



# P6KE SERIES

## GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR POWER 600Watt

### BREAKDOWN VOLTAGE

6.8 to 550 Volt

**Recongnized File # E210467 (P6KE6.8~P6KE300CA)**

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- 600W surge capability at 1ms
- Excellent clamping capability
- Low zener impedance
- Fast response time: typically less than 1 ps from 0 volts to BV min
- ESD IEC-61000-4-2 Air  $\pm$  30kV, Contact  $\pm$  30kV
- Lead free in compliance with EU RoHS 2.0

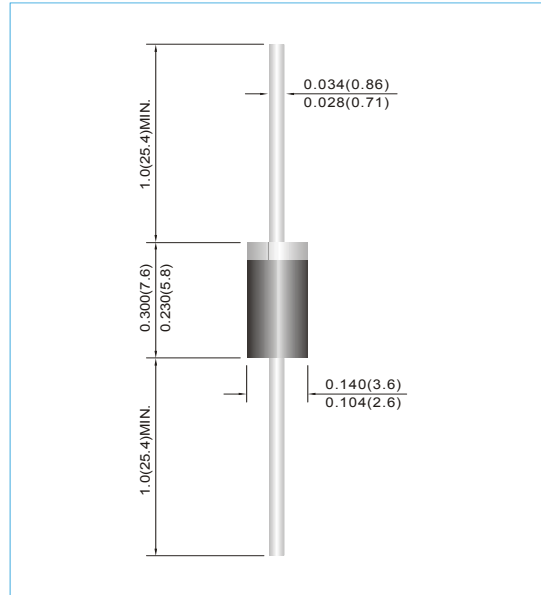
### MECHANICAL DATA

- Case: JEDEC DO-15 Molded plastic
- Terminals: Axial leads, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Approx. Weight: 0.014 ounce, 0.4 gram



### DO-15

Unit : inch(mm)



### DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types  
Electrical characteristics apply in both directions.

### MAXIMUM RATINGS AND CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified. Resistive or inductive load, 60Hz.  
For Capacitive load derate current by 20%.

| Rating   | Symbol          | Value                | Units                       |
|--|-----------------|----------------------|-----------------------------|
| Power Dissipation on $T_A=25^\circ\text{C}$ , $t_p=1\text{ms}$ (Notes 1)                     | $P_{PP}$        | 600                  | Watts                       |
| Typical Thermal Resistance (Notes 2)   | $R_{\theta JA}$ | 70                   | $^\circ\text{C} / \text{W}$ |
|  | $R_{\theta JC}$ | 30                   |                             |
| Peak Pulse Current on $t_p=10/1000\mu\text{s}$ waveform (Notes 1)                            | $I_{PPM}$       | see Table            | Amps                        |
| Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load (Notes 3) | $I_{FSM}$       | 100                  | Amps                        |
| ESD IEC-61000-4-2 (Air)<br>ESD IEC-61000-4-2 (Contact)                                       | $V_{ESD}$       | $\pm 30$<br>$\pm 30$ | kV                          |
| Operating Junction and Storage Temperature Range   | $T_J, T_{STG}$  | -65 to +175          | $^\circ\text{C}$            |

#### NOTES :

1. Non-repetitive current pulse, per Fig. 3 and derated above  $T_A=25^\circ\text{C}$  per Fig. 2.
2. Mounted on 48cm<sup>2</sup> FR-4 PCB.
3. 8.3ms single half sine-wave, duty cycle= 4 pulses per minutes maximum.
4. A transient suppressor is selected according to the working peak reverse voltage ( $V_{RWM}$ ), which should be equal to or greater than the DC or continuous peak operating voltage level.



