

# LOS Aluminum Electrolytic Capacitors For Audio

## SILMIC SERIES

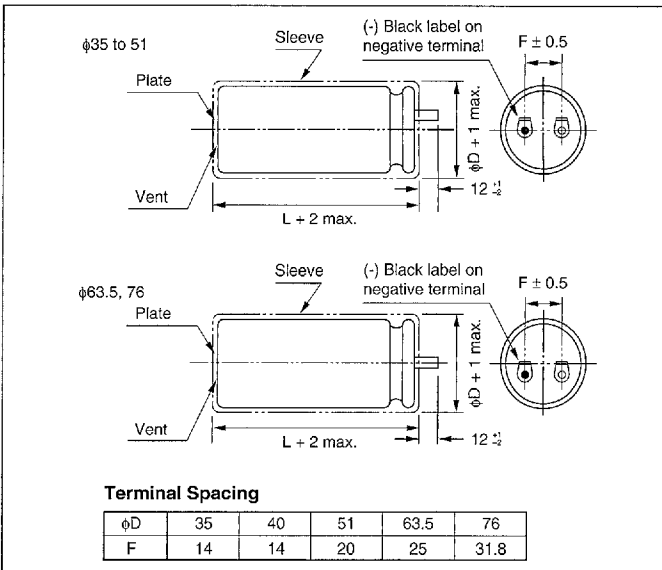
- Elna's newly developed low distortion material (constructed with silk fiber) is used for the internal separator. It produces superior result in sound quality for audio applications.
- Due to the silk fiber's flexibility, the capacitor makes the audio engineers' dreams come true. For example:
  - To smooth the music's vibration energy.
  - To decrease the peak feeling sound at high frequency and rough quality sound at mid-range frequency.
  - To increase the robust tone at low frequency.

## Series LOS For Power Supply Filter (Common name: Silmic)

- Adoption of the audio separator fabricated by cross-knitting silk and Manila hemp fibers, and low-magnification formation foil with its large part unetched offers a synergistic effect to realize elegant and voluminous musical reproduction.
- Vinyl sleeve in black with a gold "Silmic" mark.

### Outline Drawing

Unit: mm



### Photo



### Specifications

No.	Item	Performance										
1	Temperature range (°C)	-40 to +85										
2	Leakage current	Less than 0.02 CV (μA) or 3 mA whichever is smaller (after five minutes) C: Capacitance (μF), V: Voltage (V)										
3	Capacitance tolerance (%)	±20 (20°C, 120 Hz)										
4	Tangent of loss angle (tan δ)	<table border="1"> <thead> <tr> <th>Rated voltage (V)</th> <th>50</th> <th>63</th> <th>80</th> <th>100</th> </tr> </thead> <tbody> <tr> <td>tan δ</td> <td>0.25</td> <td>0.20</td> <td>0.20</td> <td>0.20</td> </tr> </tbody> </table> (20°C, 120 Hz)	Rated voltage (V)	50	63	80	100	tan δ	0.25	0.20	0.20	0.20
Rated voltage (V)	50	63	80	100								
tan δ	0.25	0.20	0.20	0.20								
5	Stability at low temperature (120 Hz)	<table border="1"> <thead> <tr> <th>Impedance ratio</th> <th>Z-25°C/Z+20°C</th> <th>3</th> </tr> </thead> <tbody> <tr> <td></td> <th>Z-40°C/Z+20°C</th> <th>12</th> </tr> </tbody> </table> (120 Hz)	Impedance ratio	Z-25°C/Z+20°C	3		Z-40°C/Z+20°C	12				
Impedance ratio	Z-25°C/Z+20°C	3										
	Z-40°C/Z+20°C	12										
6	Endurance (85°C) (Applied ripple current)	<table border="1"> <thead> <tr> <th>Test time</th> <th>1000 hrs</th> </tr> </thead> <tbody> <tr> <td>Leakage current</td> <td>Initial specified value or less</td> </tr> <tr> <td>Change in capacitance</td> <td>Within ±20% of initial value</td> </tr> <tr> <td>tan δ</td> <td>150% or less of initial specified value</td> </tr> </tbody> </table>	Test time	1000 hrs	Leakage current	Initial specified value or less	Change in capacitance	Within ±20% of initial value	tan δ	150% or less of initial specified value		
Test time	1000 hrs											
Leakage current	Initial specified value or less											
Change in capacitance	Within ±20% of initial value											
tan δ	150% or less of initial specified value											
7	Max. storage temp. (85°C)	<table border="1"> <thead> <tr> <th>Test time</th> <th>500 hrs</th> </tr> </thead> <tbody> <tr> <td>Leakage current</td> <td>Initial specified value or less</td> </tr> <tr> <td>Change in capacitance</td> <td>Within ±20% of initial value</td> </tr> <tr> <td>tan δ</td> <td>150% or less of initial specified value</td> </tr> </tbody> </table>	Test time	500 hrs	Leakage current	Initial specified value or less	Change in capacitance	Within ±20% of initial value	tan δ	150% or less of initial specified value		
Test time	500 hrs											
Leakage current	Initial specified value or less											
Change in capacitance	Within ±20% of initial value											
tan δ	150% or less of initial specified value											
8	Applicable Standards	Pretreatment performed (JIS C 5102). JIS C 5102 and JIS C 5141.										

