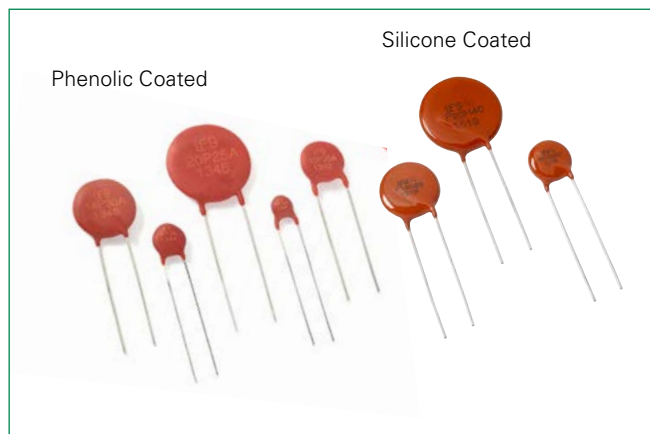


# AUMOV® Series

## Radial Leaded Varistors



### Web Resources



Download ECAD models, order samples, and find technical resources at [www.littelfuse.com](http://www.littelfuse.com)

### Agency Approvals

| Agency | Agency File Number                                                                                                           |
|--------|------------------------------------------------------------------------------------------------------------------------------|
|        | E320116 (14Vac to 42Vac: Epoxy coated parts. 130Vac to 625Vac: both Silicone and Phenolic coated 10mm, 14mm and 20mm parts.) |

### Description

The AUMOV® Varistor Series is designed for automotive applications requiring load dump, jump start and surge voltage transient protection.

### Features & Benefits

- Phenolic and Silicone coating meet the stringent quality requirements of AEC-Q200 (Table 10)
- High peak surge current rating up to 10kA (8/20  $\mu$ s pulse)
- Wide operating voltage range: 14VAC to 625VAC and 16VDC to 825VDC
- Five disc sizes available: 5, 7, 10, 14, and 20mm
- High energy absorption particularly for automotive load dump and jump start
- Lead-free, Halogen-Free and RoHS compliant

### Applications

- Body Electronics Systems
- Powertrain Systems
- Electric Cars On-Board-Charger.
- Automotive Control Module Protection
- Motor or inductive load transient suppression

### Absolute Maximum Ratings

For ratings of individual members of a series, see Device Ratings and Specifications chart

|                                                                                                | Low Voltage Series | Units  |
|------------------------------------------------------------------------------------------------|--------------------|--------|
| <b>Continuous:</b>                                                                             |                    |        |
| Steady State Applied Voltage:                                                                  |                    |        |
| AC Voltage Range ( $V_{M(AC)RMS}$ )                                                            | 14 to 625          | V      |
| DC Voltage Range ( $V_{M(DC)}$ )                                                               | 16 to 825          | V      |
| <b>Transient:</b>                                                                              |                    |        |
| Non-Repetitive Surge Current, 8/20 $\mu$ s Waveform ( $I_{TM}$ )                               | 400 to 10,000      | A      |
| Non-Repetitive Energy Capability, 2ms Waveform ( $W_{TM}$ )                                    | 1.0 to 140         | J      |
| Operating Ambient Temperature Range ( $T_A$ ) for Epoxy coated                                 | -40 to +85         | °C     |
| Operating Ambient Temperature Range ( $T_A$ ) for Phenolic coated and Silicone coated          | -40 to +125        | °C     |
| Storage Temperature Range ( $T_{STG}$ ) for Epoxy coated                                       | -40 to +125        | °C     |
| Storage Temperature Range ( $T_{STG}$ ) for Phenolic coated and Silicone coated                | -40 to +150        | °C     |
| Temperature Coefficient ( $\alpha V$ ) of Clamping Voltage ( $V_C$ ) at Specified Test Current | < 0.01%            | °C     |
| Hi-Pot Encapsulation (Isolation Voltage Capability) for Epoxy coated                           | 2500               | Vac    |
| Hi-Pot Encapsulation (Isolation Voltage Capability) for Phenolic coated                        | 500                | Vac    |
| Hi-Pot Encapsulation (Isolation Voltage Capability) for Silicone coated                        | 2500               | Vac    |
| Temperature Cycling (-40C to +125C) for Epoxy coated                                           | 5                  | Cycles |
| Temperature Cycling (-40C to +125C) for Phenolic and Silicone coated                           | 1000               | Cycles |

**Caution:** Stresses above those listed in "Absolute Maximum Ratings" may cause permanent damage to the device. This is a stress only rating and operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied.