# P6KE SERIES

| Part Number                              |           | Reverse Stand-off Voltage | Breakdown Voltage                |       | Test Current | Reverse Leakage                   |      | Max. Clamp Voltage<br>10/1000µs | Peak Pulse Current<br>10/1000µs | Marking Code |           |
|--|-----------|---------------------------|----------------------------------|-------|--------------|-----------------------------------|------|---------------------------------|---------------------------------|--------------|-----------|
|  |           |                           | V <sub>BR</sub> @ I <sub>T</sub> |       |              | I <sub>R</sub> @ V <sub>RWM</sub> |      |                                 |                                 |              |           |
|  |           |                           | Min.                             | Max.  |              | UNI                               | BI   |                                 |                                 |              |           |
| UNI                                      | BI        | V                         | V                                | V     | mA           | µA                                | µA   | V                               | A                               | UNI          | BI        |
| <b>600W Transient Voltage Suppressor</b> |           |                           |                                  |       |              |                                   |      |                                 |                                 |              |           |
| P6KE6.8                                  | P6KE6.8C  | 5.5                       | 6.12                             | 7.48  | 10           | 1000                              | 2000 | 10.8                            | 56                              | P6KE6.8      | P6KE6.8C  |
| P6KE6.8A                                 | P6KE6.8CA | 5.8                       | 6.45                             | 7.14  | 10           | 1000                              | 2000 | 10.5                            | 57                              | P6KE6.8A     | P6KE6.8CA |
| P6KE7.5                                  | P6KE7.5C  | 6.05                      | 6.75                             | 8.25  | 10           | 500                               | 1000 | 11.7                            | 51                              | P6KE7.5      | P6KE7.5C  |
| P6KE7.5A                                 | P6KE7.5CA | 6.4                       | 7.13                             | 7.88  | 10           | 500                               | 1000 | 11.3                            | 53                              | P6KE7.5A     | P6KE7.5CA |
| P6KE8.2                                  | P6KE8.2C  | 6.63                      | 7.38                             | 9.02  | 10           | 200                               | 400  | 12.5                            | 48                              | P6KE8.2      | P6KE8.2C  |
| P6KE8.2A                                 | P6KE8.2CA | 7.02                      | 7.79                             | 8.61  | 10           | 200                               | 400  | 12.1                            | 50                              | P6KE8.2A     | P6KE8.2CA |
| P6KE9.1                                  | P6KE9.1C  | 7.37                      | 8.19                             | 10    | 1            | 50                                | 100  | 13.8                            | 44                              | P6KE9.1      | P6KE9.1C  |
| P6KE9.1A                                 | P6KE9.1CA | 7.78                      | 8.65                             | 9.50  | 1            | 50                                | 100  | 13.4                            | 45                              | P6KE9.1A     | P6KE9.1CA |
| P6KE10                                   | P6KE10C   | 8.1                       | 9                                | 11    | 1            | 10                                | 20   | 15                              | 40                              | P6KE10       | P6KE10C   |
| P6KE10A                                  | P6KE10CA  | 8.55                      | 9.5                              | 10.50 | 1            | 10                                | 20   | 14.5                            | 41                              | P6KE10A      | P6KE10CA  |
| P6KE11                                   | P6KE11C   | 8.92                      | 9.9                              | 12    | 1            | 5                                 | 10   | 16.2                            | 37                              | P6KE11       | P6KE11C   |
| P6KE11A                                  | P6KE11CA  | 9.4                       | 10.5                             | 12    | 1            | 5                                 | 10   | 15.6                            | 38                              | P6KE11A      | P6KE11CA  |
| P6KE12                                   | P6KE12C   | 9.72                      | 10.8                             | 13    | 1            | 5                                 | 5    | 17.3                            | 35                              | P6KE12       | P6KE12C   |
| P6KE12A                                  | P6KE12CA  | 10.2                      | 11.4                             | 13    | 1            | 5                                 | 5    | 16.7                            | 36                              | P6KE12A      | P6KE12CA  |
| P6KE13                                   | P6KE13C   | 10.5                      | 11.7                             | 14    | 1            | 1                                 | 1    | 19                              | 32                              | P6KE13       | P6KE13C   |
| P6KE13A                                  | P6KE13CA  | 11.1                      | 12.4                             | 14    | 1            | 1                                 | 1    | 18.2                            | 33                              | P6KE13A      | P6KE13CA  |
| P6KE15                                   | P6KE15C   | 12.1                      | 13.5                             | 16.5  | 1            | 1                                 | 1    | 22                              | 27                              | P6KE15       | P6KE15C   |
| P6KE15A                                  | P6KE15CA  | 12.8                      | 14.3                             | 15.8  | 1            | 1                                 | 1    | 21.2                            | 28                              | P6KE15A      | P6KE15CA  |
