

## PFV / PZF series

125°C 4000 時間 (ハイブリッドタイプ)  
Load life : 125°C 4000 hours (Hybrid Type)

AEC-Q200



### ◆規格表/SPECIFICATION

| 項目 Item                                                                  | 特性 Characteristics                                                                                                                                                                                                                                                                                                                                                                                                                               |                               |                                                   |                              |                                                            |               |                                                            |                         |                                             |      |      |      |      |
|--------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------|------------------------------|------------------------------------------------------------|---------------|------------------------------------------------------------|-------------------------|---------------------------------------------|------|------|------|------|
| カテゴリ温度範囲<br>Category Temperature Range                                   | -55～+125℃                                                                                                                                                                                                                                                                                                                                                                                                                                        |                               |                                                   |                              |                                                            |               |                                                            |                         |                                             |      |      |      |      |
| 定格電圧範囲<br>Rated Voltage Range                                            | 25～80Vdc                                                                                                                                                                                                                                                                                                                                                                                                                                         |                               |                                                   |                              |                                                            |               |                                                            |                         |                                             |      |      |      |      |
| 静電容量許容差<br>Capacitance Tolerance                                         | ±20%(20℃, 120Hz)                                                                                                                                                                                                                                                                                                                                                                                                                                 |                               |                                                   |                              |                                                            |               |                                                            |                         |                                             |      |      |      |      |
| 漏れ電流<br>Leakage Current (MAX)                                            | I=0.01CV又は3μAのいずれか大なる値以下(定格電圧印加2分後)<br>I=0.01CV or 3μA whichever is greater. (After 2 minutes)<br>I=漏れ電流(μA) C=静電容量(μF) V=定格電圧(Vdc)<br>Leakage Current Capacitance Rated Voltage                                                                                                                                                                                                                                                                 |                               |                                                   |                              |                                                            |               |                                                            |                         |                                             |      |      |      |      |
| 損失角の正接(tan δ)<br>Dissipation Factor(MAX)                                 | <table><tr><td>定格電圧 (Vdc)<br/>Rated Voltage</td><td>25</td><td>35</td><td>50</td><td>63</td><td>80</td></tr><tr><td>tan δ</td><td>0.14</td><td>0.12</td><td>0.10</td><td>0.09</td><td>0.08</td></tr></table> (20℃, 120Hz)                                                                                                                                                                                                                        | 定格電圧 (Vdc)<br>Rated Voltage   | 25                                                | 35                           | 50                                                         | 63            | 80                                                         | tan δ                   | 0.14                                        | 0.12 | 0.10 | 0.09 | 0.08 |
| 定格電圧 (Vdc)<br>Rated Voltage                                              | 25                                                                                                                                                                                                                                                                                                                                                                                                                                               | 35                            | 50                                                | 63                           | 80                                                         |               |                                                            |                         |                                             |      |      |      |      |
| tan δ                                                                    | 0.14                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.12                          | 0.10                                              | 0.09                         | 0.08                                                       |               |                                                            |                         |                                             |      |      |      |      |
| 耐久性<br>Endurance                                                         | 125℃中で4000時間定格電圧(定格リプル重畳)印加後、下記規格を満足すること。<br>After applying rated voltage with rated ripple current for 4000 hours at 125℃, the capacitors shall meet the following Criteria.                                                                                                                                                                                                                                                                    |                               |                                                   |                              |                                                            |               |                                                            |                         |                                             |      |      |      |      |
| 高温高湿負荷<br>Biased Humidity                                                | 85℃,85%RH中で2000時間定格電圧印加後、下記規格を満足すること。<br>After applying rated voltage for 2000 hours at 85℃ and humidity of 85%, the capacitors shall meet the following Criteria .                                                                                                                                                                                                                                                                              |                               |                                                   |                              |                                                            |               |                                                            |                         |                                             |      |      |      |      |
| 規格<br>Criteria                                                           | <table><tr><td>静電容量変化率<br/>Capacitance Change</td><td>初期値の ±30% 以内<br/>Within ±30% of the initial value.</td></tr><tr><td>損失角の正接<br/>Dissipation Factor</td><td>規格値の 200% 以下<br/>Not more than 200% of the specified value.</td></tr><tr><td>等価直列抵抗<br/>ESR</td><td>規格値の 200% 以下<br/>Not more than 200% of the specified value.</td></tr><tr><td>漏れ電流<br/>Leakage Current</td><td>規格値以下<br/>Not more than the specified value.</td></tr></table> | 静電容量変化率<br>Capacitance Change | 初期値の ±30% 以内<br>Within ±30% of the initial value. | 損失角の正接<br>Dissipation Factor | 規格値の 200% 以下<br>Not more than 200% of the specified value. | 等価直列抵抗<br>ESR | 規格値の 200% 以下<br>Not more than 200% of the specified value. | 漏れ電流<br>Leakage Current | 規格値以下<br>Not more than the specified value. |      |      |      |      |
| 静電容量変化率<br>Capacitance Change                                            | 初期値の ±30% 以内<br>Within ±30% of the initial value.                                                                                                                                                                                                                                                                                                                                                                                                |                               |                                                   |                              |                                                            |               |                                                            |                         |                                             |      |      |      |      |
| 損失角の正接<br>Dissipation Factor                                             | 規格値の 200% 以下<br>Not more than 200% of the specified value.                                                                                                                                                                                                                                                                                                                                                                                       |                               |                                                   |                              |                                                            |               |                                                            |                         |                                             |      |      |      |      |
| 等価直列抵抗<br>ESR                                                            | 規格値の 200% 以下<br>Not more than 200% of the specified value.                                                                                                                                                                                                                                                                                                                                                                                       |                               |                                                   |                              |                                                            |               |                                                            |                         |                                             |      |      |      |      |
| 漏れ電流<br>Leakage Current                                                  | 規格値以下<br>Not more than the specified value.                                                                                                                                                                                                                                                                                                                                                                                                      |                               |                                                   |                              |                                                            |               |                                                            |                         |                                             |      |      |      |      |
| 低温特性<br>Low Temperature Stability<br>(インピーダンス比)<br>Impedance Ratio (MAX) | $Z(-55^{\circ}\text{C})/Z(+20^{\circ}\text{C}) \leq 2.0$ (100kHz)<br>$Z(-25^{\circ}\text{C})/Z(+20^{\circ}\text{C}) \leq 1.5$                                                                                                                                                                                                                                                                                                                    |                               |                                                   |                              |                                                            |               |                                                            |                         |                                             |      |      |      |      |