# AUMOV® Series

## Radial Leaded Varistors

### AUMOV® Varistor Series Device Ratings & Specifications

| Phenolic Coated Models     |          | Silicone Coated Models     |          | Size<br>Disc<br>Dia.<br>(mm) | Max<br>Continuous<br>Voltage |                        | Varistor Voltage at<br>1mA |            |            | Maximum<br>Clamping<br>Voltage |                        | Max<br>Peak<br>Current<br>(8 x 20µs<br>1 pulse) | Energy<br>Rating<br>(2ms,<br>1 pulse) | Energy<br>(Load<br>Dump, 10<br>pulses)* | Jump<br>Start<br>DC<br>V <sub>jump</sub><br>(5 min) | Typical<br>Capaci-<br>tance<br>f =<br>1MHz |
|----------------------------|----------|----------------------------|----------|------------------------------|------------------------------|------------------------|----------------------------|------------|------------|--------------------------------|------------------------|-------------------------------------------------|---------------------------------------|-----------------------------------------|-----------------------------------------------------|--------------------------------------------|
| Part Number<br>(Base part) | Branding | Part Number<br>(Base part) | Branding |                              | V <sub>RMS</sub><br>(V)      | V <sub>DC</sub><br>(V) | Min<br>(V)                 | Nom<br>(V) | Max<br>(V) | V <sub>C</sub><br>(V)          | I <sub>PK</sub><br>(A) | I <sub>TM</sub><br>(A)                          | W <sub>TM</sub><br>(J)                | (J)                                     | (V)                                                 | (pF)                                       |
| V05P14AUTO                 | 5P14A    | -                          | -        | 5                            | 14                           | 16                     | 19.8                       | 22         | 24.2       | 43                             | 1                      | 400                                             | 1                                     | 6                                       | 25                                                  | 1100                                       |
| V07P14AUTO                 | 7P14A    | -                          | -        | 7                            | 14                           | 16                     | 19.8                       | 22         | 24.2       | 43                             | 2.5                    | 800                                             | 2.2                                   | 12                                      | 25                                                  | 2450                                       |
| V10P14AUTO                 | 10P14A   | V10H14AUTO                 | 10H14A   | 10                           | 14                           | 16                     | 19.8                       | 22         | 24.2       | 43                             | 5                      | 1500                                            | 5                                     | 25                                      | 25                                                  | 4650                                       |
| V14P14AUTO                 | 14P14A   | V14H14AUTO                 | 14H14A   | 14                           | 14                           | 16                     | 19.8                       | 22         | 24.2       | 43                             | 10                     | 3000                                            | 10                                    | 50                                      | 25                                                  | 10200                                      |
| V20P14AUTO                 | 20P14A   | V20H14AUTO                 | 20H14A   | 20                           | 14                           | 16                     | 19.8                       | 22         | 24.2       | 43                             | 20                     | 5000                                            | 28                                    | 100                                     | 25                                                  | 22200                                      |
| V05P17AUTO                 | 5P17A    | -                          | -        | 5                            | 17                           | 20                     | 24.3                       | 27         | 29.7       | 53                             | 1                      | 400                                             | 1.4                                   | 6                                       | 30                                                  | 950                                        |
| V07P17AUTO                 | 7P17A    | -                          | -        | 7                            | 17                           | 20                     | 24.3                       | 27         | 29.7       | 53                             | 2.5                    | 800                                             | 2.8                                   | 12                                      | 30                                                  | 2100                                       |
| V10P17AUTO                 | 10P17A   | V10H17AUTO                 | 10H17A   | 10                           | 17                           | 20                     | 24.3                       | 27         | 29.7       | 53                             | 5                      | 1500                                            | 6.5                                   | 25                                      | 30                                                  | 3900                                       |
| V14P17AUTO                 | 14P17A   | V14H17AUTO                 | 14H17A   | 14                           | 17                           | 20                     | 24.3                       | 27         | 29.7       | 53                             | 10                     | 3000                                            | 13                                    | 50                                      | 30                                                  | 8700                                       |
| V20P17AUTO                 | 20P17A   | V20H17AUTO                 | 20H17A   | 20                           | 17                           | 20                     | 24.3                       | 27         | 29.7       | 53                             | 20                     | 5000                                            | 35                                    | 100                                     | 30                                                  | 18750                                      |
| V05P20AUTO                 | 5P20A    | -                          | -        | 5                            | 20                           | 26                     | 29.7                       | 33         | 36.3       | 65                             | 1                      | 400                                             | 2                                     | 6                                       | 35                                                  | 790                                        |
| V07P20AUTO                 | 7P20A    | -                          | -        | 7                            | 20                           | 26                     | 29.7                       | 33         | 36.3       | 65                             | 2.5                    | 800                                             | 4.2                                   | 12                                      | 35                                                  | 1620                                       |
| V10P20AUTO                 | 10P20A   | V10H20AUTO                 | 10H20A   | 10                           | 20                           | 26                     | 29.7                       | 33         | 36.3       | 65                             | 5                      | 1500                                            | 10                                    | 25                                      | 35                                                  | 3495                                       |
| V14P20AUTO                 | 14P20A   | V14H20AUTO                 | 14H20A   | 14                           | 20                           | 26                     | 29.7                       | 33         | 36.3       | 65                             | 10                     | 3000                                            | 20                                    | 50                                      | 35                                                  | 9290                                       |
| V20P20AUTO                 | 20P20A   | V20H20AUTO                 | 20H20A   | 20                           | 20                           | 26                     | 29.7                       | 33         | 36.3       | 65                             | 20                     | 5000                                            | 58                                    | 100                                     | 35                                                  | 13000                                      |
| V05P23AUTO                 | 5P23A    | -                          | -        | 5                            | 23                           | 28                     | 32.4                       | 36         | 39.6       | 71                             | 1                      | 400                                             | 2.2                                   | 6                                       | 38                                                  | 720                                        |
| V07P23AUTO                 | 7P23A    | -                          | -        | 7                            | 23                           | 28                     | 32.4                       | 36         | 39.6       | 71                             | 2.5                    | 800                                             | 5                                     | 12                                      | 38                                                  | 1500                                       |
| V10P23AUTO                 | 10P23A   | V10H23AUTO                 | 10H23A   | 10                           | 23                           | 28                     | 32.4                       | 36         | 39.6       | 71                             | 5                      | 1500                                            | 12                                    | 25                                      | 38                                                  | 3300                                       |
| V14P23AUTO                 | 14P23A   | V14H23AUTO                 | 14H23A   | 14                           | 23                           | 28                     | 32.4                       | 36         | 39.6       | 71                             | 10                     | 3000                                            | 23                                    | 50                                      | 38                                                  | 8000                                       |
| V20P23AUTO                 | 20P23A   | V20H23AUTO                 | 20H23A   | 20                           | 23                           | 28                     | 32.4                       | 36         | 39.6       | 71                             | 20                     | 5000                                            | 70                                    | 100                                     | 38                                                  | 12500                                      |
| V05P25AUTO                 | 5P25A    | -                          | -        | 5                            | 25                           | 28                     | 35.1                       | 39         | 42.9       | 77                             | 1                      | 400                                             | 2.5                                   | 6                                       | 40                                                  | 750                                        |
| V07P25AUTO                 | 7P25A    | -                          | -        | 7                            | 25                           | 28                     | 35.1                       | 39         | 42.9       | 77                             | 2.5                    | 800                                             | 5.5                                   | 12                                      | 40                                                  | 1500                                       |
| V10P25AUTO                 | 10P25A   | V10H25AUTO                 | 10H25A   | 10                           | 25                           | 28                     | 35.1                       | 39         | 42.9       | 77                             | 5                      | 1500                                            | 13                                    | 25                                      | 40                                                  | 2900                                       |
| V14P25AUTO                 | 14P25A   | V14H25AUTO                 | 14H25A   | 14                           | 25                           | 28                     | 35.1                       | 39         | 42.9       | 77                             | 10                     | 3000                                            | 25                                    | 50                                      | 40                                                  | 6200                                       |
| V20P25AUTO                 | 20P25A   | V20H25AUTO                 | 20H25A   | 20                           | 25                           | 28                     | 35.1                       | 39         | 42.9       | 77                             | 20                     | 5000                                            | 77                                    | 100                                     | 40                                                  | 13500                                      |
| V05P30AUTO                 | 5P30A    | -                          | -        | 5                            | 30                           | 34                     | 42.3                       | 47         | 51.7       | 93                             | 1                      | 400                                             | 3.1                                   | 6                                       | 45                                                  | 650                                        |
| V07P30AUTO                 | 7P30A    | -                          | -        | 7                            | 30                           | 34                     | 42.3                       | 47         | 51.7       | 93                             | 2.5                    | 800                                             | 7                                     | 12                                      | 45                                                  | 1350                                       |
| V10P30AUTO                 | 10P30A   | V10H30AUTO                 | 10H30A   | 10                           | 30                           | 34                     | 42.3                       | 47         | 51.7       | 93                             | 5                      | 1500                                            | 15.5                                  | 25                                      | 45                                                  | 2550                                       |
| V14P30AUTO                 | 14P30A   | V14H30AUTO                 | 14H30A   | 14                           | 30                           | 34                     | 42.3                       | 47         | 51.7       | 93                             | 10                     | 3000                                            | 32                                    | 50                                      | 45                                                  | 5550                                       |
| V20P30AUTO                 | 20P30A   | V20H30AUTO                 | 20H30A   | 20                           | 30                           | 34                     | 42.3                       | 47         | 51.7       | 93                             | 20                     | 5000                                            | 90                                    | 100                                     | 45                                                  | 12000                                      |
| V05P35AUTO                 | 5P35A    | -                          | -        | 5                            | 35                           | 45                     | 50.4                       | 56         | 61.6       | 110                            | 1                      | 400                                             | 4                                     | 6                                       | 50                                                  | 500                                        |
| V07P35AUTO                 | 7P35A    | -                          | -        | 7                            | 35                           | 45                     | 50.4                       | 56         | 61.6       | 110                            | 2.5                    | 800                                             | 9                                     | 12                                      | 50                                                  | 1100                                       |
| V10P35AUTO                 | 10P35A   | V10H35AUTO                 | 10H35A   | 10                           | 35                           | 45                     | 50.4                       | 56         | 61.6       | 110                            | 5                      | 1500                                            | 20                                    | 25                                      | 50                                                  | 2100                                       |
| V14P35AUTO                 | 14P35A   | V14H35AUTO                 | 14H35A   | 14                           | 35                           | 45                     | 50.4                       | 56         | 61.6       | 110                            | 10                     | 3000                                            | 40                                    | 50                                      | 50                                                  | 5000                                       |
| V20P35AUTO                 | 20P35A   | V20H35AUTO                 | 20H35A   | 20                           | 35                           | 45                     | 50.4                       | 56         | 61.6       | 110                            | 20                     | 5000                                            | 115                                   | 100                                     | 50                                                  | 10000                                      |
| V05P42AUTO                 | 5P42A    | -                          | -        | 5                            | 42                           | 50                     | 61.2                       | 68         | 74.8       | 135                            | 1                      | 400                                             | 5                                     | 6                                       | 55                                                  | 500                                        |
| V07P42AUTO                 | 7P42A    | -                          | -        | 7                            | 42                           | 50                     | 61.2                       | 68         | 74.8       | 135                            | 2.5                    | 800                                             | 11                                    | 12                                      | 55                                                  | 1000                                       |
| V10P42AUTO                 | 10P42A   | V10H42AUTO                 | 10H42A   | 10                           | 42                           | 50                     | 61.2                       | 68         | 74.8       | 135                            | 5                      | 1500                                            | 25                                    | 25                                      | 55                                                  | 1850                                       |
| V14P42AUTO                 | 14P42A   | V14H42AUTO                 | 14H42A   | 14                           | 42                           | 50                     | 61.2                       | 68         | 74.8       | 135                            | 10                     | 3000                                            | 50                                    | 50                                      | 55                                                  | 4000                                       |
| V20P42AUTO                 | 20P42A   | V20H42AUTO                 | 20H42A   | 20                           | 42                           | 50                     | 61.2                       | 68         | 74.8       | 135                            | 20                     | 5000                                            | 140                                   | 100                                     | 55                                                  | 8500                                       |
| V05P50AUTO                 | 5P50A    | -                          | -        | 5                            | 50                           | 65                     | 73.8                       | 82         | 90.2       | 135                            | 5                      | 400                                             | 2                                     | -                                       | -                                                   | 350                                        |
| V07P50AUTO                 | 7P50A    | -                          | -        | 7                            | 50                           | 65                     | 73.8                       | 82         | 90.2       | 135                            | 10                     | 1200                                            | 4                                     | -                                       | -                                                   | 800                                        |
| V10P50AUTO                 | 10P50A   | V10H50AUTO                 | 10H50A   | 10                           | 50                           | 65                     | 73.8                       | 82         | 90.2       | 135                            | 25                     | 2500                                            | 8                                     | -                                       | -                                                   | 1400                                       |
| V14P50AUTO                 | 14P50A   | V14H50AUTO                 | 14H50A   | 14                           | 50                           | 65                     | 73.8                       | 82         | 90.2       | 145                            | 50                     | 4500                                            | 15                                    | -                                       | -                                                   | 3000                                       |
| V20P50AUTO                 | 20P50A   | V20H50AUTO                 | 20H50A   | 20                           | 50                           | 65                     | 73.8                       | 82         | 90.2       | 145                            | 100                    | 6500                                            | 25                                    | -                                       | -                                                   | 6000                                       |
| V05P60AUTO                 | 5P60A    | -                          | -        | 5                            | 60                           | 85                     | 90                         | 100        | 110        | 165                            | 5                      | 400                                             | 2.5                                   | -                                       | -                                                   | 310                                        |
| V07P60AUTO                 | 7P60A    | -                          | -        | 7                            | 60                           | 85                     | 90                         | 100        | 110        | 165                            | 10                     | 1200                                            | 5                                     | -                                       | -                                                   | 700                                        |
| V10P60AUTO                 | 10P60A   | V10H60AUTO                 | 10H60A   | 10                           | 60                           | 85                     | 90                         | 100        | 110        | 165                            | 25                     | 2500                                            | 10                                    | -                                       | -                                                   | 1200                                       |
| V14P60AUTO                 | 14P60A   | V14H60AUTO                 | 14H60A   | 14                           | 60                           | 85                     | 90                         | 100        | 110        | 175                            | 50                     | 4500                                            | 20                                    | -                                       | -                                                   | 2500                                       |
| V20P60AUTO                 | 20P60A   | V20H60AUTO                 | 20H60A   | 20                           | 60                           | 85                     | 90                         | 100        | 110        | 175                            | 100                    | 6500                                            | 30                                    | -                                       | -                                                   | 5200                                       |