| P6KE16                                   | P6KE16C   | 12.9                      | 14.4                             | 17.6  | 1            | 1                                 | 1    | 23.5                            | 26                              | P6KE16       | P6KE16C   |
| P6KE16A                                  | P6KE16CA  | 13.6                      | 15.2                             | 16.8  | 1            | 1                                 | 1    | 22.5                            | 27                              | P6KE16A      | P6KE16CA  |
| P6KE18                                   | P6KE18C   | 14.5                      | 16.2                             | 19.8  | 1            | 1                                 | 1    | 26.5                            | 23                              | P6KE18       | P6KE18C   |
| P6KE18A                                  | P6KE18CA  | 15.3                      | 17.1                             | 18.9  | 1            | 1                                 | 1    | 25.2                            | 24                              | P6KE18A      | P6KE18CA  |
| P6KE20                                   | P6KE20C   | 16.2                      | 18                               | 22    | 1            | 1                                 | 1    | 29.1                            | 21                              | P6KE20       | P6KE20C   |
| P6KE20A                                  | P6KE20CA  | 17.1                      | 19                               | 21    | 1            | 1                                 | 1    | 27.7                            | 22                              | P6KE20A      | P6KE20CA  |
| P6KE22                                   | P6KE22C   | 17.8                      | 19.8                             | 24.2  | 1            | 1                                 | 1    | 31.9                            | 19                              | P6KE22       | P6KE22C   |
| P6KE22A                                  | P6KE22CA  | 18.8                      | 20.9                             | 23.1  | 1            | 1                                 | 1    | 30.6                            | 20                              | P6KE22A      | P6KE22CA  |
| P6KE24                                   | P6KE24C   | 19.4                      | 21.6                             | 26.4  | 1            | 1                                 | 1    | 34.7                            | 17                              | P6KE24       | P6KE24C   |
| P6KE24A                                  | P6KE24CA  | 20.5                      | 22.8                             | 25.2  | 1            | 1                                 | 1    | 33.2                            | 18                              | P6KE24A      | P6KE24CA  |
| P6KE27                                   | P6KE27C   | 21.8                      | 24.3                             | 29.7  | 1            | 1                                 | 1    | 39.1                            | 15                              | P6KE27       | P6KE27C   |
| P6KE27A                                  | P6KE27CA  | 23.1                      | 25.7                             | 28.4  | 1            | 1                                 | 1    | 37.5                            | 16                              | P6KE27A      | P6KE27CA  |
| P6KE30                                   | P6KE30C   | 24.3                      | 27                               | 33    | 1            | 1                                 | 1    | 43.5                            | 14                              | P6KE30       | P6KE30C   |
| P6KE30A                                  | P6KE30CA  | 25.6                      | 28.5                             | 31.5  | 1            | 1                                 | 1    | 41.4                            | 14.4                            | P6KE30A      | P6KE30CA  |
| P6KE33                                   | P6KE33C   | 26.8                      | 29.7                             | 36.3  | 1            | 1                                 | 1    | 47.7                            | 12.6                            | P6KE33       | P6KE33C   |
| P6KE33A                                  | P6KE33CA  | 28.2                      | 31.4                             | 34.7  | 1            | 1                                 | 1    | 45.7                            | 13.2                            | P6KE33A      | P6KE33CA  |
| P6KE36                                   | P6KE36C   | 29.1                      | 32.4                             | 39.6  | 1            | 1                                 | 1    | 52                              | 11.6                            | P6KE36       | P6KE36C   |
| P6KE36A                                  | P6KE36CA  | 30.8                      | 34.2                             | 37.8  | 1            | 1                                 | 1    | 49.9                            | 12                              | P6KE36A      | P6KE36CA  |
| P6KE39                                   | P6KE39C   | 31.6                      | 35.1                             | 42.9  | 1            | 1                                 | 1    | 56.4                            | 10.6                            | P6KE39       | P6KE39C   |
| P6KE39A                                  | P6KE39CA  | 33.3                      | 37.1                             | 41    | 1            | 1                                 | 1    | 53.9                            | 11.2                            | P6KE39A      | P6KE39CA  |
| P6KE43                                   | P6KE43C   | 34.8                      | 38.7                             | 47.3  | 1            | 1                                 | 1    | 61.9                            | 9.6                             | P6KE43       | P6KE43C   |
| P6KE43A                                  | P6KE43CA  | 36.8                      | 40.9                             | 45.2  | 1            | 1                                 | 1    | 59.3                            | 10.1                            | P6KE43A      | P6KE43CA  |
| P6KE47                                   | P6KE47C   | 38.1                      | 42.3                             | 51.7  | 1            | 1                                 | 1    | 67.8                            | 8.9                             | P6KE47       | P6KE47C   |
| P6KE47A                                  | P6KE47CA  | 40.2                      | 44.7                             | 49.4  | 1            | 1                                 | 1    | 64.8                            | 9.3                             | P6KE47A      | P6KE47CA  |



