000   | Watts |
| Peak pulse current of on 10\1000µs waveform (note 1, FIG.3)                                 | I <sub>PPM</sub>                  | SEE TABLE 1 | Amps  |
| Steady State Power Dissipation at T <sub>L</sub> =75°C, Lead lengths .375", (9.5mm)(Note 2) | P <sub>M(AV)</sub>                | 8           | Watts |
| Peak Forward Surge Current, 1/20 second/25°C (JEDEC Method)                                 | I <sub>FSM</sub>                  | 400         | Amps  |
| Operating junction and Storage Temperature Range  | T <sub>j</sub> , T <sub>STG</sub> | -55 to +175 | °C    |

#### ORDERING INFORMATION



B = Bulk (500 pcs)

T = Tape and reeled (800 pcs)

#### Mechanical Specifications:

- Weight:** 0.07 ounce, 2.5 grams
- Case:** Molded plastic over glass passivated junction
- Mounting Position:** Any
- Polarity:** Color band denotes positive end (cathode) except Bipolar
- Terminal:** Plated Axial leads, solderable per MIL-STD-750, Method 2026

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#### ELECTRICAL SPECIFICATION @ Tamb 25°C

| Part Numbers |           | Reverse Stand off Voltage V <sub>R</sub> (Volts) | Breakdown Voltage V <sub>BR</sub> (Volts) @ I <sub>T</sub> | Test Current I <sub>T</sub> (mA) | Maximum Peak Pulse Current I <sub>PP</sub> (A) | Maximum Reverse Leakage I <sub>R</sub> @ V <sub>R</sub> (μA) | Maximum Clamping Voltage V <sub>c</sub> @ I <sub>PP</sub> (Volts) |
|--------------|-----------|--|--|----------------------------------|--|--|---|
| Uni-Polar    | Bi-Polar  |  |  |                                  |  |  |   |
| 15KP17A      | 15KP17CA  | 17   | 18.9   | 50                               | 512  | 5000   | 29.3  |
| 15KP18A      | 15KP18CA  | 18   | 20.0   | 50                               | 485  | 5000   | 30.9  |
| 15KP20A      | 15KP20CA  | 20   | 22.2   | 20                               | 437  | 1500   | 34.3  |
| 15KP22A      | 15KP22CA  | 22   | 24.4   | 10                               | 404  | 500  | 37.1  |
| 15KP24A      | 15KP24CA  | 24   | 26.7   | 5                                | 369  | 150  | 40.5  |
| 15KP26A      | 15KP26CA  | 26   | 28.9   | 5                                | 347  | 50   | 44.0  |
| 15KP28A      | 15KP28CA  | 28   | 31.1   | 5                                | 316  | 25   | 47.5  |
| 15KP30A      | 15KP30CA  | 30   | 33.3   | 5                                | 296  | 15   | 50.7  |
| 15KP33A      | 15KP33CA  | 33   | 36.7   | 5                                | 274  | 10   | 54.8  |
| 15KP36A      | 15KP36CA  | 36   | 40.0   | 5                                | 251  | 10   | 59.7  |
| 15KP40A      | 15KP40CA  | 40   | 44.4   | 5                                | 228  | 10   | 65.8  |
| 15KP43A      | 15KP43CA  | 43   | 47.8   | 5                                | 215  | 10   | 69.7  |
| 15KP45A      | 15KP45CA  | 45   | 50.0   | 5                                | 205  | 10   | 73.0  |
| 15KP48A      | 15KP48CA  | 48   | 53.3   | 5                                | 193  | 10   | 77.7  |
| 15KP51A      | 15KP51CA  | 51   | 56.7   | 5                                | 181  | 10   | 82.8  |
| 15KP54A      | 15KP54CA  | 54   | 60.0   | 5                                | 171  | 10   | 87.5  |
| 15KP58A      | 15KP58CA  | 58   | 64.4   | 5                                | 160  | 10   | 94.0  |
| 15KP60A      | 15KP60CA  | 60   | 66.7   | 5                                | 154  | 10   | 97.3  |
| 15KP64A      | 15KP64CA  | 64   | 71.1   | 5                                | 144  | 10   | 104.0   |
| 15KP70A      | 15KP70CA  | 70   | 77.8   | 5                                | 132  | 10   | 114.0   |
| 15KP75A      | 15KP75CA  | 75   | 83.3   | 5                                | 123  | 10   | 122.0   |
| 15KP78A      | 15KP78CA  | 78   | 86.7   | 5                                | 119  | 10   | 126.0   |
| 15KP85A      | 15KP85CA  | 85   | 94.4   | 5                                | 109  | 10   | 137.0   |
| 15KP90A      | 15KP90CA  | 90   | 100.0  | 5                                | 103  | 10   | 146.0   |
| 15KP100A     | 15KP100CA | 100  | 111.0  | 5                                | 93   | 10   | 162.0   |
| 15KP110A     | 15KP110CA | 110  | 122.0  | 5                                | 84   | 10   | 178.0   |
| 15KP120A     | 15KP120CA | 120  | 133.0  | 5                                | 78   | 10   | 193.0   |
| 15KP130A     | 15KP130CA | 130  | 144.0  | 5                                | 72   | 10   | 209.0   |
| 15KP150A     | 15KP150CA | 150  | 167.0  | 5                                | 62   | 10   | 243.0   |
| 15KP160A     | 15KP160CA | 160  | 178.0  | 5                                | 58   | 10   | 259.0   |
| 15KP170A     | 15KP170CA | 170  | 189.0  | 5                                | 55   | 10   | 275.0   |
| 15KP180A     | 15KP180CA | 180  | 200.0  | 5                                | 52   | 10   | 291.0   |
| 15KP200A     | 15KP200CA | 200  | 222.0  | 5                                | 47   | 10   | 322.0   |
| 15KP220A     | 15KP220CA | 220  | 245.0  | 5                                | 42   | 10   | 356.0   |
| 15KP240A     | 15KP240CA | 240  | 267.0  | 5                                | 39   | 10   | 388.0   |
| 15KP260A     | 15KP260CA | 260  | 289.0  | 5                                | 36   | 10   | 419.0   |
| 15KP280A     | 15KP280CA | 280  | 311.0  | 5                                | 33   | 10   | 452.0   |

For bidirectional type having V<sub>rrm</sub> of 30 volts and less, the I<sub>R</sub> limit is double.

For parts without A, the V<sub>BR</sub> is ± 10%

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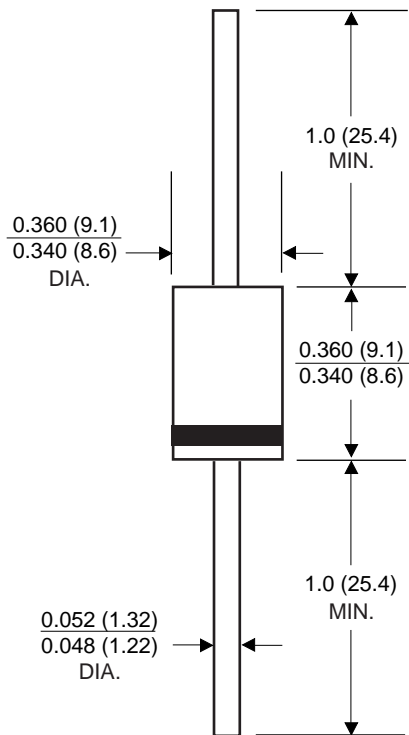
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#### Package Outline Dimensions

##### Case Style P600



Dimensions in inches and (millimeters)