

# ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

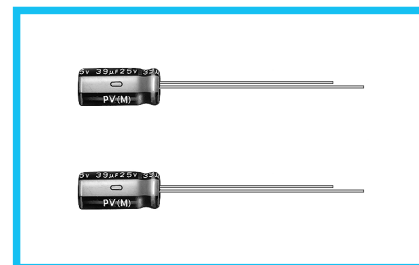
**PV** series

Miniature Sized, Low Impedance, High Reliability



- Miniature sized low impedance series withstanding 5000 hours load life at +105°C.
- Compliant to the RoHS directive (2011/65/EU).

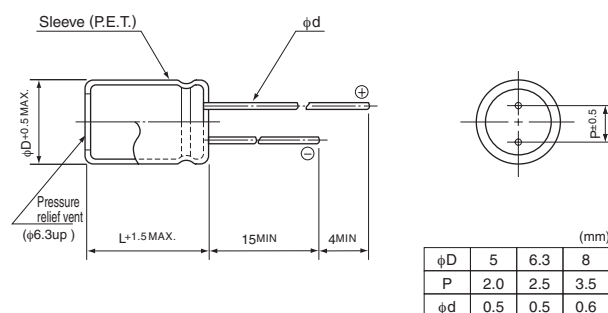
PJ Long Life → **PV**



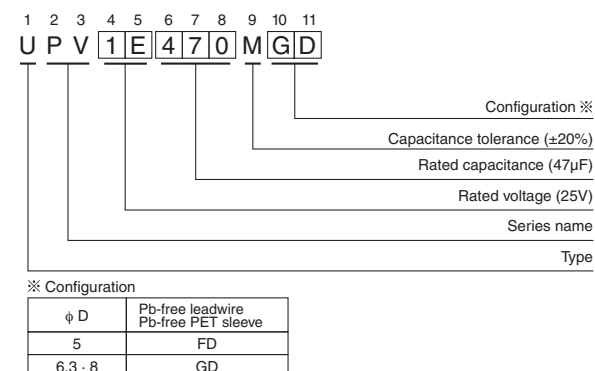
## Specifications

| Item                          | Performance Characteristics                                                                                                                                                                                                                |                 |      |      |                    |      |                                                   |    |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------|------|--------------------|------|---------------------------------------------------|----|
| Category Temperature Range    | -55 to +105°C                                                                                                                                                                                                                              |                 |      |      |                    |      |                                                   |    |
| Rated Voltage Range           | 6.3 to 50V                                                                                                                                                                                                                                 |                 |      |      |                    |      |                                                   |    |
| Rated Capacitance Range       | 0.47 to 390μF                                                                                                                                                                                                                              |                 |      |      |                    |      |                                                   |    |
| Capacitance Tolerance         | ±20% at 120Hz, 20°C                                                                                                                                                                                                                        |                 |      |      |                    |      |                                                   |    |
| Leakage Current               | After 1 minute's application of rated voltage at 20°C, leakage current is not more than 0.03CV or 4 (μA), whichever is greater.                                                                                                            |                 |      |      |                    |      |                                                   |    |
| Tangent of loss angle (tan δ) | Measurement frequency : 120Hz at 20°C                                                                                                                                                                                                      |                 |      |      |                    |      |                                                   |    |
|                               | Rated voltage (V)                                                                                                                                                                                                                          | 6.3             | 10   | 16   | 25                 | 35   | 50                                                |    |
|                               | tan δ (MAX.)                                                                                                                                                                                                                               | 0.22            | 0.19 | 0.16 | 0.14               | 0.12 | 0.10                                              |    |
| Stability at Low Temperature  | Measurement frequency : 120Hz                                                                                                                                                                                                              |                 |      |      |                    |      |                                                   |    |
|                               | Rated voltage (V)                                                                                                                                                                                                                          |                 | 6.3  | 10   | 16                 | 25   | 35                                                | 50 |
|                               | Impedance ratio ZT / Z20 (MAX.)                                                                                                                                                                                                            | Z-55°C / Z+20°C | 5    | 5    | 4                  | 3    | 3                                                 | 2  |
| Endurance                     | The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 5000 hours at 105°C.                                                                                       |                 |      |      | Capacitance change |      | Within ±30% of the initial capacitance value      |    |
|                               |                                                                                                                                                                                                                                            |                 |      |      | tan δ              |      | 300% or less than the initial specified value     |    |
|                               |                                                                                                                                                                                                                                            |                 |      |      | Leakage current    |      | Less than or equal to the initial specified value |    |
| Shelf Life                    | After storing the capacitors under no load at 105°C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed at right. |                 |      |      | Capacitance change |      | Within ±20% of the initial capacitance value      |    |
|                               |                                                                                                                                                                                                                                            |                 |      |      | tan δ              |      | 150% or less than the initial specified value     |    |
|                               |                                                                                                                                                                                                                                            |                 |      |      | Leakage current    |      | Less than or equal to the initial specified value |    |
| Marking                       | Printed with white color letter on dark brown sleeve.                                                                                                                                                                                      |                 |      |      |                    |      |                                                   |    |