# AUMOV® Series

## Radial Leaded Varistors

### AUMOV® Varistor Series Device Ratings & Specifications cont...

| Phenolic Coated Models  |          | Silicone Coated Models  |          | Size Disc Dia. (mm) | Max Continuous Voltage |                     | Varistor Voltage at 1mA |         |         | Maximum Clamping Voltage |                     | Max Peak Current (8 x 20µs 1 pulse) | Energy Rating (2ms, 1 pulse) | Energy (Load Dump, 10 pulses)* | Jump Start DC V <sub>jump</sub> (5 min) | Typical Capacitance f = 1MHz |
|-------------------------|----------|-------------------------|----------|---------------------|------------------------|---------------------|-------------------------|---------|---------|--------------------------|---------------------|-------------------------------------|------------------------------|--------------------------------|-----------------------------------------|------------------------------|
| Part Number (Base part) | Branding | Part Number (Base part) | Branding |                     | V <sub>RMS</sub> (V)   | V <sub>DC</sub> (V) | Min (V)                 | Nom (V) | Max (V) | V <sub>C</sub> (V)       | I <sub>PK</sub> (A) |                                     |                              |                                |                                         |                              |
| V05P75AUTO              | 5P75A    | -                       | -        | 5                   | 75                     | 100                 | 108                     | 120     | 132     | 205                      | 5                   | 400                                 | 3                            | -                              | -                                       | 260                          |
| V07P75AUTO              | 7P75A    | -                       | -        | 7                   | 75                     | 100                 | 108                     | 120     | 132     | 205                      | 10                  | 1200                                | 6                            | -                              | -                                       | 600                          |
| V10P75AUTO              | 10P75A   | V10H75AUTO              | 10H75A   | 10                  | 75                     | 100                 | 108                     | 120     | 132     | 200                      | 25                  | 2500                                | 12                           | -                              | -                                       | 1100                         |
| V14P75AUTO              | 14P75A   | V14H75AUTO              | 14H75A   | 14                  | 75                     | 100                 | 108                     | 120     | 132     | 210                      | 50                  | 4500                                | 22                           | -                              | -                                       | 2300                         |
| V20P75AUTO              | 20P75A   | V20H75AUTO              | 20H75A   | 20                  | 75                     | 100                 | 108                     | 120     | 132     | 210                      | 100                 | 6500                                | 33                           | -                              | -                                       | 4800                         |
| V05P95AUTO              | 5P95A    | -                       | -        | 5                   | 95                     | 125                 | 135                     | 150     | 165     | 250                      | 5                   | 400                                 | 4                            | -                              | -                                       | 200                          |
| V07P95AUTO              | 7P95A    | -                       | -        | 7                   | 95                     | 125                 | 135                     | 150     | 165     | 250                      | 10                  | 1200                                | 8                            | -                              | -                                       | 520                          |
| V10P95AUTO              | 10P95A   | V10H95AUTO              | 10H95A   | 10                  | 95                     | 125                 | 135                     | 150     | 165     | 250                      | 25                  | 2500                                | 15                           | -                              | -                                       | 800                          |
| V14P95AUTO              | 14P95A   | V14H95AUTO              | 14H95A   | 14                  | 95                     | 125                 | 135                     | 150     | 165     | 250                      | 50                  | 4500                                | 22                           | -                              | -                                       | 1700                         |
| V20P95AUTO              | 20P95A   | V20H95AUTO              | 20H95A   | 20                  | 95                     | 125                 | 135                     | 150     | 165     | 250                      | 100                 | 6500                                | 45                           | -                              | -                                       | 3700                         |
| V10P130AUTO             | 10P130A  | V10H130AUTO             | 10H130A  | 10                  | 130                    | 170                 | 184.5                   | 205     | 225.5   | 340                      | 25                  | 3500                                | 40                           | -                              | -                                       | 450                          |
| V14P130AUTO             | 14P130A  | V14H130AUTO             | 14H130A  | 14                  | 130                    | 170                 | 184.5                   | 205     | 225.5   | 340                      | 50                  | 6500                                | 60                           | -                              | -                                       | 1000                         |
| V20P130AUTO             | 20P130A  | V20H130AUTO             | 20H130A  | 20                  | 130                    | 170                 | 184.5                   | 205     | 225.5   | 340                      | 100                 | 10000                               | 145                          | -                              | -                                       | 1900                         |
| V10P140AUTO             | 10P140A  | V10H140AUTO             | 10H140A  | 10                  | 140                    | 180                 | 198                     | 220     | 242     | 360                      | 25                  | 3500                                | 45                           | -                              | -                                       | 400                          |
| V14P140AUTO             | 14P140A  | V14H140AUTO             | 14H140A  | 14                  | 140                    | 180                 | 198                     | 220     | 242     | 360                      | 50                  | 6500                                | 65                           | -                              | -                                       | 900                          |
| V20P140AUTO             | 20P140A  | V20H140AUTO             | 20H140A  | 20                  | 140                    | 180                 | 198                     | 220     | 242     | 360                      | 100                 | 10000                               | 155                          | -                              | -                                       | 1750                         |
| V10P150AUTO             | 10P150A  | V10H150AUTO             | 10H150A  | 10                  | 150                    | 200                 | 216                     | 240     | 264     | 395                      | 25                  | 3500                                | 50                           | -                              | -                                       | 360                          |
| V14P150AUTO             | 14P150A  | V14H150AUTO             | 14H150A  | 14                  | 150                    | 200                 | 216                     | 240     | 264     | 395                      | 50                  | 6500                                | 70                           | -                              | -                                       | 800                          |
| V20P150AUTO             | 20P150A  | V20H150AUTO             | 20H150A  | 20                  | 150                    | 200                 | 216                     | 240     | 264     | 395                      | 100                 | 10000                               | 165                          | -                              | -                                       | 1600                         |
| V10P175AUTO             | 10P175A  | V10H175AUTO             | 10H175A  | 10                  | 175                    | 225                 | 243                     | 270     | 297     | 455                      | 25                  | 3500                                | 55                           | -                              | -                                       | 350                          |
| V14P175AUTO             | 14P175A  | V14H175AUTO             | 14H175A  | 14                  | 175                    | 225                 | 243                     | 270     | 297     | 455                      | 50                  | 6500                                | 80                           | -                              | -                                       | 700                          |
| V20P175AUTO             | 20P175A  | V20H175AUTO             | 20H175A  | 20                  | 175                    | 225                 | 243                     | 270     | 297     | 455                      | 100                 | 10000                               | 180                          | -                              | -                                       | 1400                         |
| V10P230AUTO             | 10P230A  | V10H230AUTO             | 10H230A  | 10                  | 230                    | 300                 | 324                     | 360     | 396     | 595                      | 25                  | 3500                                | 60                           | -                              | -                                       | 250                          |
| V14P230AUTO             | 14P230A  | V14H230AUTO             | 14H230A  | 14                  | 230                    | 300                 | 324                     | 360     | 396     | 595                      | 50                  | 6500                                | 105                          | -                              | -                                       | 550                          |
| V20P230AUTO             | 20P230A  | V20H230AUTO             | 20H230A  | 20                  | 230                    | 300                 | 324                     | 360     | 396     | 595                      | 100                 | 10000                               | 225                          | -                              | -                                       | 1100                         |
| V10P250AUTO             | 10P250A  | V10H250AUTO             | 10H250A  | 10                  | 250                    | 320                 | 351                     | 390     | 429     | 650                      | 25                  | 3500                                | 65                           | -                              | -                                       | 220                          |
| V14P250AUTO             | 14P250A  | V14H250AUTO             | 14H250A  | 14                  | 250                    | 320                 | 351                     | 390     | 429     | 650                      | 50                  | 6500                                | 115                          | -                              | -                                       | 500                          |
| V20P250AUTO             | 20P250A  | V20H250AUTO             | 20H250A  | 20                  | 250                    | 320                 | 351                     | 390     | 429     | 650                      | 100                 | 10000                               | 240                          | -                              | -                                       | 1000                         |
| V10P275AUTO             | 10P275A  | V10H275AUTO             | 10H275A  | 10                  | 275                    | 350                 | 387                     | 430     | 473     | 710                      | 25                  | 3500                                | 70                           | -                              | -                                       | 200                          |
| V14P275AUTO             | 14P275A  | V14H275AUTO             | 14H275A  | 14                  | 275                    | 350                 | 387                     | 430     | 473     | 710                      | 50                  | 6500                                | 130                          | -                              | -                                       | 450                          |
| V20P275AUTO             | 20P275A  | V20H275AUTO             | 20H275A  | 20                  | 275                    | 350                 | 387                     | 430     | 473     | 710                      | 100                 | 10000                               | 260                          | -                              | -                                       | 900                          |
| V10P300AUTO             | 10P300A  | V10H300AUTO             | 10H300A  | 10                  | 300                    | 385                 | 423                     | 470     | 517     | 775                      | 25                  | 3500                                | 75                           | -                              | -                                       | 180                          |
| V14P300AUTO             | 14P300A  | V14H300AUTO             | 14H300A  | 14                  | 300                    | 385                 | 423                     | 470     | 517     | 775                      | 50                  | 6500                                | 140                          | -                              | -                                       | 400                          |
| V20P300AUTO             | 20P300A  | V20H300AUTO             | 20H300A  | 20                  | 300                    | 385                 | 423                     | 470     | 517     | 775                      | 100                 | 10000                               | 290                          | -                              | -                                       | 800                          |
| V10P320AUTO             | 10P320A  | V10H320AUTO             | 10H320A  | 10                  | 320                    | 420                 | 459                     | 510     | 561     | 840                      | 25                  | 3500                                | 80                           | -                              | -                                       | 170                          |
| V14P320AUTO             | 14P320A  | V14H320AUTO             | 14H320A  | 14                  | 320                    | 420                 | 459                     | 510     | 561     | 840                      | 50                  | 6500                                | 150                          | -                              | -                                       | 380                          |
| V20P320AUTO             | 20P320A  | V20H320AUTO             | 20H320A  | 20                  | 320                    | 420                 | 459                     | 510     | 561     | 840                      | 100                 | 10000                               | 320                          | -                              | -                                       | 750                          |
| V10P385AUTO             | 10P385A  | V10H385AUTO             | 10H385A  | 10                  | 385                    | 505                 | 558                     | 620     | 682     | 1025                     | 25                  | 3500                                | 85                           | -                              | -                                       | 160                          |
| V14P385AUTO             | 14P385A  | V14H385AUTO             | 14H385A  | 14                  | 385                    | 505                 | 558                     | 620     | 682     | 1025                     | 50                  | 6500                                | 175                          | -                              | -                                       | 360                          |
| V20P385AUTO             | 20P385A  | V20H385AUTO             | 20H385A  | 20                  | 385                    | 505                 | 558                     | 620     | 682     | 1025                     | 100                 | 10000                               | 325                          | -                              | -                                       | 700                          |
| V10P420AUTO             | 10P420A  | V10H420AUTO             | 10H420A  | 10                  | 420                    | 560                 | 612                     | 680     | 748     | 1120                     | 25                  | 3500                                | 90                           | -                              | -                                       | 140                          |
| V14P420AUTO             | 14P420A  | V14H420AUTO             | 14H420A  | 14                  | 420                    | 560                 | 612                     | 680     | 748     | 1120                     | 50                  | 6500                                | 185                          | -                              | -                                       | 300                          |
| V20P420AUTO             | 20P420A  | V20H420AUTO             | 20H420A  | 20                  | 420                    | 560                 | 612                     | 680     | 748     | 1120                     | 100                 | 10000                               | 330                          | -                              | -                                       | 600                          |
| V10P440AUTO             | 10P440A  | V10H440AUTO             | 10H440A  | 10                  | 440                    | 585                 | 643.5                   | 715     | 786.5   | 1180                     | 25                  | 3500                                | 95                           | -                              | -                                       | 130                          |
| V14P440AUTO             | 14P440A  | V14H440AUTO             | 14H440A  | 14                  | 440                    | 585                 | 643.5                   | 715     | 786.5   | 1180                     | 50                  | 6500                                | 185                          | -                              | -                                       | 260                          |
| V20P440AUTO             | 20P440A  | V20H440AUTO             | 20H440A  | 20                  | 440                    | 585                 | 643.5                   | 715     | 786.5   | 1180                     | 100                 | 10000                               | 340                          | -                              | -                                       | 500                          |
| V10P460AUTO             | 10P460A  | V10H460AUTO             | 10H460A  | 10                  | 460                    | 615                 | 675                     | 750     | 825     | 1240                     | 25                  | 3500                                | 95                           | -                              | -                                       | 120                          |
| V14P460AUTO             | 14P460A  | V14H460AUTO             | 14H460A  | 14                  | 460                    | 615                 | 675                     | 750     | 825     | 1240                     | 50                  | 6500                                | 190                          | -                              | -                                       | 220                          |
| V20P460AUTO             | 20P460A  | V20H460AUTO             | 20H460A  | 20                  | 460                    | 615                 | 675                     | 750     | 825     | 1240                     | 100                 | 10000                               | 370                          | -                              | -                                       | 400                          |
| V10P510AUTO             | 10P510A  | V10H510AUTO             | 10H510A  | 10                  | 510                    | 670                 | 738                     | 820     | 902     | 1355                     | 25                  | 3500                                | 98                           | -                              | -                                       | 110                          |
| V14P510AUTO             | 14P510A  | V14H510AUTO             | 14H510A  | 14                  | 510                    | 670                 | 738                     | 820     | 902     | 1355                     | 50                  | 6500                                | 205                          | -                              | -                                       | 200                          |
| V20P510AUTO             | 20P510A  | V20H510AUTO             | 20H510A  | 20                  | 510                    | 670                 | 738                     | 820     | 902     | 1355                     | 100                 | 10000                               | 410                          | -                              | -                                       | 350                          |