### Coefficients of Frequency for Ripple Current

Frequency (Hz)	50	120	1 k	10 k	20 k
Coefficients	0.95	1	1.10	1.30	1.33

### Coefficients of Temperature for Ripple Current

Temperature (°C)	+40 or less	+55	+70	+85
Coefficients	2.1	1.8	1.5	1

**LOS Aluminum Electrolytic Capacitors For Audio**

Case size by working voltage & capacitance (in mm)

(mm)

**Type IV**

WV(V) Cap.(μF)	50	63	80	100
8200	40 x 90	40 x 100	51 x 90	51 x 100
10000	40 x 100	51 x 80	51 x 100	63.5 x 80
12000	51 x 80	51 x 90	63.5 x 80	63.5 x 90
15000	51 x 90	51 x 110	63.5 x 90	63.5 x 110
22000	63.5 x 90	63.5 x 100	76 x 100	76 x 110

**Type V**

WV(V) Cap.(μF)	50	63	80	100
8200	40 x 100	51 x 80	51 x 100	63.5 x 80
10000	51 x 80	51 x 90	63.5 x 80	63.5 x 90
12000	51 x 90	51 x 100	63.5 x 90	63.5 x 100
15000	51 x 100	63.5 x 90	63.5 x 100	76 x 90
22000	63.5 x 100	63.5 x 110	76 x 110	76 x 120

**Standard Ratings**

**Type IV**

ELNA PART NO. / WV (V)	CAP. (μF)	SIZE (φ x L) (mm)	tan δ	Ripple Current (Arms)
<b>50 V</b>				
LOS-50V822MS6D	8200	40 x 90	0.25	4.9
LOS-50V103MS6E	10000	40 x 100	0.25	5.6
LOS-50V123MS7C	12000	51 x 80	0.25	6.4
LOS-50V153MS7D	15000	51 x 90	0.25	7.4
LOS-50V223MS8D	22000	63.5 x 90	0.25	9.9
<b>63 V</b>				
LOS-63V822MS6E	8200	40 x 100	0.20	5.7
LOS-63V103MS7C	10000	51 x 80	0.20	6.6
LOS-63V123MS7D	12000	51 x 90	0.20	7.5
LOS-63V153MS7F	15000	51 x 110	0.20	8.9
LOS-63V223MS8E	22000	63.5 x 100	0.20	11.4
<b>80 V</b>				
LOS-80V822MS7D	8200	51 x 90	0.20	6.2
LOS-80V103MS7E	10000	51 x 100	0.20	7.1
LOS-80V123MS8C	12000	63.5 x 80	0.20	7.9
LOS-80V153MS8D	15000	63.5 x 90	0.20	9.1
LOS-80V223MS9E	22000	76 x 100	0.20	12.3
<b>100 V</b>				
LOS-100V822MS7E	8200	51 x 100	0.20	6.5
LOS-100V103MS8C	10000	63.5 x 80	0.20	7.2
LOS-100V123MS8D	12000	63.5 x 90	0.20	8.2
LOS-100V153MS8E	15000	63.5 x 100	0.20	9.7
LOS-100V223MS9F	22000	76 x 110	0.20	12.7