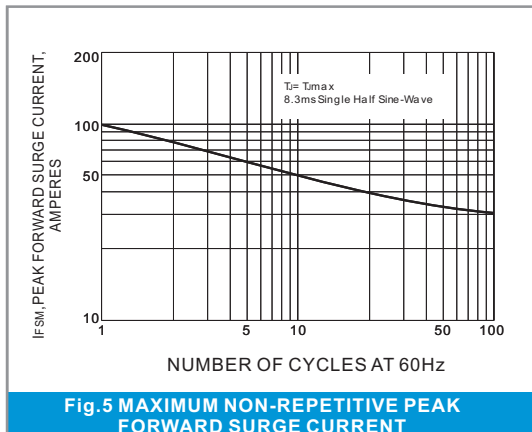
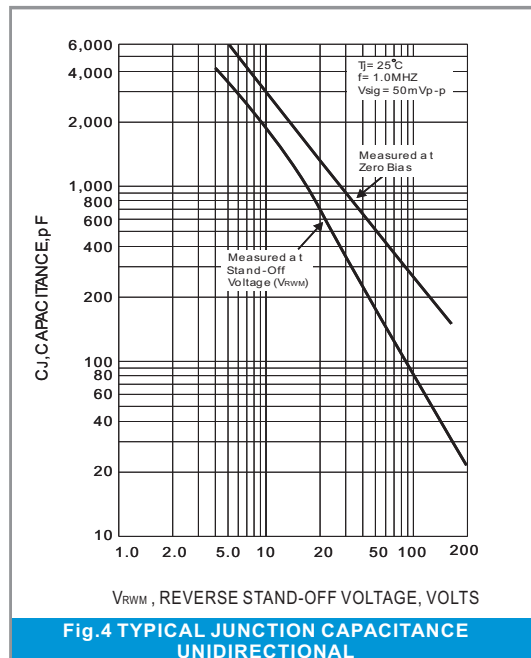
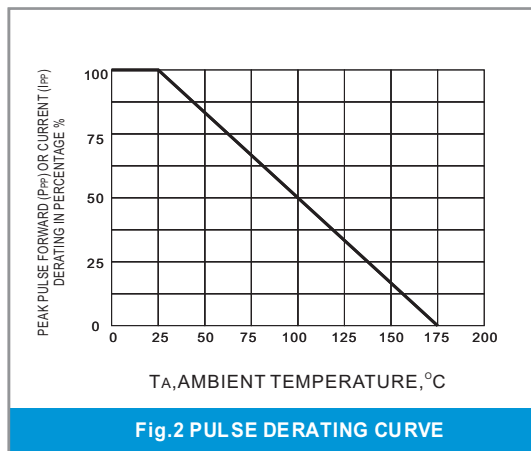
# P6KE SERIES