# AUMOV® Series

## Radial Leaded Varistors

### AUMOV® Varistor Series Device Ratings & Specifications cont...

| Phenolic Coated Models  |          | Silicone Coated Models  |          | Size Disc Dia. (mm) | Max Continuous Voltage |                     | Varistor Voltage at 1mA |         |         | Maximum Clamping Voltage |                     | Max Peak Current (8 x 20µs 1 pulse) | Energy Rating (2ms, 1 pulse) | Energy (Load Dump, 10 pulses)* | Jump Start DC V <sub>jump</sub> (5 min) | Typical Capacitance f = 1MHz |
|-------------------------|----------|-------------------------|----------|---------------------|------------------------|---------------------|-------------------------|---------|---------|--------------------------|---------------------|-------------------------------------|------------------------------|--------------------------------|-----------------------------------------|------------------------------|
| Part Number (Base part) | Branding | Part Number (Base part) | Branding |                     | V <sub>RMS</sub> (V)   | V <sub>DC</sub> (V) | Min (V)                 | Nom (V) | Max (V) | V <sub>C</sub> (V)       | I <sub>PK</sub> (A) | I <sub>TM</sub> (A)                 | W <sub>TM</sub> (J)          | (J)                            | (V)                                     | (pF)                         |
| V10P550AUTO             | 10P550A  | V10H550AUTO             | 10H550A  | 10                  | 550                    | 745                 | 819                     | 910     | 1001    | 1500                     | 25                  | 3500                                | 98                           | -                              | -                                       | 100                          |
| V14P550AUTO             | 14P550A  | V14H550AUTO             | 14H550A  | 14                  | 550                    | 745                 | 819                     | 910     | 1001    | 1500                     | 50                  | 6500                                | 210                          | -                              | -                                       | 180                          |
| V20P550AUTO             | 20P550A  | V20H550AUTO             | 20H550A  | 20                  | 550                    | 745                 | 819                     | 910     | 1001    | 1500                     | 100                 | 10000                               | 450                          | -                              | -                                       | 300                          |
| V10P625AUTO             | 10P625A  | V10H625AUTO             | 10H625A  | 10                  | 625                    | 825                 | 900                     | 1000    | 1100    | 1650                     | 25                  | 3500                                | 110                          | -                              | -                                       | 90                           |
| V14P625AUTO             | 14P625A  | V14H625AUTO             | 14H625A  | 14                  | 625                    | 825                 | 900                     | 1000    | 1100    | 1650                     | 50                  | 6500                                | 235                          | -                              | -                                       | 160                          |
| V20P625AUTO             | 20P625A  | V20H625AUTO             | 20H625A  | 20                  | 625                    | 825                 | 900                     | 1000    | 1100    | 1650                     | 100                 | 10000                               | 490                          | -                              | -                                       | 250                          |

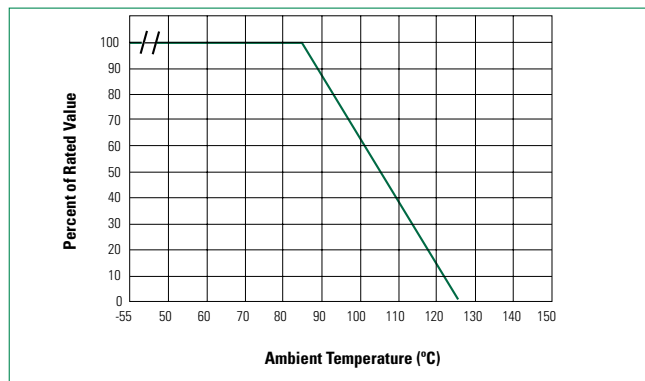
#### Note:

1. Average power dissipation of transients not to exceed 0.2W, 0.25W, 0.4W, 0.6W or 1W for model sizes 5mm, 7mm, 10mm, 14mm and 20mm, respectively.
2. \*Energy rating (auto load dump) for impulse duration of 40ms minimum to one half of peak current, 60sec interval ISO7637-2 pulse 5a and ISO16750-2 Table 5A.
3. The shift of Vnom (Varistor Voltage) may be to +/-15% for Load dump or Jump Start test.
4. The ratings and specifications of Silicone coated options are the same as the Phenolic coating, except the isolation voltage capability (Hi-Pot Encapsulation) is 2500V.

### Current Energy and Power Dissipation Ratings

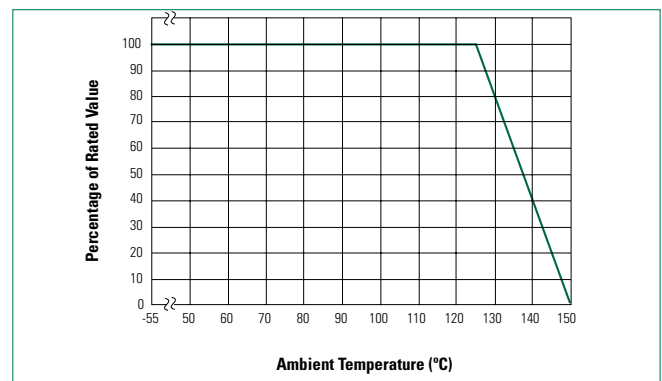
**Figure 1A - Power Derating for Epoxy Coated**

For applications exceeding 85°C ambient temperature, the peak surge current and energy ratings must be reduced as shown below.

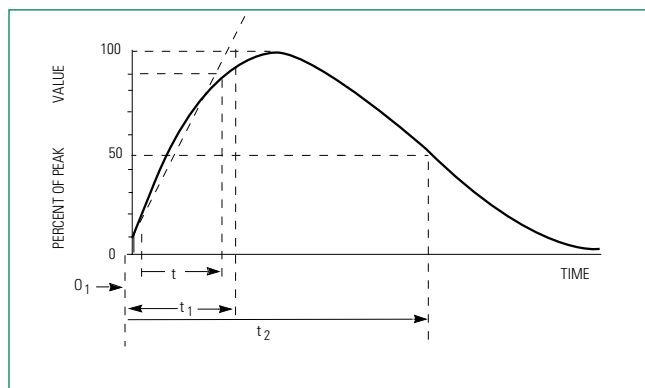


**Figure 1B - Power Derating for Phenolic Coated and Silicone Coated**

For applications exceeding 125°C ambient temperature, the peak surge current and energy ratings must be reduced as shown below.



**Fig. 2 Peak Pulse Current Test Waveform for Clamping Voltage**



$O_1$  = Virtual Origin of Wave

$t$  = Time from 10% to 90% of Peak

$t_1$  = Virtual Front Time =  $1.25 \times t$

$t_2$  = Virtual Time to Half-Value (Impulse Duration)

**Example** - For an 8/20 µs Current Waveform:

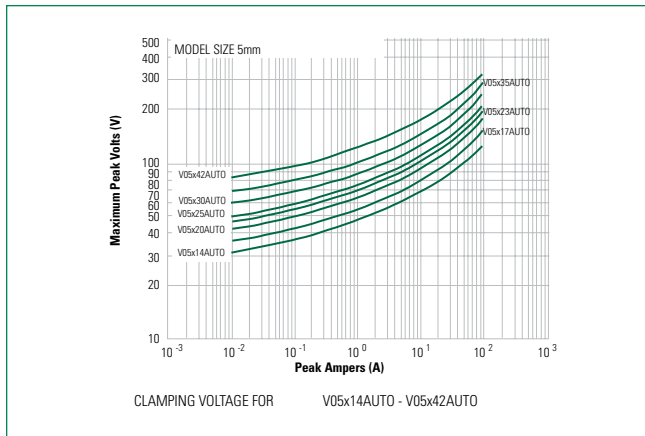
$8\mu s = t_1$  = Virtual Front Time

$20\mu s = t_2$  = Virtual Time to Half-Value

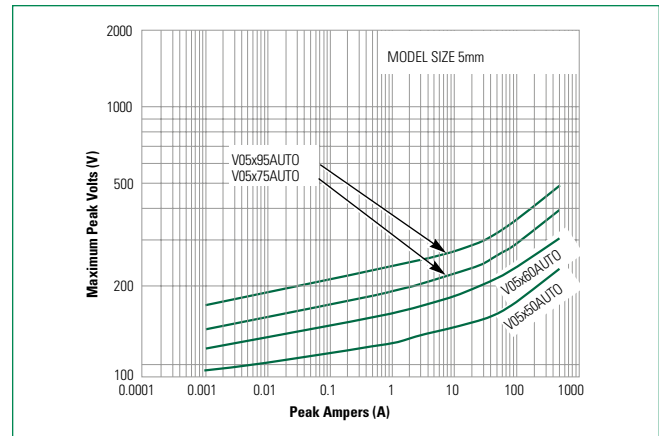
# AUMOV® Series

## Radial Leaded Varistors

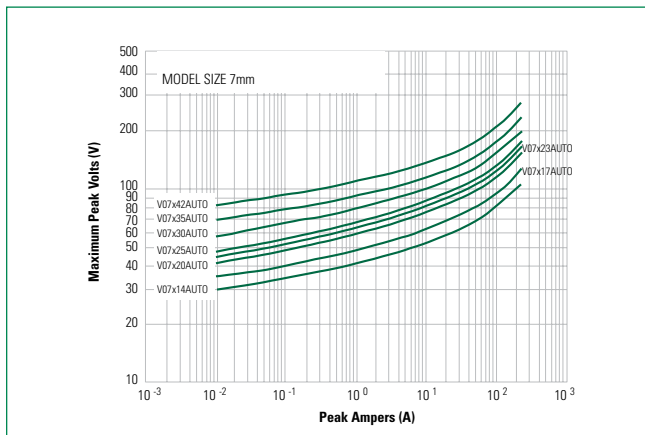
**Maximum Clamping Voltage for 5mm Parts**  
V05x14AUTO - V05x42AUTO



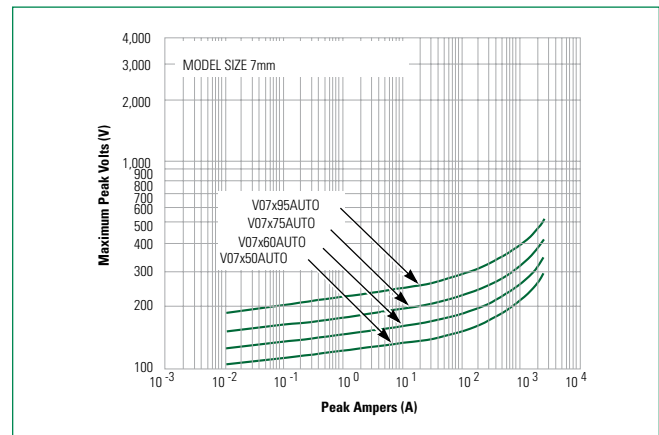
**Maximum Clamping Voltage for 5mm Parts**  
V05x50AUTO - V05x95AUTO



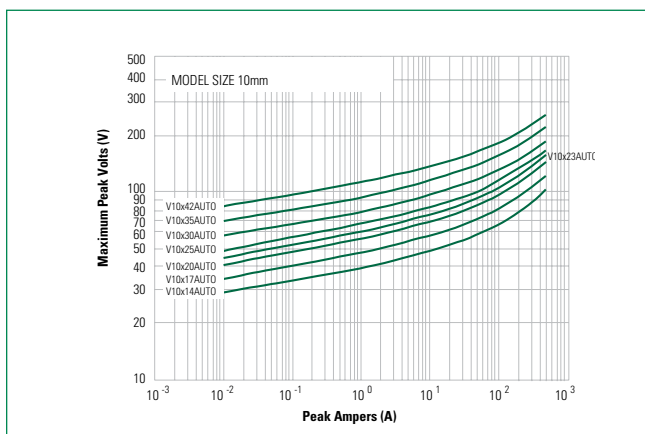
**Maximum Clamping Voltage for 7mm Parts**  
V07x14AUTO - V07x42AUTO