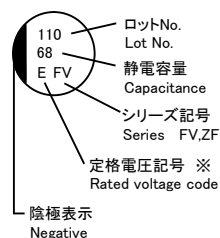
### ◆呼称方法/PART NUMBER

|                       |                 |                     |                                  |               |                         |                     |
|-----------------------|-----------------|---------------------|----------------------------------|---------------|-------------------------|---------------------|
| □□□                   | PFV/PZF         | □□□□□               | M                                | □□□           | □□                      | D x L               |
| 定格電圧<br>Rated Voltage | シリーズ名<br>Series | 静電容量<br>Capacitance | 静電容量許容差<br>Capacitance Tolerance | 副記号<br>Option | リード加工記号<br>Lead Forming | ケースサイズ<br>Case Size |

### ◆リプル電流補正係数/ MULTIPLIER FOR RIPPLE CURRENT

|                       |               |                |               |
|-----------------------|---------------|----------------|---------------|
| 周波数 (Hz)<br>Frequency | 100 ≤ f < 1k  | 1k ≤ f < 10k   | 10k ≤ f < 20k |
| 係数<br>Coefficient     | 0.05          | 0.30           | 0.70          |
| 周波数 (Hz)<br>Frequency | 20k ≤ f < 50k | 50k ≤ f < 100k | 100k ≤        |
| 係数<br>Coefficient     | 0.80          | 0.90           | 1.00          |

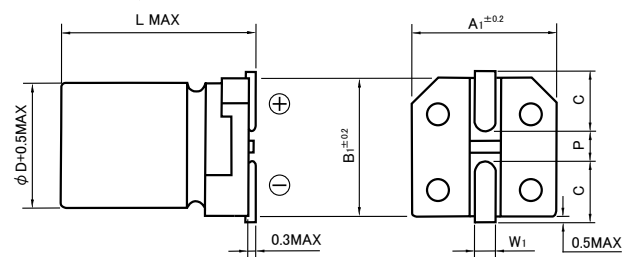
### ◆表示/MARKING



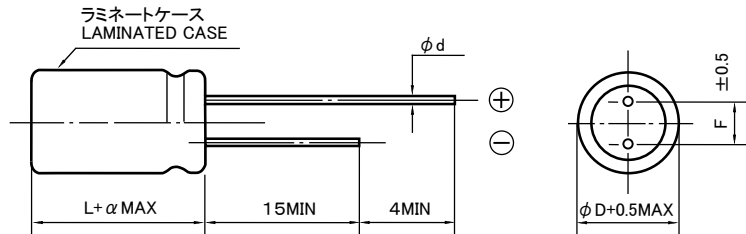
※電圧記号 Voltage code

|                             |    |    |    |    |    |
|-----------------------------|----|----|----|----|----|
| 定格電圧 (Vdc)<br>Rated Voltage | 25 | 35 | 50 | 63 | 80 |
| 電圧記号<br>Voltage code        | E  | V  | H  | J  | K  |

