

## R15KP SERIES

**V<sub>R</sub> : 17 - 240 Volts**

**P<sub>PK</sub> : 15,000 Watts**

### FEATURES :

- \* Glass passivated junction chip
- \* Excellent Clamping Capability
- \* Fast Response Time
- \* Low Zener Impedance
- \* Low Leakage Current
- \* Fast Response Time : typically less than 1.0ps from 0 volt to BV, Bidirectional less than 10ns
- \* High temperature soldering guaranteed : 265°C/10 second, 0.375", (9.5mm) lead leagth.
- \* Pb / RoHS Free

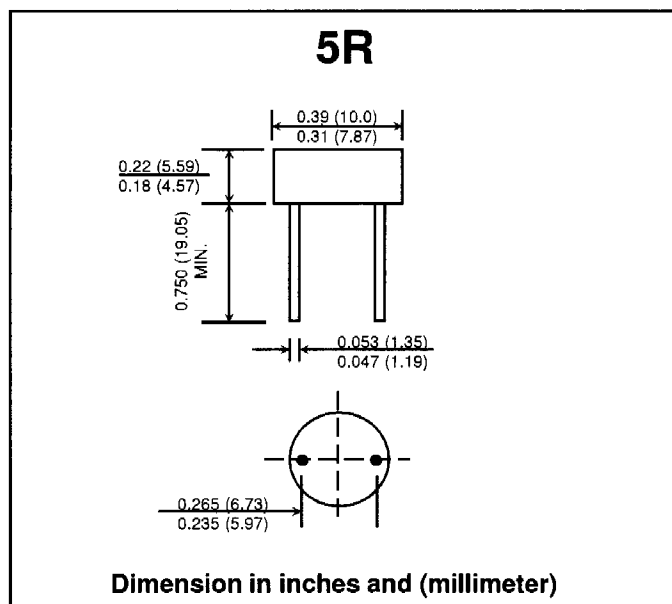
### MECHANICAL DATA

- \* Case : Reliable low cost construction utilizing molded plastic technique
- \* Epoxy : UL94V-0 rate flame retardant
- \* Terminals : Plated leads solderable per MIL-STD-202, Method 208 guaranteed
- \* Polarity : Polarity symbols marked on case
- \* Mounting position : Any
- \* Weight : 1.29 grams

### MAXIMUM RATINGS (T<sub>a</sub> = 25°C)

| Rating                                                                                                           | Symbol                            | Value         | Unit |
|------------------------------------------------------------------------------------------------------------------|-----------------------------------|---------------|------|
| Peak Pulse Power Dissipation (10X1000μs, see Fig.1 )                                                             | P <sub>PK</sub>                   | 15,000        | W    |
| Steady State Power Dissipation                                                                                   | P <sub>D</sub>                    | 7.0           | W    |
| Peak Forward Surge Current, 1/20 Second, T <sub>a</sub> = 25 °C<br>(JEDEC Method) (Uni-directional devices only) | I <sub>FSM</sub>                  | 400           | A    |
| Operating and Storage Temperature Range                                                                          | T <sub>J</sub> , T <sub>STG</sub> | - 55 to + 175 | °C   |