**Type V**

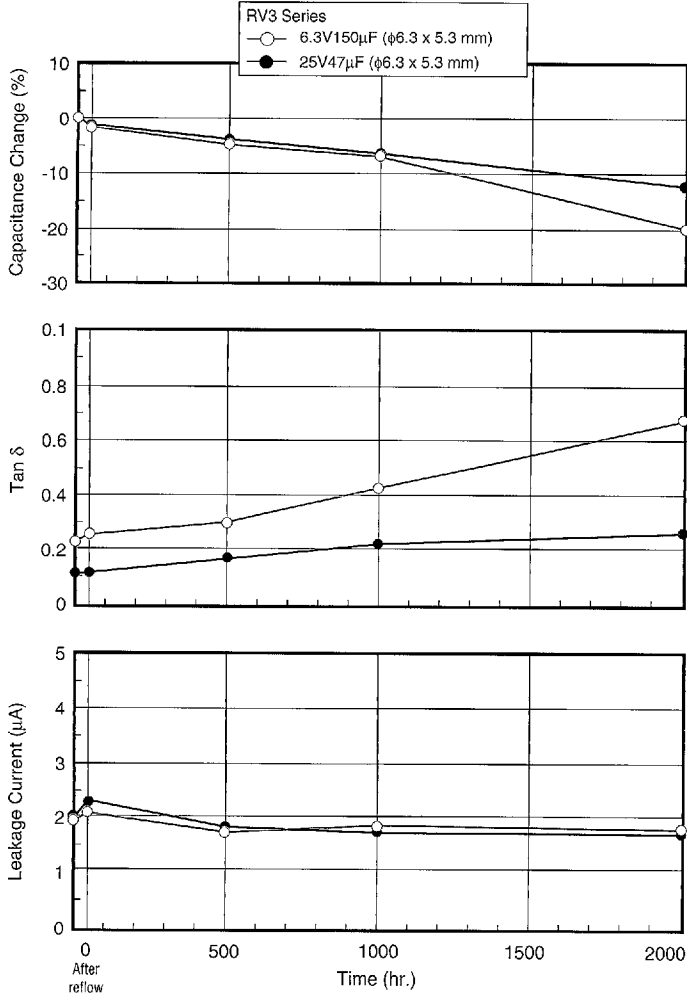
ELNA PART NO. / WV (V)	CAP. (μF)	SIZE (φ x L) (mm)	tan δ	Ripple Current (Arms)
<b>50 V</b>				
LOS-50V822MS6E	8200	40 x 100	0.25	5.1
LOS-50V103MS7C	10000	51 x 80	0.25	5.8
LOS-50V123MS7D	12000	51 x 90	0.25	6.6
LOS-50V153MS7E	15000	51 x 100	0.25	7.7
LOS-50V223MS8E	22000	63.5 x 100	0.25	10.2
<b>63 V</b>				
LOS-63V822MS7C	8200	51 x 80	0.20	6.0
LOS-63V103MS7D	10000	51 x 90	0.20	6.8
LOS-63V123MS7E	12000	51 x 100	0.20	7.7
LOS-63V153MS8D	15000	63.5 x 90	0.20	9.1
LOS-63V223MS8F	22000	63.5 x 110	0.20	11.8
<b>80 V</b>				
LOS-80V822MS7E	8200	51 x 100	0.20	6.4
LOS-80V103MS8C	10000	63.5 x 80	0.20	7.2
LOS-80V123MS8D	12000	63.5 x 90	0.20	8.2
LOS-80V153MS8E	15000	63.5 x 100	0.20	9.4
LOS-80V223MS9F	22000	76 x 110	0.20	12.7
<b>100 V</b>				
LOS-100V822MS8C	8200	63.5 x 80	0.20	6.3
LOS-100V103MS8D	10000	63.5 x 90	0.20	7.5
LOS-100V123MS8E	12000	63.5 x 100	0.20	8.4
LOS-100V153MS9D	15000	76 x 90	0.20	9.9
LOS-100V223MS9G	22000	76 x 120	0.20	130