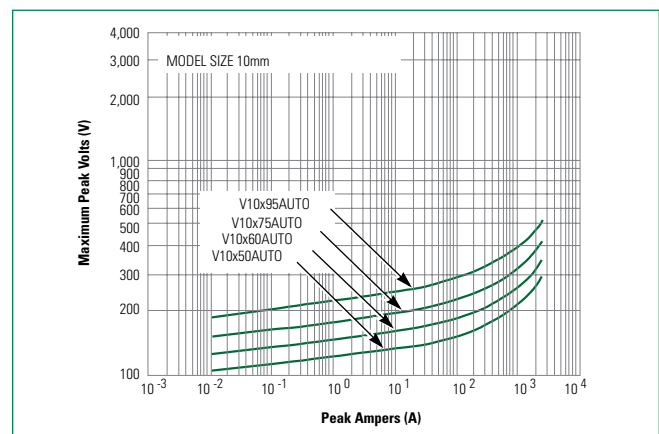
**Maximum Clamping Voltage for 7mm Parts**  
V07x50AUTO - V07x95AUTO



**Maximum Clamping Voltage for 10mm Parts**  
V10x14AUTO - V10x42AUTO



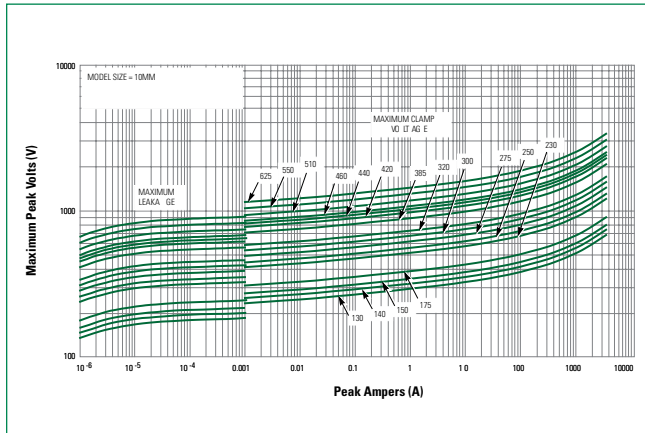
**Maximum Clamping Voltage for 10mm Parts**  
V10x50AUTO - V10x95AUTO



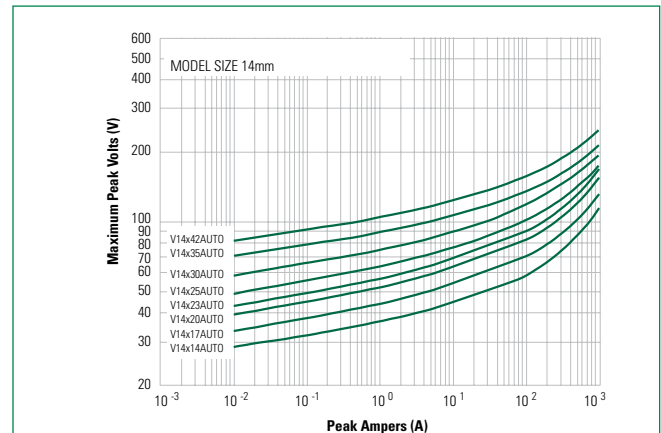
# AUMOV® Series

## Radial Leaded Varistors

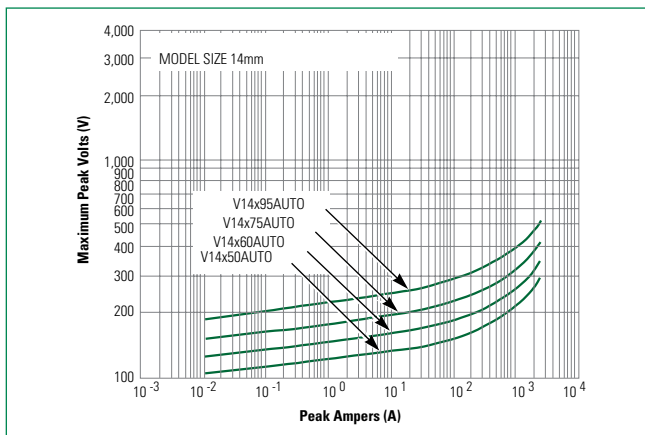
**Maximum Clamping Voltage for 10mm Parts**  
V10x130AUTO - V10x625AUTO



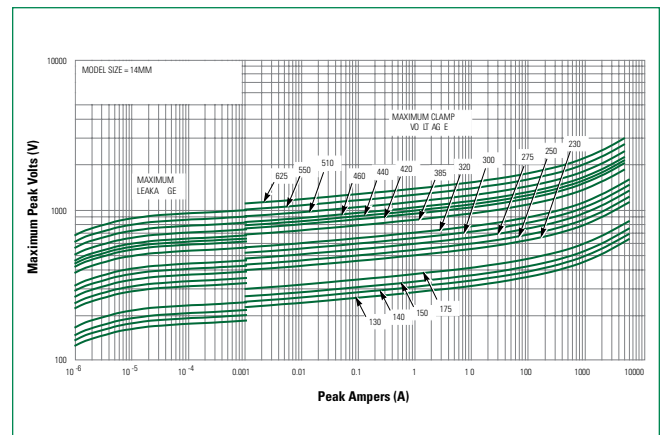
**Maximum Clamping Voltage for 14mm Parts**  
V14x14AUTO - V14x42AUTO



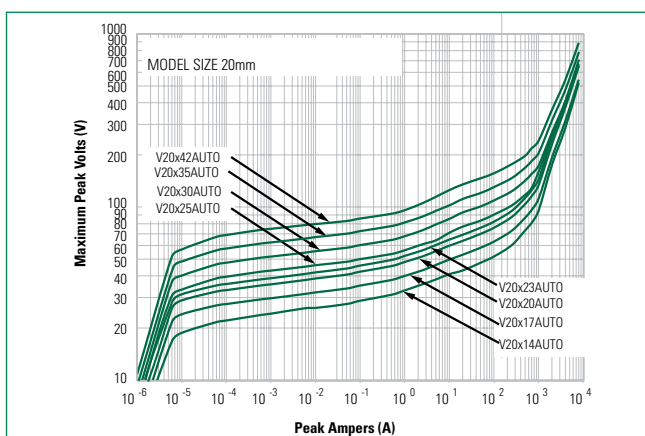
**Maximum Clamping Voltage for 14mm Parts**  
V14x50AUTO - V14x95AUTO



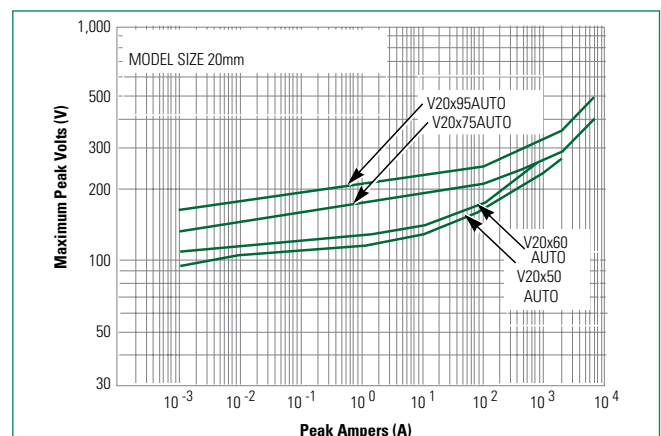
**Maximum Clamping Voltage for 14mm Parts**  
V14x130AUTO - V14x625AUTO



**Maximum Clamping Voltage for 20mm Parts**  
V20x14AUTO - V20x42AUTO



**Maximum Clamping Voltage for 20mm Parts**  
V20x50AUTO - V20x95AUTO

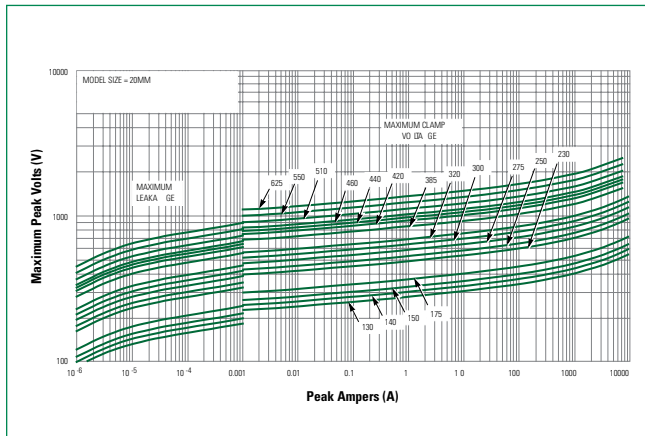




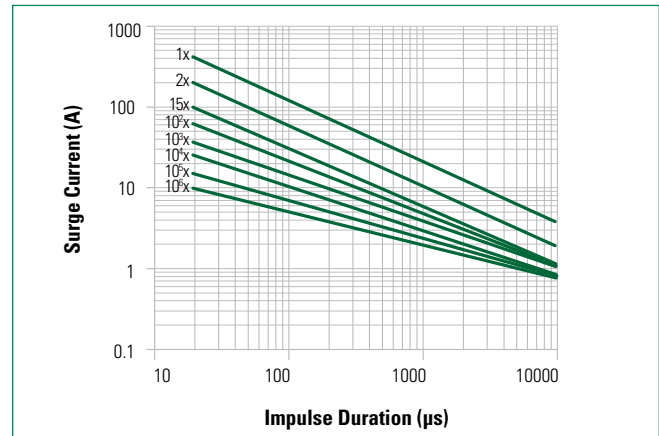
# AUMOV® Series

## Radial Leded Varistors

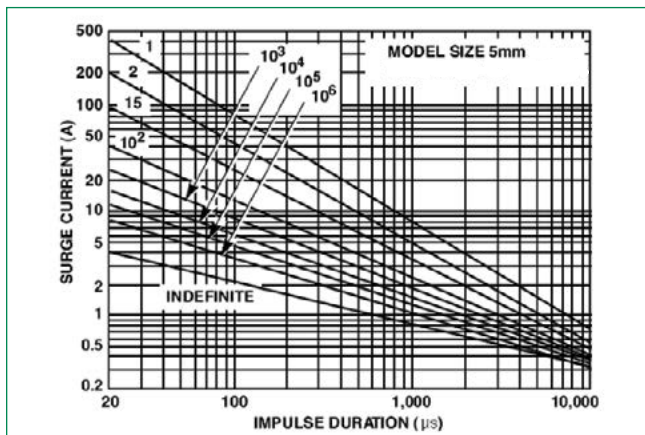
**Maximum Clamping Voltage for 20mm Parts**  
V20x130AUTO - V20x625AUTO