## TRANSIENT VOLTAGE SUPPRESSORS



# ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

| Part<br>Number<br>(Uni-directional) | Part<br>Number<br>(Bi-directional) | Reverse<br>Stand Off<br>Voltage | Breakdown<br>Voltage @ $I_T$ |               | Maximum<br>Reverse Leakage<br>@ $V_R$ | Maximum<br>Clamping<br>Voltage @ $I_{PP}$ | Maximum<br>Peak Pulse<br>Current | Max. Voltage<br>Temperature<br>Variation<br>of $V_{BR}$<br>(mV/°C) |
|-------------------------------------|------------------------------------|---------------------------------|------------------------------|---------------|---------------------------------------|-------------------------------------------|----------------------------------|--------------------------------------------------------------------|
|                                     |                                    | $V_{WM}$<br>(V)                 | $V_{BR}$ (V)<br>Min. Max.    | $I_T$<br>(mA) | $I_R$<br>( $\mu$ A)                   | $V_C$<br>(V)                              | $I_{PP}$<br>(A)                  |                                                                    |
| R15KP17                             | R15KP17C                           | 17                              | 18.9 23.1                    | 50            | 5,000                                 | 32.2                                      | 464                              | 19                                                                 |
| R15KP17A                            | R15KP17CA                          | 17                              | 18.9 20.9                    | 50            | 5,000                                 | 29.3                                      | 512                              | 17                                                                 |
| R15KP18                             | R15KP18C                           | 18                              | 20.0 24.4                    | 50            | 5,000                                 | 34.2                                      | 439                              | 20                                                                 |
| R15KP18A                            | R15KP18CA                          | 18                              | 20.0 22.1                    | 50            | 5,000                                 | 30.9                                      | 485                              | 18                                                                 |
| R15KP20                             | R15KP20C                           | 20                              | 22.2 27.1                    | 20            | 1,500                                 | 37.9                                      | 396                              | 24                                                                 |
| R15KP20A                            | R15KP20CA                          | 20                              | 22.2 24.5                    | 20            | 1,500                                 | 34.3                                      | 437                              | 21                                                                 |
| R15KP22                             | R15KP22C                           | 22                              | 24.4 29.8                    | 10            | 500                                   | 41.1                                      | 365                              | 27                                                                 |
| R15KP22A                            | R15KP22CA                          | 22                              | 24.4 26.9                    | 10            | 500                                   | 37.1                                      | 404                              | 24                                                                 |
| R15KP24                             | R15KP24C                           | 24                              | 26.7 32.6                    | 5.0           | 150                                   | 45.0                                      | 333                              | 30                                                                 |
| R15KP24A                            | R15KP24CA                          | 24                              | 26.7 29.5                    | 5.0           | 150                                   | 40.7                                      | 369                              | 27                                                                 |
| R15KP26                             | R15KP26C                           | 26                              | 28.9 35.3                    | 5.0           | 50                                    | 48.7                                      | 308                              | 32                                                                 |
| R15KP26A                            | R15KP26CA                          | 26                              | 28.9 31.9                    | 5.0           | 50                                    | 44.0                                      | 341                              | 29                                                                 |
| R15KP28                             | R15KP28C                           | 28                              | 31.1 38.0                    | 5.0           | 25                                    | 52.4                                      | 286                              | 35                                                                 |
| R15KP28A                            | R15KP28CA                          | 28                              | 31.1 34.4                    | 5.0           | 25                                    | 47.5                                      | 316                              | 31                                                                 |
| R15KP30                             | R15KP30C                           | 30                              | 33.3 40.7                    | 5.0           | 15                                    | 56.2                                      | 267                              | 37                                                                 |
| R15KP30A                            | R15KP30CA                          | 30                              | 33.3 36.8                    | 5.0           | 15                                    | 50.7                                      | 296                              | 33                                                                 |
| R15KP33                             | R15KP33C                           | 33                              | 36.7 44.9                    | 5.0           | 10                                    | 60.6                                      | 248                              | 42                                                                 |
| R15KP33A                            | R15KP33CA                          | 33                              | 36.7 40.6                    | 5.0           | 10                                    | 54.8                                      | 274                              | 38                                                                 |
| R15KP36                             | R15KP36C                           | 36                              | 40.0 48.9                    | 5.0           | 10                                    | 66.0                                      | 227                              | 46                                                                 |
| R15KP36A                            | R15KP36CA                          | 36                              | 40.0 44.2                    | 5.0           | 10                                    | 59.7                                      | 251                              | 41                                                                 |