| Part Number                              |           | Reverse Stand-off Voltage | Breakdown Voltage |      | Test Current | Reverse Leakage |         | Max. Clamp Voltage<br>10/1000 $\mu$ s | Peak Pulse Current<br>10/1000 $\mu$ s | Marking Code |           |
|--|-----------|---------------------------|-------------------|------|--------------|-----------------|---------|---------------------------------------|---------------------------------------|--------------|-----------|
|  |           |                           | $V_{BR} @ I_T$    |      |              | $I_R @ V_{RWM}$ |         |                                       |                                       |              |           |
| UNI                                      | BI        | V                         | Min.              | Max. | mA           | UNI             | BI      | V                                     | A                                     | UNI          | BI        |
|  |           |                           | V                 | V    |              | $\mu$ A         | $\mu$ A |                                       |                                       |              |           |
| <b>600W Transient Voltage Suppressor</b> |           |                           |                   |      |              |                 |         |                                       |                                       |              |           |
| P6KE51                                   | P6KE51C   | 41.3                      | 45.9              | 56.1 | 1            | 1               | 1       | 73.5                                  | 8.2                                   | P6KE51       | P6KE51C   |
| P6KE51A                                  | P6KE51CA  | 43.6                      | 48.5              | 53.6 | 1            | 1               | 1       | 70.1                                  | 8.6                                   | P6KE51A      | P6KE51CA  |
| P6KE56                                   | P6KE56C   | 45.6                      | 50.4              | 61.6 | 1            | 1               | 1       | 80.5                                  | 7.4                                   | P6KE56       | P6KE56C   |
| P6KE56A                                  | P6KE56CA  | 47.8                      | 53.2              | 58.8 | 1            | 1               | 1       | 77                                    | 7.8                                   | P6KE56A      | P6KE56CA  |
| P6KE62                                   | P6KE62C   | 50.2                      | 55.8              | 68.2 | 1            | 1               | 1       | 89                                    | 6.8                                   | P6KE62       | P6KE62C   |
| P6KE62A                                  | P6KE62CA  | 53                        | 58.9              | 65.1 | 1            | 1               | 1       | 85                                    | 7.1                                   | P6KE62A      | P6KE62CA  |
| P6KE68                                   | P6KE68C   | 55.1                      | 61.2              | 74.8 | 1            | 1               | 1       | 98                                    | 6.1                                   | P6KE68       | P6KE68C   |
| P6KE68A                                  | P6KE68CA  | 58.1                      | 64.6              | 71.4 | 1            | 1               | 1       | 92                                    | 6.5                                   | P6KE68A      | P6KE68CA  |
| P6KE75                                   | P6KE75C   | 60.7                      | 67.5              | 82.5 | 1            | 1               | 1       | 108                                   | 5.5                                   | P6KE75       | P6KE75C   |
| P6KE75A                                  | P6KE75CA  | 64.1                      | 71.3              | 78.8 | 1            | 1               | 1       | 103                                   | 5.8                                   | P6KE75A      | P6KE75CA  |
| P6KE82                                   | P6KE82C   | 66.4                      | 73.8              | 90.2 | 1            | 1               | 1       | 118                                   | 5.1                                   | P6KE82       | P6KE82C   |
| P6KE82A                                  | P6KE82CA  | 70.1                      | 77.9              | 86.1 | 1            | 1               | 1       | 113                                   | 5.3                                   | P6KE82A      | P6KE82CA  |
| P6KE91                                   | P6KE91C   | 73.7                      | 81.9              | 100  | 1            | 1               | 1       | 131                                   | 4.5                                   | P6KE91       | P6KE91C   |
| P6KE91A                                  | P6KE91CA  | 77.8                      | 86.5              | 95.5 | 1            | 1               | 1       | 125                                   | 4.8                                   | P6KE91A      | P6KE91CA  |
| P6KE100                                  | P6KE100C  | 81                        | 90                | 110  | 1            | 1               | 1       | 144                                   | 4.2                                   | P6KE100      | P6KE100C  |
| P6KE100A                                 | P6KE100CA | 85.5                      | 95                | 105  | 1            | 1               | 1       | 137                                   | 4.4                                   | P6KE100A     | P6KE100CA |
| P6KE110                                  | P6KE110C  | 89.2                      | 99                | 121  | 1            | 1               | 1       | 158                                   | 3.8                                   | P6KE110      | P6KE110C  |
| P6KE110A                                 | P6KE110CA | 94                        | 105               | 116  | 1            | 1               | 1       | 152                                   | 4                                     | P6KE110A     | P6KE110CA |
| P6KE120                                  | P6KE120C  | 97.2                      | 108               | 132  | 1            | 1               | 1       | 173                                   | 3.5                                   | P6KE120      | P6KE120C  |