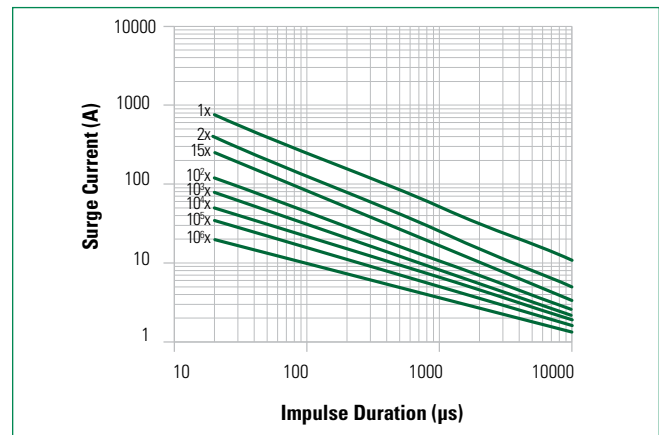
**Repetitive Surge Capability for 5mm Parts**  
V05x14AUTO - V05x42AUTO



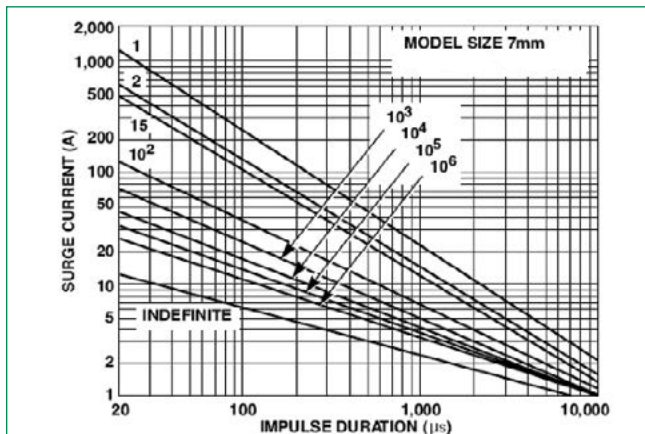
**Repetitive Surge Capability for 5mm Parts**  
V05x50AUTO - V05x95AUTO



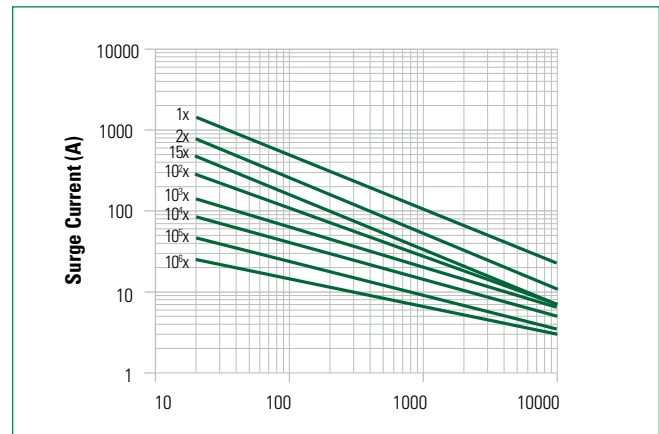
**Repetitive Surge Capability for 7mm Parts**  
V07x14AUTO - V07x42AUTO



**Repetitive Surge Capability for 7mm Parts**  
V07x50AUTO - V07x95AUTO



**Repetitive Surge Capability for 10mm Parts**  
V10x14AUTO - V10x42AUTO



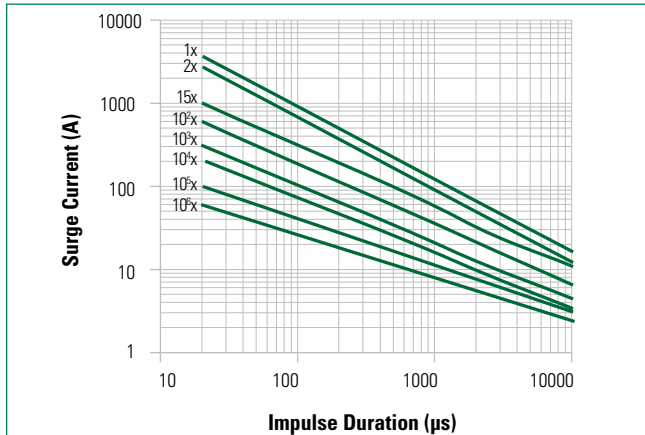
**Note:**

1. If pulse ratings are exceeded, a shift of  $V_{NDCP}$  (at specified current) of more than  $\pm 10\%$  could result. This type of shift, which normally results in a decrease of  $V_{NDCP}$ , may result in the device not meeting the original published specifications, but does not prevent the device from continuing to function, and to provide ample protection.
2. Repetitive surge capability is qualified and tested based on 8/20us current waveform (not combination waveform) and UL1449 40.7.3 (Edition 4) test condition.

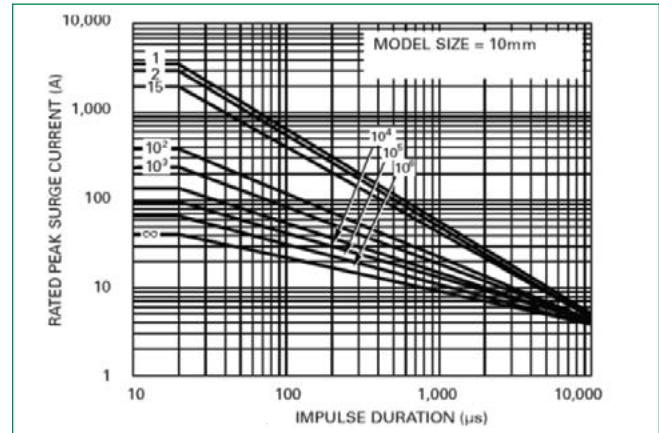
# AUMOV® Series

## Radial Leaded Varistors

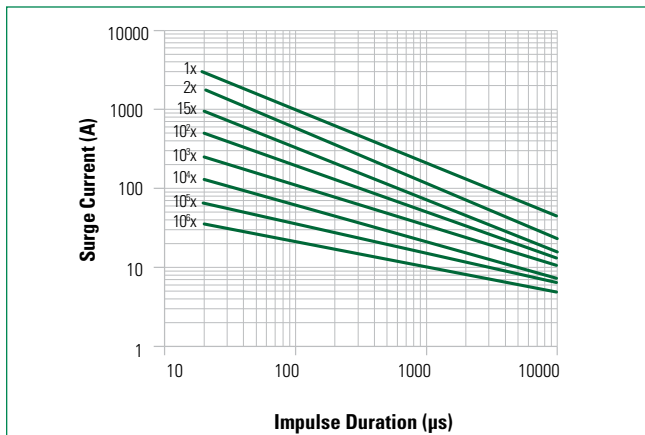
**Repetitive Surge Capability for 10mm Parts**  
V10x50AUTO - V10x95AUTO



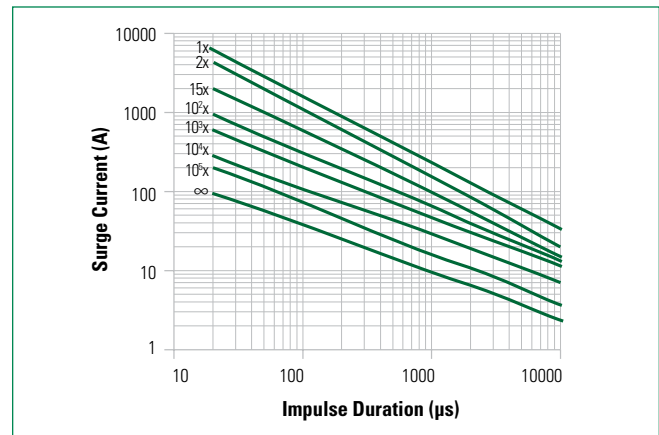
**Repetitive Surge Capability for 10mm Parts**  
V10x130AUTO - V10x625AUTO



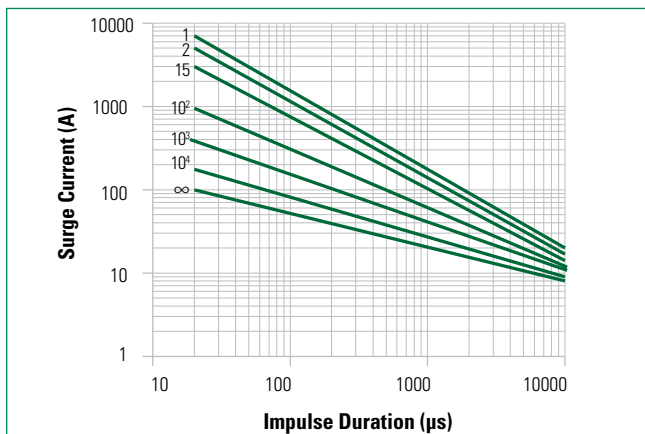
**Repetitive Surge Capability for 14mm Parts**  
V14x14AUTO - V14x42AUTO



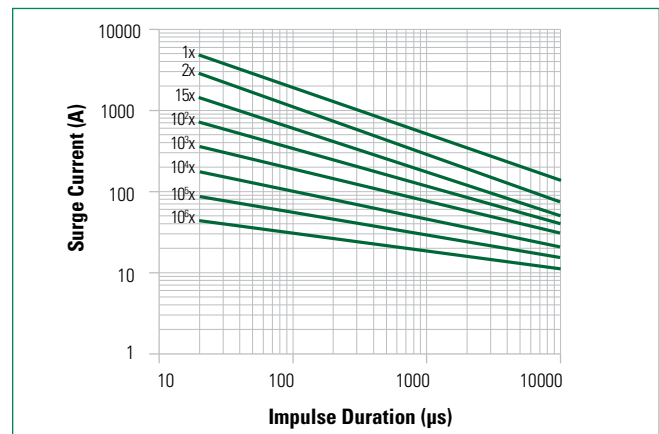
**Repetitive Surge Capability for 14mm Parts**  
V14x50AUTO - V14x95AUTO



**Repetitive Surge Capability for 14mm Parts**  
V14x130AUTO - V14x625AUTO



**Repetitive Surge Capability for 20mm Parts**  
V020x14AUTO - V20x42AUTO



**Note:**

1. If pulse ratings are exceeded, a shift of  $V_{NDCR}$  (at specified current) of more than  $\pm 10\%$  could result. This type of shift, which normally results in a decrease of  $V_{NDCR}$ , may result in the device not meeting the original published specifications, but does not prevent the device from continuing to function, and to provide ample protection.

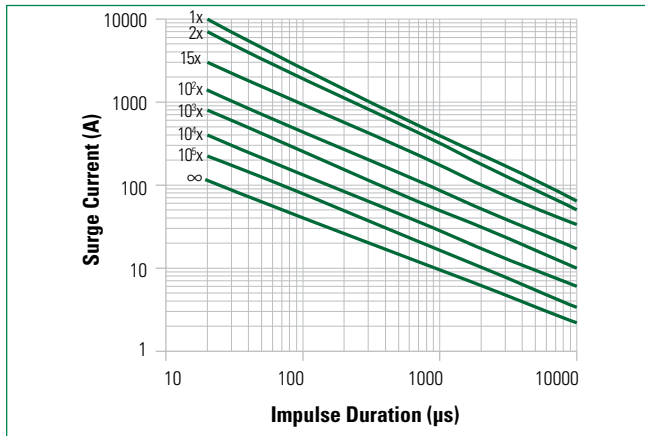
2. Repetitive surge capability is qualified and tested based on 8/20us current waveform (not combination waveform) and UL1449 40.7.3 (Edition 4) test condition.



