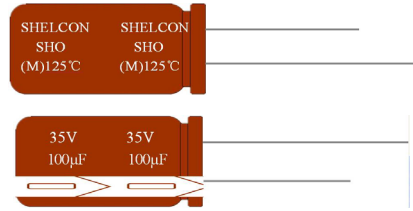


SHO SERIES

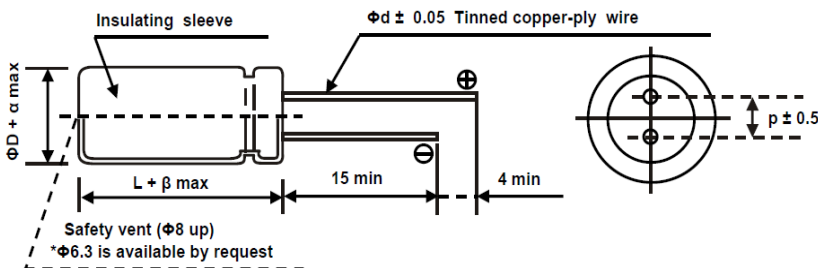
- 125°C Long-Life, Low Impedance
- Load life of 1000 ~ 3000 Hours



◆ SPECIFICATIONS

Item	Characteristics																					
Operating temperature range	-40~+125°C																					
Voltage Range	6.3 ~ 50V.DC																					
Nominal Cap. Range	10 ~ 4700 µF																					
Capacitance Tolerance	±20%(M) 20°C, 120Hz																					
Leakage current	I=0.01CV or 3(µA) whichever is greater. (at 20°C after 2 min.) Where, I: Max. leakage current (µA), C: Nominal capacitance (µF), V: Rated voltage (V) I: LC (µA), C: CAP. (µF), V: WV (Vdc) at 20°C																					
Dissipation Factor (tanδ) (at 120Hz, 20°C)	<table border="1"> <thead> <tr> <th>Rated voltage(V.DC)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> </tr> </thead> <tbody> <tr> <td>tanδ (max)</td> <td>0.22</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> </tr> </tbody> </table> <p>0.02 is added to every 1000µF increase over 1000µF.</p>	Rated voltage(V.DC)	6.3	10	16	25	35	50	tanδ (max)	0.22	0.20	0.16	0.14	0.12	0.10							
Rated voltage(V.DC)	6.3	10	16	25	35	50																
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Low Temp. impedance Stability at 120Hz	<table border="1"> <thead> <tr> <th>W.V.(Vdc)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> </tr> </thead> <tbody> <tr> <td>Z(-25°C)/Z(+20°C)</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z(-40°C)/Z(+20°C)</td> <td>8</td> <td>6</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> </tr> </tbody> </table>	W.V.(Vdc)	6.3	10	16	25	35	50	Z(-25°C)/Z(+20°C)	4	3	2	2	2	2	Z(-40°C)/Z(+20°C)	8	6	4	4	4	4
W.V.(Vdc)	6.3	10	16	25	35	50																
Z(-25°C)/Z(+20°C)	4	3	2	2	2	2																
Z(-40°C)/Z(+20°C)	8	6	4	4	4	4																
Impedance(Ω)	See case size table																					
High Temp. Load Test	<p>The following specifications shall be satisfied when the capacitors are restored to 20°C after subjected to DC voltage with the rated ripple current is applied for the specified period of time at 125°C.</p> <table border="1"> <thead> <tr> <th>Time</th> <th>6.3~10V.DC</th> <th>Φ5 & Φ6.3: 1000 hrs; Φ8 & Φ10: 2000 hrs; ΦD ≥ Φ13: 3000 hrs, application of DC rated working.</th> </tr> </thead> <tbody> <tr> <td></td> <td>16~50V.DC</td> <td>Φ5 & Φ6.3: 2000 hrs; ΦD ≥ 8: 3000 hrs, application of DC rated working.</td> </tr> </tbody> </table> <p>Capacitance change --- ≤ ± 30% of the initial measured value tanδ --- ≤ 300% of the initial specified value DC leakage current --- ≤ the initial specified value</p>	Time	6.3~10V.DC	Φ5 & Φ6.3: 1000 hrs; Φ8 & Φ10: 2000 hrs; ΦD ≥ Φ13: 3000 hrs, application of DC rated working.		16~50V.DC	Φ5 & Φ6.3: 2000 hrs; ΦD ≥ 8: 3000 hrs, application of DC rated working.															
Time	6.3~10V.DC	Φ5 & Φ6.3: 1000 hrs; Φ8 & Φ10: 2000 hrs; ΦD ≥ Φ13: 3000 hrs, application of DC rated working.																				
	16~50V.DC	Φ5 & Φ6.3: 2000 hrs; ΦD ≥ 8: 3000 hrs, application of DC rated working.																				
High Temp. Non-Load Test	<p>The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 500 hours at 125°C without voltage applied.</p> <p>Capacitance change --- ≤ ± 30% of the initial measured value tanδ --- ≤ 300% of the initial specified value DC leakage current --- ≤ the initial specified value</p>																					

