

## SPECIFICATION FOR APPROVAL

<i>Conductive Polymer Aluminum Solid Capacitor</i>		<b>GPJ Series</b>																																																		
Capacitance : 22 $\mu$ F	Tolerance : $\pm 20$ %	Type : SMD																																																		
Voltage : 63 V DC	Dimension : 6.3x7.7	Part No. : GPJ-22M63V6377																																																		
Diagram of Dimension & Recommended land pattern (mm)																																																				
<table border="1"> <thead> <tr> <th><math>\phi</math> DxL</th> <th>W</th> <th>H</th> <th>C</th> <th>R</th> <th>P</th> </tr> </thead> <tbody> <tr> <td>6.3x7.7</td> <td>6.6</td> <td>6.6</td> <td>7.3</td> <td>0.5 to 0.8</td> <td>2.1</td> </tr> <tr> <td>8x6.9</td> <td>8.3</td> <td>8.3</td> <td>9.0</td> <td>0.6 to 0.8</td> <td>3.2</td> </tr> <tr> <td>8x9.7</td> <td>8.3</td> <td>8.3</td> <td>9.0</td> <td>0.8 to 1.1</td> <td>3.2</td> </tr> <tr> <td>10x12.6</td> <td>10.3</td> <td>10.3</td> <td>11.0</td> <td>0.8 to 1.1</td> <td>4.6</td> </tr> </tbody> </table>		$\phi$ DxL	W	H	C	R	P	6.3x7.7	6.6	6.6	7.3	0.5 to 0.8	2.1	8x6.9	8.3	8.3	9.0	0.6 to 0.8	3.2	8x9.7	8.3	8.3	9.0	0.8 to 1.1	3.2	10x12.6	10.3	10.3	11.0	0.8 to 1.1	4.6	<table border="1"> <thead> <tr> <th><math>\phi</math> DxL</th> <th>a</th> <th>b</th> <th>c</th> </tr> </thead> <tbody> <tr> <td>6.3x7.7</td> <td>2.1</td> <td>3.5</td> <td>1.6</td> </tr> <tr> <td>8x6.9</td> <td>2.8</td> <td>4.1</td> <td>1.9</td> </tr> <tr> <td>8x9.7</td> <td>2.8</td> <td>4.1</td> <td>1.9</td> </tr> <tr> <td>10x12.6</td> <td>4.3</td> <td>4.4</td> <td>1.9</td> </tr> </tbody> </table>	$\phi$ DxL	a	b	c	6.3x7.7	2.1	3.5	1.6	8x6.9	2.8	4.1	1.9	8x9.7	2.8	4.1	1.9	10x12.6	4.3	4.4	1.9
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<b>Specification</b>																																																				
1	Operating Temperature Range :	- 55 To + 125 $^{\circ}$ C																																																		
2	Capacitance Tolerance :	$\pm 20\%$ (20 $^{\circ}$ C, 120Hz)																																																		
3	Leakage Current :	$I \leq 277 \mu$ A (after 2 minutes)																																																		
4	Surge Voltage DC :	Rated voltage x 1.15 V																																																		
5	Dissipation Factor (Tan $\delta$ ) :	0.12 MAX (20 $^{\circ}$ C, 120Hz)																																																		
6	ESR :	50 m $\Omega$ MAX. (20 $^{\circ}$ C/100KHz to 300KHz)																																																		
7	Ripple Current :	500 mA / 125 $^{\circ}$ C / 100KHz (1500mA / 105 $^{\circ}$ C / 100KHz)																																																		
8	Ripple Current & Frequency Coefficient	<table border="1"> <thead> <tr> <th>Frequency(Hz)</th> <th>120 <math>\leq</math> f &lt; 1K</th> <th>1K <math>\leq</math> f &lt; 10K</th> <th>10K <math>\leq</math> f &lt; 100K</th> <th>100K <math>\leq</math> f &lt; 300K</th> </tr> </thead> <tbody> <tr> <td>Coefficient</td> <td>0.05</td> <td>0.30</td> <td>0.70</td> <td>1.00</td> </tr> </tbody> </table>	Frequency(Hz)	120 $\leq$ f < 1K	1K $\leq$ f < 10K	10K $\leq$ f < 100K	100K $\leq$ f < 300K	Coefficient	0.05	0.30	0.70	1.00																																								
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9	Load Life Test : After 2000 hours at 125 $^{\circ}$ C $\pm$ 2 $^{\circ}$ C, The capacitor shall meet with following limits :	<table border="1"> <tbody> <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> </tbody> </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																																										
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10	Moisture Resistance : The following specifications shall be satisfied when the capacitors are restored to 20 $^{\circ}$ C after subjecting them at 60 $^{\circ}$ C, RH90~95% for 1000 hours.	<table border="1"> <tbody> <tr> <td>Capacitance Change</td> <td><math>\leq \pm 20\%</math> of initial value</td> </tr> <tr> <td>Dissipation Factor</td> <td><math>\leq 150\%</math> of specified value</td> </tr> <tr> <td>ESR</td> <td><math>\leq 150\%</math> of specified value</td> </tr> <tr> <td>Leakage Current</td> <td><math>\leq</math> initial specified value</td> </tr> </tbody> </table>	Capacitance Change	$\leq \pm 20\%$ of initial value	Dissipation Factor	$\leq 150\%$ of specified value	ESR	$\leq 150\%$ of specified value	Leakage Current	$\leq$ initial specified value																																										
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