



# 導電性高分子ハイブリッドアルミ電解コンデンサ CONDUCTIVE POLYMER HYBRID ALUMINUM ELECTROLYTIC CAPACITORS

PKV/PZK

## PKV / PZK シリーズ SERIES

125℃ 4,000時間、高容量、高リプル品  
125℃ 4,000 hours, High Capacitance, High Ripple Current

AEC-Q200

RoHS  
Compliance



PKV



PZK

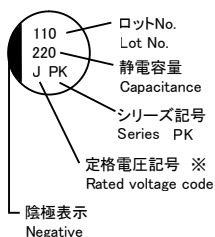
### ◆規格表／SPECIFICATIONS

| 項 目<br>Items                                                                | 特 性<br>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 ∼ 63Vdc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |      |      |      |  |                               |                                                  |    |    |    |                              |                                                           |      |      |      |               |                                                            |  |  |  |                         |                                             |  |  |  |
| 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 minute)<br>I=漏れ電流(μA)                      C=静電容量(μF)                      V=定格電圧(Vdc)<br>I = Leakage Current                      C = Capacitance                      V = 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></tr><tr><td>tan δ</td><td>0.14</td><td>0.12</td><td>0.10</td><td>0.08</td></tr></table> (20℃, 120Hz)                                                                                                                                                                                                                                                                                               |      |      |      |  | 定格電圧(Vdc)<br>Rated Voltage    | 25                                               | 35 | 50 | 63 | tan δ                        | 0.14                                                      | 0.12 | 0.10 | 0.08 |               |                                                            |  |  |  |                         |                                             |  |  |  |
| 定格電圧(Vdc)<br>Rated Voltage                                                  | 25                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 35   | 50   | 63   |  |                               |                                                  |    |    |    |                              |                                                           |      |      |      |               |                                                            |  |  |  |                         |                                             |  |  |  |
| tan δ                                                                       | 0.14                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0.12 | 0.10 | 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、下記の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、下記の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 colspan="4">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 colspan="4">規定値の 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 colspan="4">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 colspan="4">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 | 規定値の 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                                                | 規定値の 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 (−25℃) / Z (+20℃) ≤ 1.5 (100kHz)<br>Z (−55℃) / Z (+20℃) ≤ 2.0                                                                                                                                                                                                                                                                                                                                                                                                                                |      |      |      |  |                               |                                                  |    |    |    |                              |                                                           |      |      |      |               |                                                            |  |  |  |                         |                                             |  |  |  |

### ◆呼称方法／PART NUMBER

|                       |                 |                     |                                  |               |                         |                     |
|-----------------------|-----------------|---------------------|----------------------------------|---------------|-------------------------|---------------------|
| □□□                   | PKV/ PZK        | □□□□□               | M                                | □□□           | □□                      | φD×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 |

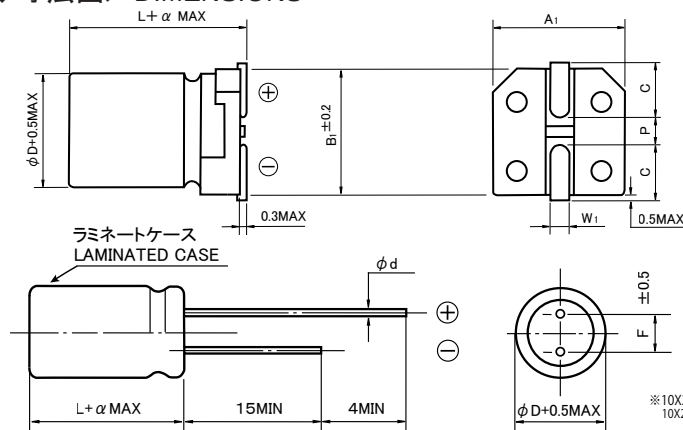
### ◆表示／MARKING



※電圧記号 Voltage Code

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

◆寸法図／DIMENSIONS



| $\phi D$ | L    | A1   | B1   | C   | W1      | P   | $\alpha$ |
|----------|------|------|------|-----|---------|-----|----------|
| 8        | 10.5 | 8.3  | 8.3  | 2.9 | 0.8~1.1 | 3.1 | 0        |
| 10       | 10.5 | 10.3 | 10.3 | 3.2 | 0.8~1.1 | 4.5 | 0        |
| 10       | 12.5 | 10.3 | 10.3 | 3.2 | 0.8~1.1 | 4.5 | 0.3      |
| 10       | 16.5 | 10.3 | 10.3 | 3.2 | 0.8~1.1 | 4.5 | 0.3      |

| $\phi D$ | L  | F   | $\phi d$ | $\alpha$ |
|----------|----|-----|----------|----------|
| 8        | 9  | 3.5 | 0.6      | 1.5      |
| 10       | 9  | 5.0 | 0.6      | 1.5      |
| 10       | 11 | 5.0 | 0.6      | 1.5      |
| 10       | 15 | 5.0 | 0.6      | 1.5      |
| 10       | 20 | 5.0 | 0.6      | 2.0      |