◆ DRAWING



Unit: (mm)

ΦD	5	6.3	8	10	13	16
P	2.0	2.5	3.5	5.0	5.0	7.5
Φd	0.5	0.5	0.6	0.6	0.6	0.8
β	1.5					
α	0.5					

s

● MULTIPLIER FOR RIPPLE CURRENT

(1) Frequency Coefficient

Cap(Mf) \ Freq.(Hz)	120	1K	10K	100K
10 ~ 150	0.40	0.75	0.90	1.00
220 ~ 560	0.50	0.85	0.94	1.00
680 ~ 1800	0.60	0.87	0.95	1.00
2200 ~ 3300	0.70	0.90	0.95	1.00
4700 ~	0.85	0.95	0.98	1.00

(2) Temperature Coefficient

Ambient Temperature (°C)	70	85	85	105	125
Coefficient	2.4	2.1	1.78	1.65	1.00

SHO SERIES

STANDARD RATINGS

Parameter ΦDxL	6.3			10			16		
	cap (μF)	Impedance	Ripple current	cap (μF)	Impedance	Ripple current	cap (μF)	Impedance	Ripple current
5x11	47	2.3	120	33	2.1	120	22	1.9	145
5X11	68	2.1	120	47	1.9	145	33	1.400	155
5X11	100	1.9	145	68	1.400	155	47	1.200	205
6.3X11.	150	1.400	155	150	1.200	205	68	0.900	228
6.3X11.	220	1.200	205	220	0.900	228	100	0.740	315
8X11.5	330	0.900	228	330	0.740	315	150	0.510	355
10X12.5	470	0.740	315	470	0.510	355	220	0.200	750
10X12.5	680	0.510	355	560	0.200	750	330	0.110	850
10X16	820	0.450	550	680	0.150	800	470	0.090	1050
13x20	1000	0.200	750	1000	0.110	850	1000	0.068	1250
13x25	1500	0.110	850	1500	0.068	1250	1500	0.065	1335
13X25	2200	0.068	1250	2200	0.065	1335	2200	0.050	1470
13X25	3300	0.065	1335	3300	0.050	1470	3300	0.035	1520
16X25	4700	0.050	1600	4700	0.040	1550			

Parameter ΦDxL	25			35			50		
	cap (μF)	Impedance	Ripple current	cap (μF)	Impedance	Ripple current	cap (μF)	Impedance	Ripple current
5x11	15	1.400	155	10	1.200	205	10	1.200	205
5X11	22	1.200	205	15	0.900	228	15	0.900	228
5X11	33	0.900	228	22	0.740	315	22	0.740	315
6.3X11	47	0.740	315	33	0.510	355	33	0.510	355
8X11.5	68	0.510	355	47	0.200	750	47	0.200	750
8X11.5	100	0.200	750	68	0.110	850	68	0.110	850
8X11.5	150	0.110	850	100	0.068	1250	100	0.068	1250
8X11.5	220	0.068	1250	150	0.065	1335	150	0.065	1335
10X12.5	330	0.065	1335	220	0.050	1470	220	0.050	1470
10X20	470	0.050	1470	330	0.035	1520	330	0.035	1520
13X20	680	0.035	1520	470	0.030	1650	470	0.030	1650
13X25	1000	0.030	1650	680	0.028	1775	680	0.028	1775
16X25	1500	0.028	1775	1000	0.025	1800	1000	0.025	1800
16x25	2200	0.025	1800	1500	0.025	1850	1500	0.025	1850
16x31.5	3300	0.025	1850	2200	0.020	1920	2200	0.020	2000

(mArms / 125°C. 100KHZ)
 (Ω max / 20°C. 100kHZ)
 ΦD x L (mm)