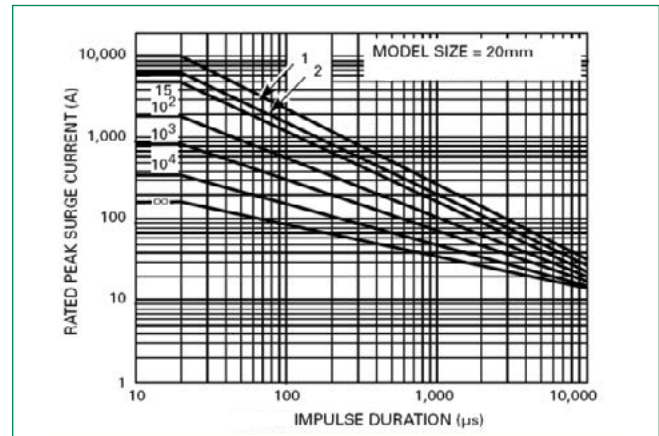
# AUMOV® Series

## Radial Leaded Varistors

**Repetitive Surge Capability for 20mm Parts**  
V20x50AUTO - V20x95AUTO

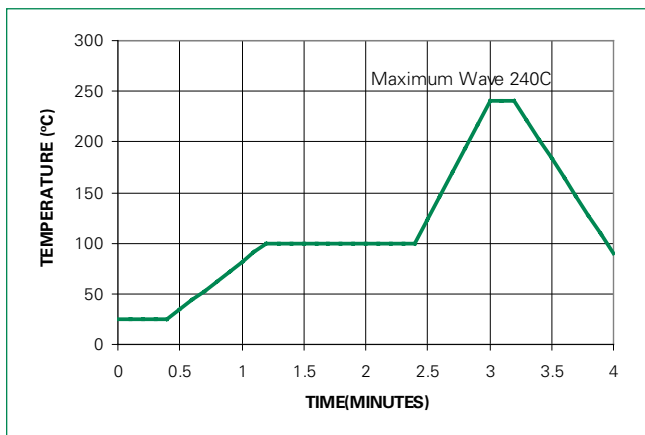


**Repetitive Surge Capability for 20mm Parts**  
V20x130AUTO - V20x625AUTO

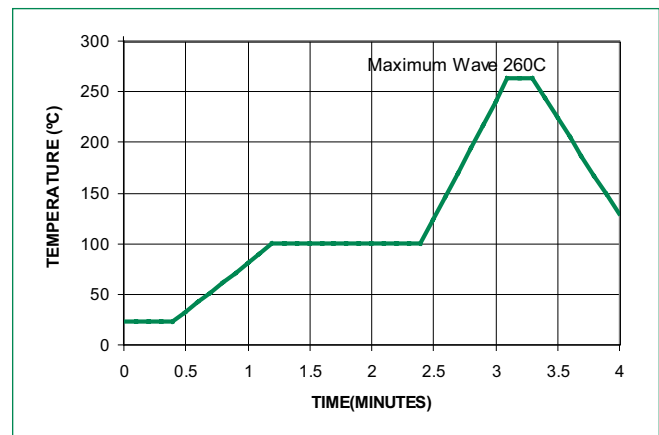


## Wave Solder Profile

**Non Lead-free Profile**



**Lead-free Profile**



## Physical Specifications

|                                  |                                                                 |
|----------------------------------|-----------------------------------------------------------------|
| <b>Lead Material</b>             | Copper Clad Steel Wire                                          |
| <b>Soldering Characteristics</b> | Solderability per MIL-STD-202, Method 208                       |
| <b>Insulating Material</b>       | Cured, flame retardant epoxy polymer meets UL94V-0 requirements |
| <b>Device Labeling</b>           | Marked with LF, voltage and date code                           |

## Environmental Specifications

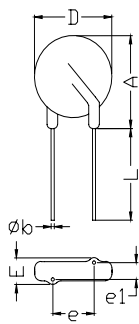
|                                  |                                                                                                                                               |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Humidity Aging</b>            | +85 °C, 85 % RH, 1000 hours<br>+/-10% typical voltage change                                                                                  |
| <b>Temperature Cycling Shock</b> | -40°C to 85°C, 5 cycles for Epoxy coating;<br>-40°C to 125°C, 1000 cycles for Phenolic and Silicone coating;<br>+/-10% typical voltage change |
| <b>Solvent Resistance</b>        | MIL-STD-202, Method 215                                                                                                                       |
| <b>Moisture Sensitivity</b>      | Level 1, J-STD-020                                                                                                                            |

# AUMOV® Series

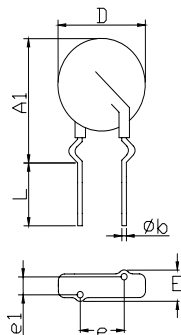
## Radial Leaded Varistors

### Product Dimensions (mm)

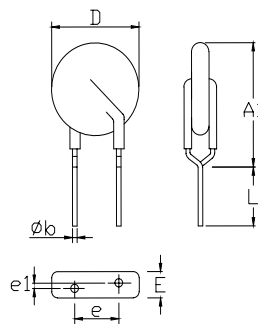
Straight Lead



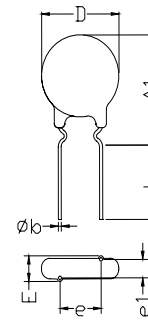
Outer Crimp Lead



In-Line (Under Crimp) Lead



Inner Crimp Lead



| Dimension                         | V <sub>RMS</sub><br>Voltage<br>Model | 5mm Size         |                  | 7mm Size         |                  | 10mm Size       |                 | 14mm Size       |                 | 20mm Size       |                 |
|-----------------------------------|--------------------------------------|------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                                   |                                      | Min.<br>mm (in)  | Max.<br>mm (in)  | Min.<br>mm (in)  | Max.<br>mm (in)  | Min.<br>mm (in) | Max.<br>mm (in) | Min.<br>mm (in) | Max.<br>mm (in) | Min.<br>mm (in) | Max.<br>mm (in) |
| <b>A</b>                          | 11 - 320                             | -                | 10<br>(0.394)    | -                | 12<br>(0.472)    | -               | 16<br>(0.630)   | -               | 20<br>(0.787)   | -               | 26.5<br>(1.043) |
|                                   | 385 - 625                            | -                | 10.5<br>(0.413)  | -                | 13<br>(0.512)    | -               | 17.0<br>(0.689) | -               | 20.5<br>(0.807) | -               | 28.0<br>(1.102) |
| <b>A1</b>                         | All                                  | -                | 13<br>(0.512)    | -                | 15<br>(0.591)    | -               | 19.5<br>(0.768) | -               | 22.5<br>(0.886) | -               | 29<br>(1.142)   |
| <b>ØD</b>                         | All                                  | -                | 7<br>(0.276)     | -                | 9<br>(0.354)     | -               | 12.5<br>(0.492) | -               | 17<br>(0.669)   | -               | 23<br>(0.906)   |
| <b>e</b>                          | 11 - 95                              | 4<br>(0.157)     | 6<br>(0.236)     | 4<br>(0.157)     | 6<br>(0.236)     | 6.5<br>(0.256)  | 8.5<br>(0.335)  | 6.5<br>(0.256)  | 8.5<br>(0.335)  | 6.5<br>(0.256)  | 8.5<br>(0.335)  |
|                                   | 130 - 625                            |                  |                  |                  |                  |                 |                 |                 |                 | 9.0<br>(0.354)  | 11.0<br>(0.433) |
| <b>e<sub>1</sub></b>              | 11 - 30                              | 1<br>(0.039)     | 3<br>(0.118)     | 1<br>(0.039)     | 3<br>(0.118)     | 1<br>(0.039)    | 3<br>(0.118)    | 1<br>(0.039)    | 3<br>(0.118)    | 1<br>(0.039)    | 3<br>(0.118)    |
|                                   | 35 - 320                             | 1.5<br>(0.059)   | 3.5<br>(0.138)   | 1.5<br>(0.059)   | 3.5<br>(0.138)   | 1.5<br>(0.059)  | 3.5<br>(0.138)  | 1.5<br>(0.059)  | 3.5<br>(0.138)  | 1.5<br>(0.059)  | 3.5<br>(0.138)  |
|                                   | 385 - 625                            | 2.5<br>(0.098)   | 5.5<br>(0.217)   | 2.5<br>(0.098)   | 5.5<br>(0.217)   | 2.5<br>(0.098)  | 5.5<br>(0.217)  | 2.5<br>(0.098)  | 5.5<br>(0.217)  | 2.5<br>(0.098)  | 5.5<br>(0.217)  |
| <b>E</b>                          | 11 - 30                              | -                | 5.0<br>(0.197)   | -                | 5.0<br>(0.197)   | -               | 5.0<br>(0.197)  | -               | 5.0<br>(0.197)  | -               | 5.0<br>(0.197)  |
|                                   | 35 - 320                             | -                | 5.6<br>(0.220)   | -                | 5.6<br>(0.220)   | -               | 5.6<br>(0.220)  | -               | 5.6<br>(0.220)  | -               | 5.6<br>(0.220)  |
|                                   | 385 - 510                            | -                | 7.3<br>(0.287)   | -                | 7.3<br>(0.287)   | -               | 7.3<br>(0.287)  | -               | 7.3<br>(0.287)  | -               | 7.3<br>(0.287)  |
|                                   | 550 - 625                            | -                | 8.3<br>(0.327)   | -                | 8.3<br>(0.327)   | -               | 8.3<br>(0.327)  | -               | 8.3<br>(0.327)  | -               | 8.3<br>(0.327)  |
| <b>Øb</b>                         | All                                  | 0.585<br>(0.023) | 0.685<br>(0.027) | 0.585<br>(0.023) | 0.685<br>(0.027) | 0.76<br>(0.030) | 0.86<br>(0.034) | 0.76<br>(0.030) | 0.86<br>(0.034) | 0.76<br>(0.030) | 0.86<br>(0.034) |
| <b>L(bulk<br/>packaging only)</b> | All                                  | 25.4<br>(1.00)   | -                | 25.4<br>(1.00)   | -                | 25.4<br>(1.00)  | -               | 25.4<br>(1.00)  | -               | 25.4<br>(1.00)  | -               |
| <b>L<sub>TRIM</sub></b>           | All                                  | 2.41<br>(0.095)  | 4.69<br>(0.185)  | 2.41<br>(0.095)  | 4.69<br>(0.185)  | 2.41<br>(0.095) | 4.69<br>(0.185) | 2.41<br>(0.095) | 4.69<br>(0.185) | 2.41<br>(0.095) | 4.69<br>(0.185) |

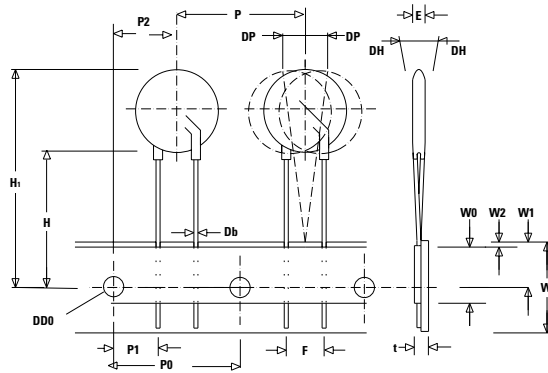
Note: Dimensions in millimetres, (Inches) is typical.