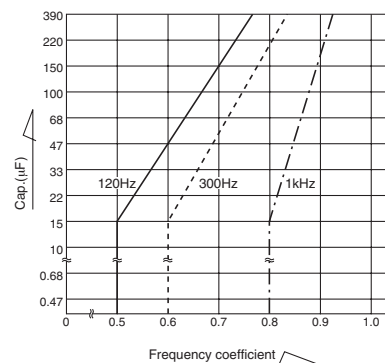
## Radial Lead Type



Type numbering system (Example : 25V 47μF)



- Frequency coefficient of rated ripple current (10kHz to 200kHz=1)



Please refer to page 20, 21, 22 about the formed or taped product spec.  
Please refer to page 4 for the minimum order quantity.

- Dimension table in next page.

CAT.8100D

## ■ Dimensions

| V(Code)<br><br>Cap. (μF)<br><br>Code |     | 6.3 (0J)                     |                                      |                                         | 10 (1A)                      |                                      |                                         | 16 (1C)                      |                                      |                                         | 25 (1E)                      |                                      |                                         |
|--------------------------------------|-----|------------------------------|--------------------------------------|-----------------------------------------|------------------------------|--------------------------------------|-----------------------------------------|------------------------------|--------------------------------------|-----------------------------------------|------------------------------|--------------------------------------|-----------------------------------------|
|                                      |     | Case size<br>φ D × L<br>(mm) | Impedance<br>(Ω) MAX.<br>20°C/100kHz | Rated ripple<br>(mArms)<br>105°C/100kHz | Case size<br>φ D × L<br>(mm) | Impedance<br>(Ω) MAX.<br>20°C/100kHz | Rated ripple<br>(mArms)<br>105°C/100kHz | Case size<br>φ D × L<br>(mm) | Impedance<br>(Ω) MAX.<br>20°C/100kHz | Rated ripple<br>(mArms)<br>105°C/100kHz | Case size<br>φ D × L<br>(mm) | Impedance<br>(Ω) MAX.<br>20°C/100kHz | Rated ripple<br>(mArms)<br>105°C/100kHz |
|                                      |     |                              |                                      |                                         |                              |                                      |                                         |                              |                                      |                                         |                              |                                      |                                         |
| 33                                   | 330 |                              |                                      |                                         |                              |                                      |                                         |                              |                                      |                                         | 5 × 11                       | 1.40                                 | 155                                     |
| 39                                   | 390 |                              |                                      |                                         |                              |                                      |                                         |                              |                                      |                                         | 5 × 11                       | 1.10                                 | 175                                     |
| 47                                   | 470 |                              |                                      |                                         |                              |                                      |                                         | 5 × 11                       | 1.40                                 | 155                                     | 6.3 × 11                     | 0.94                                 | 210                                     |
| 56                                   | 560 |                              |                                      |                                         |                              |                                      |                                         | 5 × 11                       | 1.10                                 | 175                                     | 6.3 × 11                     | 0.75                                 | 235                                     |
| 68                                   | 680 |                              |                                      |                                         | 5 × 11                       | 1.40                                 | 155                                     | 6.3 × 11                     | 0.85                                 | 220                                     | 6.3 × 11                     | 0.61                                 | 260                                     |
| 82                                   | 820 |                              |                                      |                                         | 5 × 11                       | 1.10                                 | 175                                     | 6.3 × 11                     | 0.71                                 | 240                                     | 6.3 × 11                     | 0.51                                 | 285                                     |
| 100                                  | 101 | 5 × 11                       | 1.50                                 | 150                                     | 6.3 × 11                     | 0.94                                 | 210                                     | 6.3 × 11                     | 0.60                                 | 265                                     | 8 × 11.5                     | 0.41                                 | 370                                     |
| 120                                  | 121 | 5 × 11                       | 1.10                                 | 175                                     | 6.3 × 11                     | 0.75                                 | 235                                     | 6.3 × 11                     | 0.49                                 | 290                                     | 8 × 11.5                     | 0.34                                 | 405                                     |
| 150                                  | 151 | 6.3 × 11                     | 0.83                                 | 225                                     | 6.3 × 11                     | 0.60                                 | 265                                     | 8 × 11.5                     | 0.39                                 | 375                                     | 8 × 11.5                     | 0.27                                 | 460                                     |
| 180                                  | 181 | 6.3 × 11                     | 0.66                                 | 250                                     | 6.3 × 11                     | 0.49                                 | 290                                     | 8 × 11.5                     | 0.34                                 | 405                                     |                              |                                      |                                         |
| 220                                  | 221 | 6.3 × 11                     | 0.51                                 | 285                                     | 8 × 11.5                     | 0.41                                 | 370                                     | 8 × 11.5                     | 0.27                                 | 460                                     |                              |                                      |                                         |
| 270                                  | 271 | 8 × 11.5                     | 0.41                                 | 370                                     | 8 × 11.5                     | 0.34                                 | 405                                     |                              |                                      |                                         |                              |                                      |                                         |
| 330                                  | 331 | 8 × 11.5                     | 0.34                                 | 405                                     | 8 × 11.5                     | 0.27                                 | 460                                     |                              |                                      |                                         |                              |                                      |                                         |
| 390                                  | 391 | 8 × 11.5                     | 0.29                                 | 445                                     |                              |                                      |                                         |                              |                                      |                                         |                              |                                      |                                         |

