

**PFV SERIES**
**NEW**
**Load Life : 125°C 4000 hours (Hybrid Type), Chip Type**
**◆FEATURES**

- High Voltage (∼63Vdc), Ultra Low ESR, High Ripple Current, Miniaturized.
- Lead free reflow soldering is available
- RoHS compliance.


**◆SPECIFICATIONS**

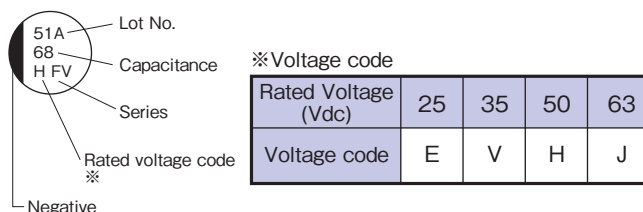
| Items                                                | Characteristics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                    |                                   |                    |                                                    |        |                                                    |                 |                                            |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------------------------|--------------------|----------------------------------------------------|--------|----------------------------------------------------|-----------------|--------------------------------------------|
| Category Temperature Range                           | −55∼+125°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                    |                                   |                    |                                                    |        |                                                    |                 |                                            |
| Rated Voltage Range                                  | 25∼63Vdc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |                                   |                    |                                                    |        |                                                    |                 |                                            |
| Capacitance Tolerance                                | ±20% (20°C, 120Hz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                    |                                   |                    |                                                    |        |                                                    |                 |                                            |
| Leakage Current(MAX)                                 | The value is shown in "STANDARD SIZE" table (After 2 minutes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                                   |                    |                                                    |        |                                                    |                 |                                            |
| Dissipation Factor(MAX) (tanδ)                       | The value is shown in "STANDARD SIZE" table (20°C, 120Hz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                    |                                   |                    |                                                    |        |                                                    |                 |                                            |
| Endurance                                            | <p>After applying rated voltage with rated ripple current for 4000 hours at 125°C, the capacitors shall meet the following requirements.</p> <table border="1"> <tr> <td>Capacitance Change</td><td>Within ±30% of the initial value.</td></tr> <tr> <td>Dissipation Factor</td><td>Not more than 200% of the initial specified value.</td></tr> <tr> <td>E.S.R.</td><td>Not more than 200% of the initial specified value.</td></tr> <tr> <td>Leakage Current</td><td>Not more than the initial specified value.</td></tr> </table> | Capacitance Change | Within ±30% of the initial value. | Dissipation Factor | Not more than 200% of the initial specified value. | E.S.R. | Not more than 200% of the initial specified value. | Leakage Current | Not more than the initial specified value. |
| Capacitance Change                                   | Within ±30% of the initial value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                    |                                   |                    |                                                    |        |                                                    |                 |                                            |
| Dissipation Factor                                   | Not more than 200% of the initial specified value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                    |                                   |                    |                                                    |        |                                                    |                 |                                            |
| E.S.R.                                               | Not more than 200% of the initial specified value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                    |                                   |                    |                                                    |        |                                                    |                 |                                            |
| Leakage Current                                      | Not more than the initial specified value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                    |                                   |                    |                                                    |        |                                                    |                 |                                            |
| Biased Humidity                                      | <p>After applying rated voltage for 2000 hours at 85°C and humidity of 85%, the capacitors shall meet the following requirements.</p> <table border="1"> <tr> <td>Capacitance Change</td><td>Within ±30% of the initial value.</td></tr> <tr> <td>Dissipation Factor</td><td>Not more than 200% of the initial specified value.</td></tr> <tr> <td>E.S.R.</td><td>Not more than 200% of the initial specified value.</td></tr> <tr> <td>Leakage Current</td><td>Not more than the initial specified value.</td></tr> </table>        | Capacitance Change | Within ±30% of the initial value. | Dissipation Factor | Not more than 200% of the initial specified value. | E.S.R. | Not more than 200% of the initial specified value. | Leakage Current | Not more than the initial specified value. |
| Capacitance Change                                   | Within ±30% of the initial value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                    |                                   |                    |                                                    |        |                                                    |                 |                                            |
| Dissipation Factor                                   | Not more than 200% of the initial specified value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                    |                                   |                    |                                                    |        |                                                    |                 |                                            |
| E.S.R.                                               | Not more than 200% of the initial specified value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                    |                                   |                    |                                                    |        |                                                    |                 |                                            |
| Leakage Current                                      | Not more than the initial specified value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                    |                                   |                    |                                                    |        |                                                    |                 |                                            |
| Low Temperature Characteristics Impedance Ratio(MAX) | $Z(-55^{\circ}\text{C})/Z(+20^{\circ}\text{C}) \leq 2.0$ (100kHz)<br>$Z(-25^{\circ}\text{C})/Z(+20^{\circ}\text{C}) \leq 1.5$                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                                   |                    |                                                    |        |                                                    |                 |                                            |