# AUMOV® Series

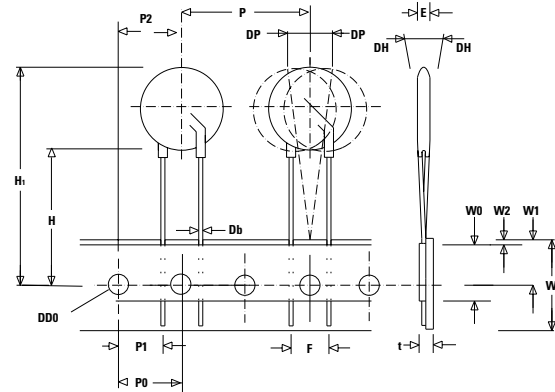
## Radial Leded Varistors

### Tape and Reel Specifications

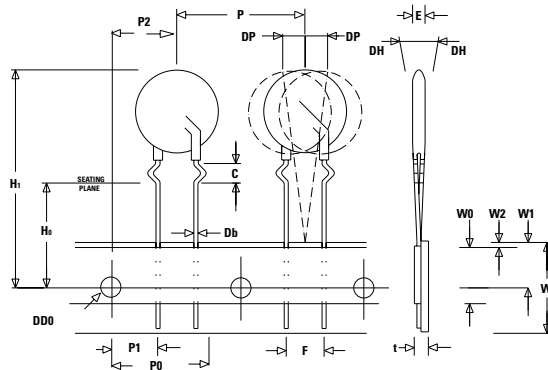
5 and 7mm Devices  
STRAIGHT LEADS "L1"



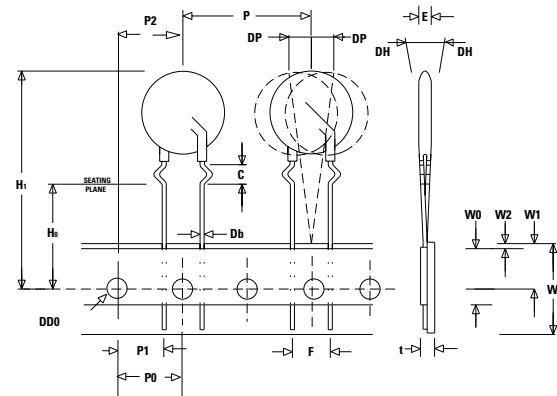
10, 14 and 20mm Devices  
STRAIGHT LEADS "L1"



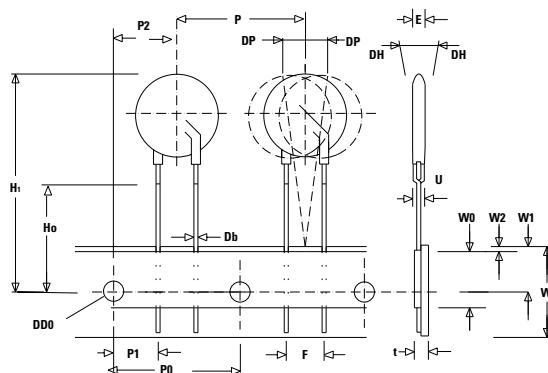
CRIMPED LEADS "L2"



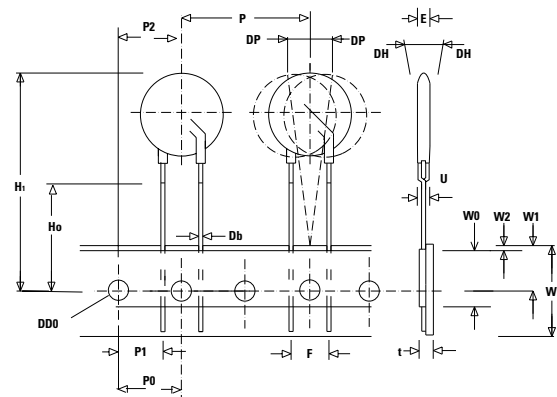
CRIMPED LEADS "L2"



UNDER CRIMPED / IN-LINE LEADS "L3"



UNDER CRIMPED / IN-LINE LEADS "L3"



Refer to next page for dimension measurement specifics.

# AUMOV® Series

## Radial Leaded Varistors

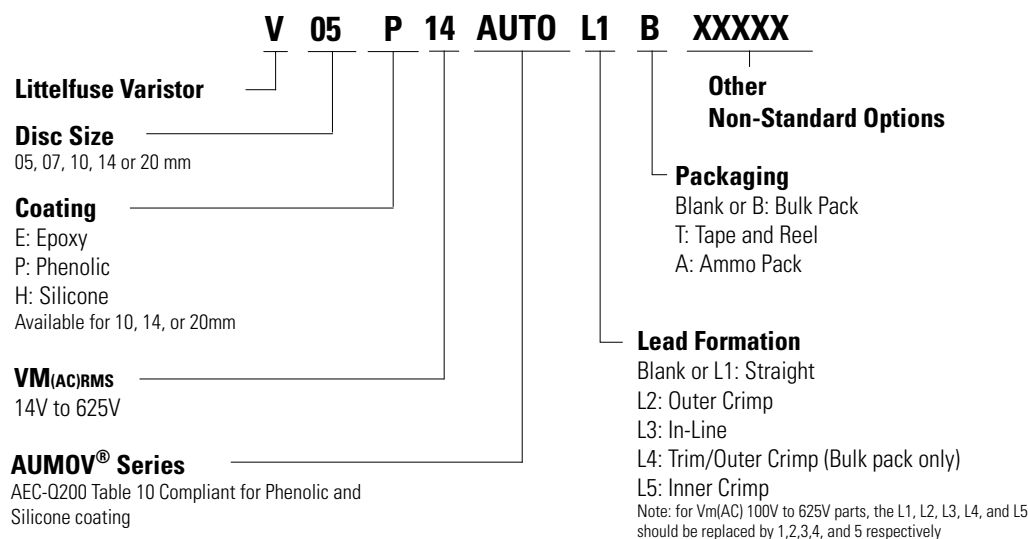
### Tape and Reel Specifications (continued)

| Symbol               | Description                               | Model Size        |                   |                   |                   |                          |                   |
|----------------------|-------------------------------------------|-------------------|-------------------|-------------------|-------------------|--------------------------|-------------------|
|                      |                                           | 5mm               | 7mm               | 10mm              | 14mm              | 20mm                     |                   |
|                      |                                           |                   |                   |                   |                   | (11Vac to 95Vac voltage) | ≥115 Vac Voltage  |
| <b>P</b>             | Pitch of Component                        | 12.7 +/- 1.0      | 12.7 +/- 1.0      | 25.4 +/- 1.0      | 25.4 +/- 1.0      | 25.4 +/- 1.0             | 25.4 +/- 1.0      |
| <b>P<sub>0</sub></b> | Feed Hole Pitch                           | 12.7 +/- 0.2      | 12.7 +/- 0.2      | 12.7 +/- 0.2      | 12.7 +/- 0.2      | 12.7 +/- 0.2             | 12.7 +/- 0.2      |
| <b>P<sub>1</sub></b> | Feed Hole Center to Pitch                 | 3.85 +/- 0.7      | 3.85 +/- 0.7      | 8.85 +/- 0.7      | 8.85 +/- 0.7      | 8.85 +/- 0.7             | 7.70 +/- 0.7      |
| <b>P<sub>2</sub></b> | Hole Center to Component Center           | 6.35 +/- 1.0      | 6.35 +/- 1.0      | 12.7 +/- 0.7      | 12.7 +/- 0.7      | 12.7 +/- 0.7             | 12.7 +/- 0.7      |
| <b>F</b>             | Lead to Lead Distance                     | 5.0 +/- 1.0       | 5.0 +/- 1.0       | 7.5 +/- 1.0       | 7.5 +/- 1.0       | 7.5 +/- 1.0              | 10 +/- 1.0        |
| <b>h</b>             | Component Alignment                       | 2.0 Max           | 2.0 Max           | 2.0 Max           | 2.0 Max           | 2.0 Max                  | 2.0 Max           |
| <b>W</b>             | Tape Width                                | 18.0 +1.0 / -0.5  | 18.0 +1.0 / -0.5  | 18.0 +1.0 / -0.5  | 18.0 +1.0 / -0.5  | 18.0 +1.0 / -0.5         | 18.0 +1.0 / -0.5  |
| <b>W<sub>0</sub></b> | Hold Down Tape Width                      | 12.0 +/- 0.3      | 12.0 +/- 0.3      | 12.0 +/- 0.3      | 12.0 +/- 0.3      | 12.0 +/- 0.3             | 12.0 +/- 0.3      |
| <b>W<sub>1</sub></b> | Hole Position                             | 9.0 +0.75 / -0.50 | 9.0 +0.75 / -0.50 | 9.0 +0.75 / -0.50 | 9.0 +0.75 / -0.50 | 9.0 +0.75 / -0.50        | 9.0 +0.75 / -0.50 |
| <b>W<sub>2</sub></b> | Hold Down Tape Position                   | 0.5 Max           | 0.5 Max           | 0.5 Max           | 0.5 Max           | 0.5 Max                  | 0.5 Max           |
| <b>H</b>             | Height from Tape Center to Component Base | 18.0 +2.0 / -0.0  | 18.0 +2.0 / -0.0  | 18.0 +2.0 / -0.0  | 18.0 +2.0 / -0.0  | 18.0 +2.0 / -0.0         | 18.0 +2.0 / -0.0  |
| <b>H<sub>0</sub></b> | Seating Plane Height                      | 16.0 +/- 0.5      | 16.0 +/- 0.5      | 16.0 +/- 0.5      | 16.0 +/- 0.5      | 16.0 +/- 0.5             | 16.0 +/- 0.5      |
| <b>H<sub>1</sub></b> | Component Height                          | 29.0 Max          | 32.0 Max          | 36.0 Max          | 40.0 Max          | 46.5 Max                 | 46.5 Max          |
| <b>D<sub>0</sub></b> | Feed Hole Diameter                        | 4.0 +/- 0.2       | 4.0 +/- 0.2       | 4.0 +/- 0.2       | 4.0 +/- 0.2       | 4.0 +/- 0.2              | 4.0 +/- 0.2       |
| <b>t</b>             | Total Tape Thickness                      | 0.7 +/- 0.2       | 0.7 +/- 0.2       | 0.7 +/- 0.2       | 0.7 +/- 0.2       | 0.7 +/- 0.2              | 0.7 +/- 0.2       |
| <b>U</b>             | Undercrimp Width                          | 8.0 Max           | 8.0 Max           | 8.0 Max           | 8.0 Max           | 8.0 Max                  | 8.0 Max           |
| <b>p</b>             | Component Alignment                       | 3° Max            | 3° Max            | 3° Max            | 3° Max            | 3° Max                   | 3° Max            |

#### Notes:

- Radial devices on tape are supplied with crimped leads, straight leads, or under-crimped leads
- Leads are offset by product dimension e1
- Conforms to ANSI and EIA specifications
- Can be supplied to IEC Publication 286-2
- 10mm parts are available on tape and reel up to 510 VAC only
- 14mm and 20mm parts are available on tape and reel up to 550 VAC only

### Part Numbering System



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