| P6KE120A                                 | P6KE120CA | 102                       | 114               | 126  | 1            | 1               | 1       | 165                                   | 3.6                                   | P6KE120A     | P6KE120CA |
| P6KE130                                  | P6KE130C  | 105                       | 117               | 143  | 1            | 1               | 1       | 187                                   | 3.2                                   | P6KE130      | P6KE130C  |
| P6KE130A                                 | P6KE130CA | 111                       | 124               | 137  | 1            | 1               | 1       | 179                                   | 3.3                                   | P6KE130A     | P6KE130CA |
| P6KE150                                  | P6KE150C  | 121                       | 135               | 165  | 1            | 1               | 1       | 215                                   | 2.8                                   | P6KE150      | P6KE150C  |
| P6KE150A                                 | P6KE150CA | 128                       | 143               | 158  | 1            | 1               | 1       | 207                                   | 2.9                                   | P6KE150A     | P6KE150CA |
| P6KE160                                  | P6KE160C  | 130                       | 144               | 176  | 1            | 1               | 1       | 230                                   | 2.6                                   | P6KE160      | P6KE160C  |
| P6KE160A                                 | P6KE160CA | 136                       | 152               | 168  | 1            | 1               | 1       | 219                                   | 2.7                                   | P6KE160A     | P6KE160CA |
| P6KE170                                  | P6KE170C  | 138                       | 153               | 187  | 1            | 1               | 1       | 244                                   | 2.5                                   | P6KE170      | P6KE170C  |
| P6KE170A                                 | P6KE170CA | 145                       | 162               | 179  | 1            | 1               | 1       | 234                                   | 2.6                                   | P6KE170A     | P6KE170CA |
| P6KE180                                  | P6KE180C  | 146                       | 162               | 198  | 1            | 1               | 1       | 258                                   | 2.3                                   | P6KE180      | P6KE180C  |
| P6KE180A                                 | P6KE180CA | 154                       | 171               | 189  | 1            | 1               | 1       | 246                                   | 2.4                                   | P6KE180A     | P6KE180CA |
| P6KE200                                  | P6KE200C  | 162                       | 180               | 220  | 1            | 1               | 1       | 287                                   | 2.1                                   | P6KE200      | P6KE200C  |
| P6KE200A                                 | P6KE200CA | 171                       | 190               | 210  | 1            | 1               | 1       | 274                                   | 2.2                                   | P6KE200A     | P6KE200CA |
| P6KE220                                  | P6KE220C  | 175                       | 198               | 242  | 1            | 1               | 1       | 344                                   | 1.8                                   | P6KE220      | P6KE220C  |
| P6KE220A                                 | P6KE220CA | 185                       | 209               | 231  | 1            | 1               | 1       | 328                                   | 1.9                                   | P6KE220A     | P6KE220CA |
| P6KE250                                  | P6KE250C  | 202                       | 225               | 275  | 1            | 1               | 1       | 360                                   | 1.7                                   | P6KE250      | P6KE250C  |
| P6KE250A                                 | P6KE250CA | 214                       | 237               | 263  | 1            | 1               | 1       | 344                                   | 1.8                                   | P6KE250A     | P6KE250CA |
| P6KE300                                  | P6KE300C  | 243                       | 270               | 330  | 1            | 1               | 1       | 430                                   | 1.4                                   | P6KE300      | P6KE300C  |
| P6KE300A                                 | P6KE300CA | 256                       | 285               | 315  | 1            | 1               | 1       | 414                                   | 1.5                                   | P6KE300A     | P6KE300CA |
| P6KE350                                  | P6KE350C  | 284                       | 315               | 385  | 1            | 1               | 1       | 504                                   | 1.2                                   | P6KE350      | P6KE350C  |
| P6KE350A                                 | P6KE350CA | 300                       | 332               | 368  | 1            | 1               | 1       | 482                                   | 1.3                                   | P6KE350A     | P6KE350CA |
| P6KE400                                  | P6KE400C  | 324                       | 360               | 440  | 1            | 1               | 1       | 574                                   | 1.05                                  | P6KE400      | P6KE400C  |
| P6KE400A                                 | P6KE400CA | 342                       | 380               | 420  | 1            | 1               | 1       | 548                                   | 1.1                                   | P6KE400A     | P6KE400CA |
| P6KE440                                  | P6KE440C  | 356                       | 396               | 484  | 1            | 1               | 1       | 631                                   | 0.99                                  | P6KE440      | P6KE440C  |
| P6KE440A                                 | P6KE440CA | 376                       | 418               | 462  | 1            | 1               | 1       | 600                                   | 1.04                                  | P6KE440A     | P6KE440CA |