**◆PART NUMBER**

□□□    **PFV**    □□□□□    **M**    □□□    **DxL**  
 Rated Voltage    Series    Capacitance    Capacitance Tolerance    Option    Case Size

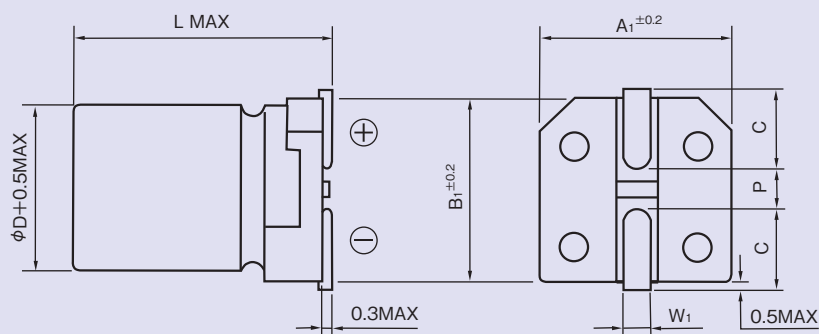
**◆MULTIPLIER FOR RIPPLE CURRENT**

| Frequency (Hz) | 120  | 1k   | 10k  | 100k≤ |
|----------------|------|------|------|-------|
| Coefficient    | 0.05 | 0.30 | 0.70 | 1.00  |

**◆MARKING**


**◆DIMENSIONS**

(mm)



| $\phi D$ | L    | A1   | B1   | C   | W1      | P   |
|----------|------|------|------|-----|---------|-----|
| 6.3      | 6.1  | 6.6  | 6.6  | 2.7 | 0.5~0.8 | 1.8 |
| 6.3      | 8    | 6.6  | 6.6  | 2.7 | 0.5~0.8 | 1.8 |
| 8        | 10.5 | 8.3  | 8.3  | 2.9 | 0.8~1.1 | 3.1 |
| 10       | 10.5 | 10.3 | 10.3 | 3.2 | 0.8~1.1 | 4.5 |

※Vibration proof package is also available for  $\phi 8$  and  $\phi 10$ . For details, please refer to chip aluminum electrolytic capacitors section.

**◆STANDARD SIZE**

| Rated Voltage (Vdc) | Capacitance ( $\mu\text{F}$ ) | Size $\phi D \times L$ (mm) | ( $\tan \delta$ ) (120Hz, 20°C) | Leakage Current ( $\mu\text{A}/2\text{min}$ ) | E.S.R. ( $\text{m}\Omega$ max/20°C, 100kHz) | Rated Ripple Current (mA rms/125°C, 100kHz) |
|---------------------|-------------------------------|-----------------------------|---------------------------------|-----------------------------------------------|---------------------------------------------|---------------------------------------------|
| 25                  | 56                            | 6.3×6.1                     | 0.14                            | 14.0                                          | 50                                          | 900                                         |
|                     | 100                           | 6.3×8                       | 0.14                            | 25.0                                          | 30                                          | 1400                                        |
|                     | 220                           | 8×10.5                      | 0.14                            | 55.0                                          | 27                                          | 1600                                        |
|                     | 330                           | 10×10.5                     | 0.14                            | 82.5                                          | 20                                          | 2000                                        |
| 35                  | 47                            | 6.3×6.1                     | 0.12                            | 16.4                                          | 60                                          | 900                                         |
|                     | 68                            | 6.3×8                       | 0.12                            | 23.8                                          | 35                                          | 1400                                        |
|                     | 150                           | 8×10.5                      | 0.12                            | 52.5                                          | 27                                          | 1600                                        |
|                     | 270                           | 10×10.5                     | 0.12                            | 94.5                                          | 20                                          | 2000                                        |
| 50                  | 22                            | 6.3×6.1                     | 0.10                            | 11.0                                          | 80                                          | 750                                         |
|                     | 33                            | 6.3×8                       | 0.10                            | 16.5                                          | 40                                          | 1100                                        |
|                     | 68                            | 8×10.5                      | 0.10                            | 34.0                                          | 30                                          | 1250                                        |
|                     | 100                           | 10×10.5                     | 0.10                            | 50.0                                          | 28                                          | 1600                                        |
| 63                  | 10                            | 6.3×6.1                     | 0.08                            | 6.3                                           | 120                                         | 700                                         |
|                     | 22                            | 6.3×8                       | 0.08                            | 13.8                                          | 80                                          | 900                                         |
|                     | 33                            | 8×10.5                      | 0.08                            | 20.8                                          | 40                                          | 1100                                        |
|                     | 56                            | 10×10.5                     | 0.08                            | 35.3                                          | 30                                          | 1400                                        |