| R15KP40                             | R15KP40C                           | 40                              | 44.4 54.3                    | 5.0           | 10                                    | 72.8                                      | 206                              | 51                                                                 |
| R15KP40A                            | R15KP40CA                          | 40                              | 44.4 49.1                    | 5.0           | 10                                    | 65.8                                      | 228                              | 46                                                                 |
| R15KP43                             | R15KP43C                           | 43                              | 47.8 58.4                    | 5.0           | 10                                    | 77.1                                      | 195                              | 55                                                                 |
| R15KP43A                            | R15KP43CA                          | 43                              | 47.8 52.8                    | 5.0           | 10                                    | 69.7                                      | 215                              | 50                                                                 |
| R15KP45                             | R15KP45C                           | 45                              | 50.0 61.1                    | 5.0           | 10                                    | 80.7                                      | 186                              | 57                                                                 |
| R15KP45A                            | R15KP45CA                          | 45                              | 50.0 55.3                    | 5.0           | 10                                    | 73.0                                      | 205                              | 52                                                                 |
| R15KP48                             | R15KP48C                           | 48                              | 53.3 65.1                    | 5.0           | 10                                    | 85.9                                      | 175                              | 62                                                                 |
| R15KP48A                            | R15KP48CA                          | 48                              | 53.3 58.9                    | 5.0           | 10                                    | 77.7                                      | 193                              | 56                                                                 |
| R15KP51                             | R15KP51C                           | 51                              | 56.7 69.3                    | 5.0           | 10                                    | 91.5                                      | 164                              | 66                                                                 |
| R15KP51A                            | R15KP51CA                          | 51                              | 56.7 62.7                    | 5.0           | 10                                    | 82.5                                      | 181                              | 60                                                                 |
| R15KP54                             | R15KP54C                           | 54                              | 60.0 73.3                    | 5.0           | 10                                    | 96.8                                      | 155                              | 70                                                                 |
| R15KP54A                            | R15KP54CA                          | 54                              | 60.0 66.3                    | 5.0           | 10                                    | 87.5                                      | 171                              | 63                                                                 |
| R15KP58                             | R15KP58C                           | 58                              | 64.4 78.7                    | 5.0           | 10                                    | 104                                       | 144                              | 76                                                                 |
| R15KP58A                            | R15KP58CA                          | 58                              | 64.4 71.2                    | 5.0           | 10                                    | 94                                        | 160                              | 68                                                                 |
| R15KP60                             | R15KP60C                           | 60                              | 66.7 81.5                    | 5.0           | 10                                    | 107                                       | 140                              | 78                                                                 |
| R15KP60A                            | R15KP60CA                          | 60                              | 66.7 73.7                    | 5.0           | 10                                    | 97.3                                      | 154                              | 70                                                                 |
| R15KP64                             | R15KP64C                           | 64                              | 71.1 86.9                    | 5.0           | 10                                    | 115                                       | 130                              | 84                                                                 |
| R15KP64A                            | R15KP64CA                          | 64                              | 71.1 78.6                    | 5.0           | 10                                    | 104                                       | 144                              | 76                                                                 |
| R15KP70                             | R15KP70C                           | 70                              | 77.8 95.1                    | 5.0           | 10                                    | 126                                       | 119                              | 92                                                                 |
| R15KP70A                            | R15KP70CA                          | 70                              | 77.8 86.0                    | 5.0           | 10                                    | 114                                       | 132                              | 83                                                                 |
| R15KP75                             | R15KP75C                           | 75                              | 83.3 102                     | 5.0           | 10                                    | 135                                       | 111                              | 100                                                                |
| R15KP75A                            | R15KP75CA                          | 75                              | 83.3 92.1                    | 5.0           | 10                                    | 122                                       | 123                              | 89                                                                 |
| R15KP78                             | R15KP78C                           | 78                              | 86.7 106                     | 5.0           | 10                                    | 140                                       | 107                              | 104                                                                |
| R15KP78A                            | R15KP78CA                          | 78                              | 86.7 95.8                    | 5.0           | 10                                    | 126                                       | 119                              | 93                                                                 |

## ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

| Part<br>Number<br>(Uni-directional) | Part<br>Number<br>(Bi-directional) | Reverse                | Breakdown           |     |                        | Maximum                                    | Maximum                                            | Maximum                           | Max. Voltage                               |
|-------------------------------------|------------------------------------|------------------------|---------------------|-----|------------------------|--------------------------------------------|----------------------------------------------------|-----------------------------------|--------------------------------------------|
|                                     |                                    | Stand Off              | Voltage @ $I_T$     |     |                        | Reverse Leakage                            | Clamping                                           | Peak Pulse                        | Temperature                                |
|                                     |                                    | V <sub>WM</sub><br>(V) | V <sub>BR</sub> (V) |     | I <sub>T</sub><br>(mA) | @ V <sub>R</sub><br>I <sub>R</sub><br>(μA) | Voltage @ I <sub>PP</sub><br>V <sub>C</sub><br>(V) | Current<br>I <sub>PP</sub><br>(A) | Variation<br>of V <sub>BR</sub><br>(mV/°C) |
| R15KP90A                            | R15KP90CA                          | 90                     | 100                 | 111 | 5.0                    | 10                                         | 146                                                | 103                               | 110                                        |
| R15KP100                            | R15KP100C                          | 100                    | 111                 | 136 | 5.0                    | 10                                         | 179                                                | 84                                | 134                                        |
| R15KP100A                           | R15KP100CA                         | 100                    | 111                 | 123 | 5.0                    | 10                                         | 162                                                | 93                                | 123                                        |
| R15KP110                            | R15KP110C                          | 110                    | 122                 | 149 | 5.0                    | 10                                         | 196                                                | 77                                | 147                                        |
| R15KP110A                           | R15KP110CA                         | 110                    | 122                 | 135 | 5.0                    | 10                                         | 178                                                | 84                                | 133                                        |
| R15KP120                            | R15KP120C                          | 120                    | 133                 | 163 | 5.0                    | 10                                         | 214                                                | 70                                | 161                                        |
| R15KP120A                           | R15KP120CA                         | 120                    | 133                 | 147 | 5.0                    | 10                                         | 193                                                | 78                                | 146                                        |
| R15KP130                            | R15KP130C                          | 130                    | 144                 | 176 | 5.0                    | 10                                         | 231                                                | 65                                | 174                                        |
| R15KP130A                           | R15KP130CA                         | 130                    | 144                 | 159 | 5.0                    | 10                                         | 209                                                | 72                                | 158                                        |
| R15KP150                            | R15KP150C                          | 150                    | 167                 | 204 | 5.0                    | 10                                         | 268                                                | 56                                | 202                                        |
| R15KP150A                           | R15KP150CA                         | 150                    | 167                 | 185 | 5.0                    | 10                                         | 243                                                | 62                                | 184                                        |
| R15KP160                            | R15KP160C                          | 160                    | 178                 | 218 | 5.0                    | 10                                         | 287                                                | 52                                | 216                                        |
| R15KP160A                           | R15KP160CA                         | 160                    | 178                 | 197 | 5.0                    | 10                                         | 259                                                | 58                                | 196                                        |
| R15KP170                            | R15KP170C                          | 170                    | 189                 | 231 | 5.0                    | 10                                         | 304                                                | 49                                | 229                                        |
| R15KP170A                           | R15KP170CA                         | 170                    | 189                 | 209 | 5.0                    | 10                                         | 275                                                | 55                                | 208                                        |
| R15KP180                            | R15KP180C                          | 180                    | 200                 | 244 | 5.0                    | 10                                         | 321                                                | 47                                | 242                                        |
| R15KP180A                           | R15KP180CA                         | 180                    | 200                 | 221 | 5.0                    | 10                                         | 287                                                | 52                                | 220                                        |
| R15KP200                            | R15KP200C                          | 200                    | 222                 | 271 | 5.0                    | 10                                         | 356                                                | 42                                | 296                                        |
| R15KP200A                           | R15KP200CA                         | 200                    | 222                 | 245 | 5.0                    | 10                                         | 325                                                | 46                                | 274                                        |
| R15KP220                            | R15KP220C                          | 220                    | 245                 | 299 | 5.0                    | 10                                         | 393                                                | 38                                | 297                                        |
| R15KP220A                           | R15KP220CA                         | 220                    | 245                 | 271 | 5.0                    | 10                                         | 347                                                | 43                                | 273                                        |
| R15KP240                            | R15KP240C                          | 240                    | 267                 | 326 | 5.0                    | 10                                         | 428                                                | 35                                | 324                                        |
| R15KP240A                           | R15KP240CA                         | 240                    | 267                 | 295 | 5.0                    | 10                                         | 387                                                | 39                                | 300                                        |

Note: (1) Suffix " A " denotes 5% tolerance device , no suffix denotes a 10% tolerance device.