| V(Code)<br><br>Cap.(μF)<br><br>Code |     | Item     | 35 (1V)                      |                                      |                                         | 50 (1H)                      |                                      |                                         |
|-------------------------------------|-----|----------|------------------------------|--------------------------------------|-----------------------------------------|------------------------------|--------------------------------------|-----------------------------------------|
|                                     |     |          | Case size<br>φ D × L<br>(mm) | Impedance<br>(Ω) MAX.<br>20°C/100kHz | Rated ripple<br>(mArms)<br>105°C/100kHz | Case size<br>φ D × L<br>(mm) | Impedance<br>(Ω) MAX.<br>20°C/100kHz | Rated ripple<br>(mArms)<br>105°C/100kHz |
| 0.47                                | R47 |          |                              |                                      |                                         | 5 × 11                       | 32.0                                 | 22                                      |
| 0.68                                | R68 |          |                              |                                      |                                         | 5 × 11                       | 22.0                                 | 28                                      |
| 1                                   | 010 |          |                              |                                      |                                         | 5 × 11                       | 15.0                                 | 36                                      |
| 1.5                                 | 1R5 |          |                              |                                      |                                         | 5 × 11                       | 11.0                                 | 45                                      |
| 2.2                                 | 2R2 |          |                              |                                      |                                         | 5 × 11                       | 7.00                                 | 54                                      |
| 3.3                                 | 3R3 |          |                              |                                      |                                         | 5 × 11                       | 4.60                                 | 66                                      |
| 4.7                                 | 4R7 |          |                              |                                      |                                         | 5 × 11                       | 3.10                                 | 81                                      |
| 6.8                                 | 6R8 |          |                              |                                      |                                         | 5 × 11                       | 2.50                                 | 91                                      |
| 10                                  | 100 |          |                              |                                      |                                         | 5 × 11                       | 2.00                                 | 115                                     |
| 12                                  | 120 |          |                              |                                      |                                         | 5 × 11                       | 1.70                                 | 125                                     |
| 15                                  | 150 |          |                              |                                      |                                         | 5 × 11                       | 1.30                                 | 145                                     |
| 18                                  | 180 |          |                              |                                      |                                         | 5 × 11                       | 1.10                                 | 155                                     |
| 22                                  | 220 | 5 × 11   | 1.30                         | 160                                  | 6.3 × 11                                | 0.91                         | 195                                  |                                         |
| 27                                  | 270 | 5 × 11   | 1.00                         | 180                                  | 6.3 × 11                                | 0.74                         | 215                                  |                                         |
| 33                                  | 330 | 6.3 × 11 | 0.83                         | 225                                  | 6.3 × 11                                | 0.60                         | 240                                  |                                         |
| 39                                  | 390 | 6.3 × 11 | 0.70                         | 245                                  | 6.3 × 11                                | 0.50                         | 260                                  |                                         |
| 47                                  | 470 | 6.3 × 11 | 0.58                         | 270                                  | 8 × 11.5                                | 0.42                         | 330                                  |                                         |
| 56                                  | 560 | 6.3 × 11 | 0.48                         | 295                                  | 8 × 11.5                                | 0.35                         | 360                                  |                                         |
| 68                                  | 680 | 8 × 11.5 | 0.41                         | 370                                  | 8 × 11.5                                | 0.28                         | 410                                  |                                         |
| 82                                  | 820 | 8 × 11.5 | 0.32                         | 415                                  |                                         |                              |                                      |                                         |
| 100                                 | 101 | 8 × 11.5 | 0.27                         | 460                                  |                                         |                              |                                      |                                         |