

## SAMWHA Electric's most capable Polymer Hybrid Series

To meet the demand of worldwide automotive market, Korea's Number 1 E-cap manufacturer Samwha Electric has developed high-end conductive polymer hybrid aluminum electrolytic capacitor "YT" series.

With AEC-Q200 and specialized for automotive industry, it can be used at between **-55°C ~ +150°C** for 1000 hours. Provided from 25 to 63 volts and up to 270µF, it's an ideal solution for numerous applications. To avoid short-circuit and gain superior ripple characteristics, polymer hybrid can be offered as alternative to all capacitors including ceramic, electrolytic and even tantalum. Being the mixture of conductive polymer and liquid electrolyte, it has advantages of both capacitors. For automotive industry, from less safety relevant application of **power window or display** to essential board of **Engine control unit or transmission control unit**, conductive polymer hybrid aluminum electrolytic capacitor is new solution.



**YT** : Surface Mount type, Ultra High Temperature Series

Being the series with highest quality, YT series from Samwha Electric can open new chapter in electrolytic capacitor market.

### ● Key Features

Item	Characteristics										
Operating temperature range	-55 ~ +150°C										
Leakage current max.	$I = 0.01CV$ or $3\mu A$ whichever is greater (after 2 minutes)										
Capacitance tolerance	$\pm 20\%$ at 120Hz, 20°C										
Dissipation factor max. (at 120Hz, 20°C)	<table border="1"> <thead> <tr> <th>WV</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> </tr> </thead> <tbody> <tr> <td><math>\tan\delta</math></td> <td>0.14</td> <td>0.12</td> <td>0.1</td> <td>0.08</td> </tr> </tbody> </table>	WV	25	35	50	63	$\tan\delta$	0.14	0.12	0.1	0.08
WV	25	35	50	63							
$\tan\delta$	0.14	0.12	0.1	0.08							
Low temperature characteristics (Impedance ratio at 100kHz)	$Z(-25^\circ C) / Z(+20^\circ C) \leq 1.5$ $Z(-55^\circ C) / Z(+20^\circ C) \leq 2.0$										
Load life	<p>After an application of DC bias voltage plus the rated AC ripple current for 1000 hours at 150°C. The measurement shall meet the following limits. The DC voltage plus the peak AC voltage combined must not exceed the rated voltage.</p> <table border="1"> <tbody> <tr> <td>Capacitance change</td> <td>Within <math>\pm 30\%</math> of initial value</td> </tr> <tr> <td><math>\tan\delta</math></td> <td>Less than 200% of the specified value</td> </tr> <tr> <td>ESR</td> <td>Less than 200% of the specified value</td> </tr> <tr> <td>Leakage current</td> <td>Less than specified value</td> </tr> </tbody> </table>	Capacitance change	Within $\pm 30\%$ of initial value	$\tan\delta$	Less than 200% of the specified value	ESR	Less than 200% of the specified value	Leakage current	Less than specified value		
Capacitance change	Within $\pm 30\%$ of initial value										
$\tan\delta$	Less than 200% of the specified value										
ESR	Less than 200% of the specified value										
Leakage current	Less than specified value										
Shelf life(at 150°C)	After 1000 hours no load test, leakage current, capacitance and $\tan\delta$ are same as load life value. The measurement shall be performed at 20°C by the KS C IEC 60384 - 4										
Resistance to soldering heat	<p>The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them at 250°C for 10 seconds.</p> <table border="1"> <tbody> <tr> <td>Leakage current</td> <td>Less than specified value</td> </tr> <tr> <td>Capacitance change</td> <td>Within <math>\pm 10\%</math> of initial value</td> </tr> <tr> <td><math>\tan\delta</math></td> <td>Less than specified value</td> </tr> </tbody> </table>	Leakage current	Less than specified value	Capacitance change	Within $\pm 10\%$ of initial value	$\tan\delta$	Less than specified value				
Leakage current	Less than specified value										
Capacitance change	Within $\pm 10\%$ of initial value										
$\tan\delta$	Less than specified value										