◆標準品一覧表／STANDARD SIZE

| 定格電圧<br>Rated Voltage<br>(Vdc) | 静電容量<br>Capacitance<br>( $\mu F$ ) | 外形寸法 Size<br>$\phi D \times L$ (mm) |                               | 等価直列抵抗<br>ESR<br>( $m\Omega$ MAX, 100kHz) |       | 定格リプル電流<br>Rated Ripple Current<br>(mA rms / 125°C, 100kHz) |
|--------------------------------|------------------------------------|-------------------------------------|-------------------------------|-------------------------------------------|-------|-------------------------------------------------------------|
|                                |                                    | PKV series (SMD)                    | PZK series (Radial Lead type) | 20°C                                      | -40°C |                                                             |
| 25                             | 330                                | 8×10.5                              | 8×9                           | 22                                        |       | 2000                                                        |
|                                | 560                                | 10×10.5                             | 10×9                          | 20                                        |       | 2800                                                        |
|                                | 680                                | 10×12.5                             | 10×11                         | 14                                        |       | 3700                                                        |
|                                | 1000                               | 10×16.5                             | 10×15                         | 11                                        |       | 4300                                                        |
|                                | 1500                               | —                                   | 10×20                         | 10                                        |       | 4500                                                        |
| 35                             | 220                                | 8×10.5                              | 8×9                           | 22                                        |       | 2000                                                        |
|                                | 390                                | 10×10.5                             | 10×9                          | 20                                        |       | 2800                                                        |
|                                | 470                                | 10×12.5                             | 10×11                         | 14                                        |       | 3600                                                        |
|                                | 680                                | 10×16.5                             | 10×15                         | 11                                        |       | 4300                                                        |
|                                | 1000                               | —                                   | 10×20                         | 10                                        |       | 4500                                                        |
| 50                             | 100                                | 8×10.5                              | 8×9                           | 30                                        |       | 1700                                                        |
|                                | 180                                | 10×10.5                             | 10×9                          | 25                                        |       | 2200                                                        |
|                                | 220                                | 10×12.5                             | 10×11                         | 17                                        |       | 3300                                                        |
|                                | 270                                | 10×16.5                             | 10×15                         | 13                                        |       | 4100                                                        |
|                                | 330                                | —                                   | 10×20                         | 12                                        |       | 4300                                                        |
| 63                             | 56                                 | 8×10.5                              | 8×9                           | 40                                        |       | 1700                                                        |
|                                | 100                                | 10×10.5                             | 10×9                          | 30                                        |       | 2000                                                        |
|                                | 120                                | 10×12.5                             | 10×11                         | 19                                        |       | 3300                                                        |
|                                | 180                                | 10×16.5                             | 10×15                         | 15                                        |       | 4100                                                        |
|                                | 220                                | —                                   | 10×20                         | 13                                        |       | 4300                                                        |

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

| 静電容量 Capacitance (C) | 周波数 Frequency (f)   | 100kHz ≤ f < 200kHz | 200kHz ≤ f < 300kHz | 300kHz ≤ f < 500kHz | 500kHz ≤ f < 1kHz |
|----------------------|---------------------|---------------------|---------------------|---------------------|-------------------|
| C < 150 $\mu F$      | 補正係数<br>Coefficient | 0.15                | 0.25                | 0.30                | 0.40              |
| 150 $\mu F$ ≤ C      |                     | 0.15                | 0.25                | 0.30                | 0.40              |
| 静電容量 Capacitance (C) | 周波数 Frequency (f)   | 1kHz ≤ f < 2kHz     | 2kHz ≤ f < 3kHz     | 3kHz ≤ f < 5kHz     | 5kHz ≤ f < 10kHz  |
| C < 150 $\mu F$      | 補正係数<br>Coefficient | 0.50                | 0.60                | 0.65                | 0.70              |
| 150 $\mu F$ ≤ C      |                     | 0.50                | 0.60                | 0.65                | 0.70              |
| 静電容量 Capacitance (C) | 周波数 Frequency (f)   | 10kHz ≤ f < 15kHz   | 15kHz ≤ f < 20kHz   | 20kHz ≤ f < 30kHz   | 30kHz ≤ f < 40kHz |
| C < 150 $\mu F$      | 補正係数<br>Coefficient | 0.75                | 0.75                | 0.80                | 0.80              |
| 150 $\mu F$ ≤ C      |                     | 0.75                | 0.80                | 0.85                | 0.85              |
| 静電容量 Capacitance (C) | 周波数 Frequency (f)   | 40kHz ≤ f < 50kHz   | 50kHz ≤ f < 100kHz  | 100kHz ≤ f < 500kHz | 500kHz ≤ f        |
| C < 150 $\mu F$      | 補正係数<br>Coefficient | 0.85                | 0.90                | 1.00                | 1.00              |
| 150 $\mu F$ ≤ C      |                     | 0.85                | 0.90                | 1.00                | 1.00              |