# ◆寸法図/DIMENSIONS



| φD  | 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 |

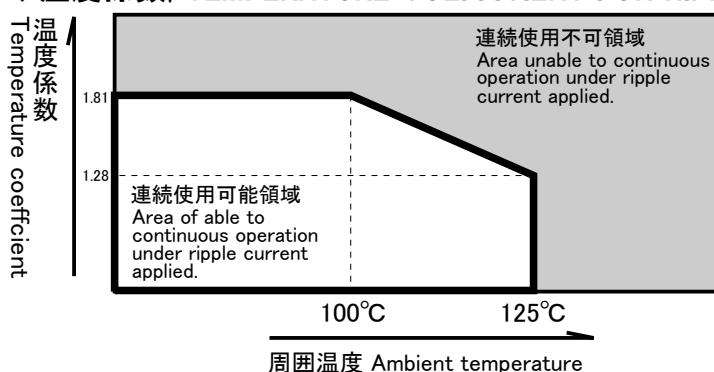


| φD | L | F   | φd  | α   |
|----|---|-----|-----|-----|
| 8  | 9 | 3.5 | 0.6 | 1.5 |
| 10 | 9 | 5.0 | 0.6 | 1.5 |

# ◆標準品一覧表/STANDARD SIZE

| 定格電圧<br>Rated Voltage<br>(Vdc) | 静電容量<br>Capacitance<br>(μF) | 外形寸法 Size<br>φD×L (mm) |                | 等価直列抵抗<br>E.S.R (mΩ/100kHz MAX) |       | 定格リプル電流<br>Rated Ripple Current<br>(mA rms/<br>125°C, 100kHz) | 許容リプル電流<br>Permissible Ripple Current (mA) |               |
|--------------------------------|-----------------------------|------------------------|----------------|---------------------------------|-------|---------------------------------------------------------------|--------------------------------------------|---------------|
|                                |                             | PFV (SMD)              | PZF (LeadWire) | 20°C                            | -40°C |                                                               | 125°C, 100kHz                              | 100°C, 100kHz |
| 25                             | 56                          | 6.3×6.1                | -              | 50                              |       | 1170                                                          | 1490                                       | 2110          |
|                                | 100                         | 6.3×8                  | -              | 30                              |       | 1810                                                          | 2320                                       | 3290          |
|                                | 220                         | 8×10.5                 | 8×9            | 27                              |       | 2070                                                          | 2650                                       | 3760          |
|                                | 330                         | 10×10.5                | 10×9           | 20                              |       | 2590                                                          | 3320                                       | 4700          |
| 35                             | 47                          | 6.3×6.1                | -              | 60                              |       | 1170                                                          | 1490                                       | 2110          |
|                                | 68                          | 6.3×8                  | -              | 35                              |       | 1810                                                          | 2320                                       | 3290          |
|                                | 150                         | 8×10.5                 | 8×9            | 27                              |       | 2070                                                          | 2650                                       | 3760          |
|                                | 270                         | 10×10.5                | 10×9           | 20                              |       | 2590                                                          | 3320                                       | 4700          |
| 50                             | 22                          | 6.3×6.1                | -              | 80                              |       | 970                                                           | 1240                                       | 1760          |
|                                | 33                          | 6.3×8                  | -              | 40                              |       | 1430                                                          | 1820                                       | 2580          |
|                                | 68                          | 8×10.5                 | 8×9            | 30                              |       | 1620                                                          | 2070                                       | 2930          |
|                                | 100                         | 10×10.5                | 10×9           | 28                              |       | 2070                                                          | 2650                                       | 3760          |
| 63                             | 10                          | 6.3×6.1                | -              | 120                             |       | 910                                                           | 1160                                       | 1640          |
|                                | 22                          | 6.3×8                  | -              | 80                              |       | 1170                                                          | 1490                                       | 2110          |
|                                | 33                          | 8×10.5                 | 8×9            | 40                              |       | 1430                                                          | 1820                                       | 2580          |
|                                | 56                          | 10×10.5                | 10×9           | 30                              |       | 1810                                                          | 2320                                       | 3290          |
| 80                             | 22                          | 8×10.5                 | 8×9            | 45                              |       | 1430                                                          | 1820                                       | 2580          |
|                                | 27                          | 8×10.5                 | 8×9            | 45                              |       | 1430                                                          | 1820                                       | 2580          |
|                                | 39                          | 10×10.5                | 10×9           | 35                              |       | 1550                                                          | 1990                                       | 2820          |
|                                | 47                          | 10×10.5                | 10×9           | 35                              |       | 1700                                                          | 2180                                       | 3090          |

# ◆温度係数/TEMPERATURE COEFFICIENT FOR RIPPLE CURRENT



| 温度<br>Temperature<br>T(°C)                  | ≤100 | 105  | 110  | 115  | 125  |
|---------------------------------------------|------|------|------|------|------|
| 係数<br>Coefficient<br>(IMAX/I <sub>r</sub> ) | 1.81 | 1.72 | 1.62 | 1.52 | 1.28 |

温度係数 IMAX/I<sub>0</sub>: 定格リプル電流(I<sub>0</sub>)を超えて連続印加可能なリプル電流最大値(IMAX)を示す係数。寿命推定時間は寿命計算式に従う。

Temperature coefficient IMAX/I<sub>0</sub>: Coefficient indicating the maximum permissible ripple current (IMAX) that can be continuously applied beyond the rated current (I<sub>0</sub>). Estimated lifetime complies with our lifetime calculation formula.