# P6KE SERIES

| Part Number                              |           | Reverse Stand-off Voltage | Breakdown Voltage |       | Test Current | Reverse Leakage |         | Max. Clamp Voltage<br>10/1000 $\mu$ s | Peak Pulse Current<br>10/1000 $\mu$ s | Marking Code |           |
|--|-----------|---------------------------|-------------------|-------|--------------|-----------------|---------|---------------------------------------|---------------------------------------|--------------|-----------|
|  |           |                           | $V_{BR} @ I_T$    |       |              | $I_R @ V_{RWM}$ |         |                                       |                                       |              |           |
| UNI                                      | BI        | V                         | Min.              | Max.  | mA           | $\mu$ A         | $\mu$ A | V                                     | A                                     | UNI          | BI        |
|  |           |                           | V                 | V     |              | $\mu$ A         | $\mu$ A |                                       |                                       |              |           |
| <b>600W Transient Voltage Suppressor</b> |           |                           |                   |       |              |                 |         |                                       |                                       |              |           |
| P6KE480                                  | P6KE480C  | 389                       | 432               | 528   | 1            | 1               | 1       | 691                                   | 0.87                                  | P6KE480      | P6KE480C  |
| P6KE480A                                 | P6KE480CA | 408                       | 456               | 504   | 1            | 1               | 1       | 658                                   | 0.91                                  | P6KE480A     | P6KE480CA |
| P6KE550                                  | P6KE550C  | 445.5                     | 495               | 605   | 1            | 1               | 1       | 792                                   | 0.76                                  | P6KE550      | P6KE550C  |
| P6KE550A                                 | P6KE550CA | 467.5                     | 522.5             | 577.5 | 1            | 1               | 1       | 753.5                                 | 0.8                                   | P6KE550A     | P6KE550CA |





## P6KE SERIES

### Part No.\_packing code\_Version

P6KE6.8\_AY\_00001  
 P6KE6.8\_AY\_10001  
 P6KE6.8\_B0\_00001  
 P6KE6.8\_B0\_10001  
 P6KE6.8\_R2\_00001  
 P6KE6.8\_R2\_10001

For example :

**RB500V-40\_R2\_00001**



| Packing Code <b>XX</b>               |                      |                                  |                      | Version Code <b>XXXXX</b> |                      |                                       |
|--------------------------------------|----------------------|----------------------------------|----------------------|---------------------------|----------------------|---------------------------------------|
| Packing type                         | 1 <sup>st</sup> Code | Packing size code                | 2 <sup>nd</sup> Code | HF or RoHS                | 1 <sup>st</sup> Code | 2 <sup>nd</sup> ~5 <sup>th</sup> Code |
| Tape and Ammunition Box (T/B)        | <b>A</b>             | N/A                              | <b>0</b>             | <b>HF</b>                 | <b>0</b>             | serial number                         |
| Tape and Reel (T/R)                  | <b>R</b>             | 7"                               | <b>1</b>             | <b>RoHS</b>               | <b>1</b>             | serial number                         |
| Bulk Packing (B/P)                   | <b>B</b>             | 13"                              | <b>2</b>             |                           |                      |                                       |
| Tube Packing (T/P)                   | <b>T</b>             | 26mm                             | <b>X</b>             |                           |                      |                                       |
| Tape and Reel (Right Oriented) (TRR) | <b>S</b>             | 52mm                             | <b>Y</b>             |                           |                      |                                       |
| Tape and Reel (Left Oriented) (TRL)  | <b>L</b>             | PANASERT T/B CATHODE UP (PBCU)   | <b>U</b>             |                           |                      |                                       |
| FORMING                              | <b>F</b>             | PANASERT T/B CATHODE DOWN (PBCD) | <b>D</b>             |                           |                      |                                       |