



# SPECIFICATION FOR APPROVAL

Date : 2022/5/27

| <i>Conductive Polymer Aluminum Solid Capacitor</i>  |                                  | <b>GPL Series</b>   |  |   |                                  |  |                                 |     |                                 |                 |                                |
|---|----------------------------------|---|--|---|----------------------------------|--|---------------------------------|-----|---------------------------------|-----------------|--------------------------------|
| Capacitance : 820 $\mu$ F                           | Tolerance : $\pm 20 \%$          | Type : 直立式  |  |   |                                  |  |                                 |     |                                 |                 |                                |
| Voltage : 16 V DC                                   | Part No. : GPL-820M16V0812       |   |  |   |                                  |  |                                 |     |                                 |                 |                                |
| Dimension (mm)                                      |                                  |   |  |   |                                  |  |                                 |     |                                 |                 |                                |
|   |                                  | <table border="1"> <tr> <td><math>\phi</math> D</td> <td>8 <math>\pm</math> 1.5</td> </tr> <tr> <td>P</td> <td>3.5 <math>\pm</math> 0.5</td> </tr> <tr> <td>L</td> <td>12 <math>\pm</math> 1.5</td> </tr> <tr> <td>d</td> <td>0.6 <math>\pm</math> 0.1</td> </tr> </table>  |  | $\phi$ D                                | 8 $\pm$ 1.5                      | P  | 3.5 $\pm$ 0.5                   | L   | 12 $\pm$ 1.5                    | d               | 0.6 $\pm$ 0.1                  |
| $\phi$ D  | 8 $\pm$ 1.5                      |   |  |   |                                  |  |                                 |     |                                 |                 |                                |
| P   | 3.5 $\pm$ 0.5                    |   |  |   |                                  |  |                                 |     |                                 |                 |                                |
| L   | 12 $\pm$ 1.5                     |   |  |   |                                  |  |                                 |     |                                 |                 |                                |
| d   | 0.6 $\pm$ 0.1                    |   |  |   |                                  |  |                                 |     |                                 |                 |                                |
| <b>Specification :</b>                              |                                  |   |  |   |                                  |  |                                 |     |                                 |                 |                                |
| 1 Operating Temperature Range                       | :                                | - 55 $^{\circ}$ C ~ + 125 $^{\circ}$ C  |  |   |                                  |  |                                 |     |                                 |                 |                                |
| 2 Leakage Current ( $\mu$ A)                        | :                                | $I \leq 2624 \mu$ A (After 2 minutes application of rated.)   |  |   |                                  |  |                                 |     |                                 |                 |                                |
| 3 Surge Voltage DC                                  | :                                | Rated voltage x 1.15 V  |  |   |                                  |  |                                 |     |                                 |                 |                                |
| 4 Dissipation Factor (Tan $\delta$ )                | :                                | 0.12 MAX. (20 $^{\circ}$ C/120Hz)   |  |   |                                  |  |                                 |     |                                 |                 |                                |
| 5 Equivalent series resistance(ESR)                 | :                                | 13 m $\Omega$ MAX. (20 $^{\circ}$ C/100KHz to 300KHz)   |  |   |                                  |  |                                 |     |                                 |                 |                                |
| 6 Max. Permissible ripple current                   | :                                | 1860 mA/125 $^{\circ}$ C/100KHz (4650mA/105 $^{\circ}$ C/100KHz)  |  |   |                                  |  |                                 |     |                                 |                 |                                |
| 7 High temperature & Low temperature characteristic | :                                | <table border="1"> <tr> <td>Z(-55<math>^{\circ}</math>C)/Z(+20<math>^{\circ}</math>C)</td> <td><math>\leq 1.25</math></td> </tr> <tr> <td>Z(+125<math>^{\circ}</math>C)/Z(+20<math>^{\circ}</math>C)</td> <td><math>\leq 1.25</math></td> </tr> </table>  |  | Z(-55 $^{\circ}$ C)/Z(+20 $^{\circ}$ C) | $\leq 1.25$                      | Z(+125 $^{\circ}$ C)/Z(+20 $^{\circ}$ C) | $\leq 1.25$                     |     |                                 |                 |                                |
| Z(-55 $^{\circ}$ C)/Z(+20 $^{\circ}$ C)             | $\leq 1.25$                      |   |  |   |                                  |  |                                 |     |                                 |                 |                                |
| Z(+125 $^{\circ}$ C)/Z(+20 $^{\circ}$ C)            | $\leq 1.25$                      |   |  |   |                                  |  |                                 |     |                                 |                 |                                |
| 8 Load Life Test                                    | :                                | The following specifications shall be satisfied when the capacitors are restored to 20 $^{\circ}$ C after the rated voltage is applied for 16V~25V 2000 hours, $\geq$ 35V 1500 hours at 125 $^{\circ}$ C. The capacitor shall meet with following limits :  |  |   |                                  |  |                                 |     |                                 |                 |                                |
|   |                                  | <table border="1"> <tr> <td>Capacitance Change</td> <td><math>\leq \pm 30\%</math> of initial value</td> </tr> <tr> <td>Dissipation Factor</td> <td><math>\leq 300\%</math> of specified value</td> </tr> <tr> <td>ESR</td> <td><math>\leq 300\%</math> of specified value</td> </tr> <tr> <td>Leakage Current</td> <td><math>\leq</math> initial specified value</td> </tr> </table> |  | Capacitance Change                      | $\leq \pm 30\%$ of initial value | Dissipation Factor                       | $\leq 300\%$ of specified value | ESR | $\leq 300\%$ of specified value | Leakage Current | $\leq$ initial specified value |
| Capacitance Change                                  | $\leq \pm 30\%$ of initial value |   |  |   |                                  |  |                                 |     |                                 |                 |                                |
| Dissipation Factor                                  | $\leq 300\%$ of specified value  |   |  |   |                                  |  |                                 |     |                                 |                 |                                |
| ESR   | $\leq 300\%$ of specified value  |   |  |   |                                  |  |                                 |     |                                 |                 |                                |
| Leakage Current                                     | $\leq$ initial specified value   |   |  |   |                                  |  |                                 |     |                                 |                 |                                |
| 9 High temperature & High humidity : (Constant)     | :                                | After storing for 1000 hours at 60 $^{\circ}$ C 、90~95% R.H.  |  |   |                                  |  |                                 |     |                                 |                 |                                |
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| Dissipation Factor                                  | $\leq 150\%$ of specified value  |   |  |   |                                  |  |                                 |     |                                 |                 |                                |
| ESR   | $\leq 150\%$ of specified value  |   |  |   |                                  |  |                                 |     |                                 |                 |                                |
| Leakage Current                                     | $\leq$ initial specified value   |   |  |   |                                  |  |                                 |     |                                 |                 |                                |