Note: Allowable Ripple Current 120 Hz at 85°C

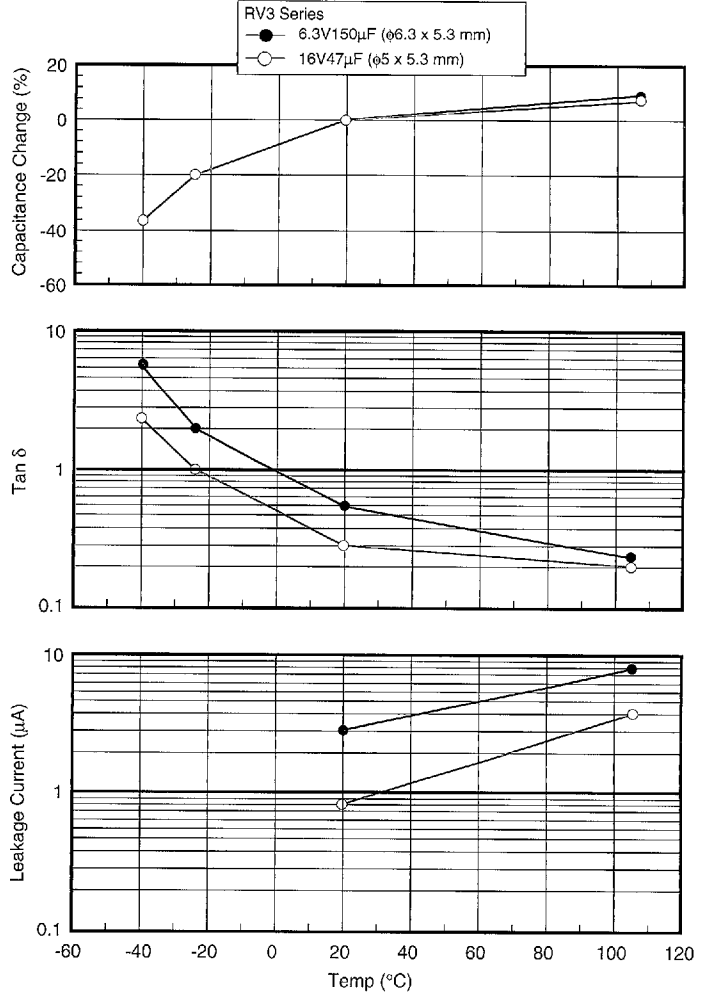
Large Capacitance

LOS

■ Endurance Test (85°C at WV)

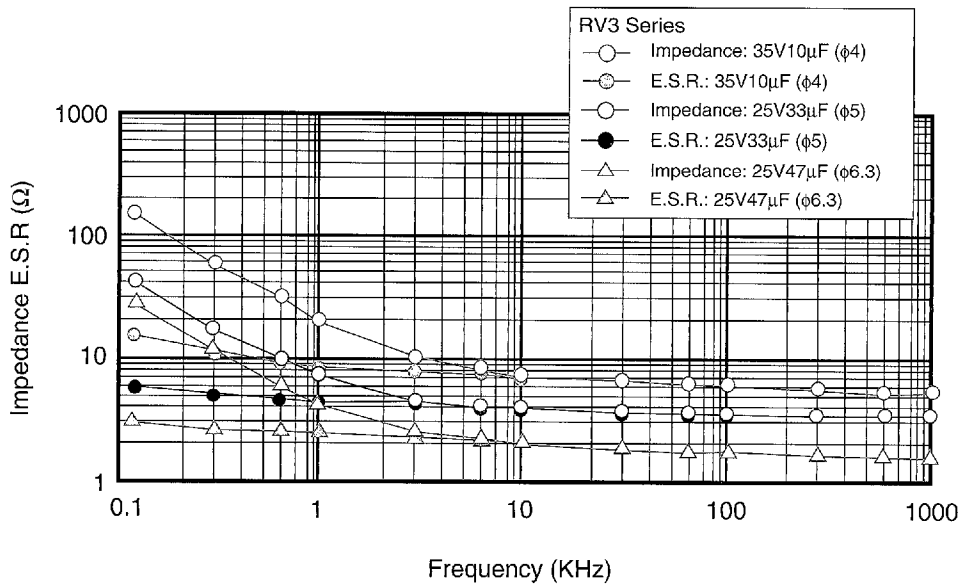


■ Temperature Characteristic



Technical Data

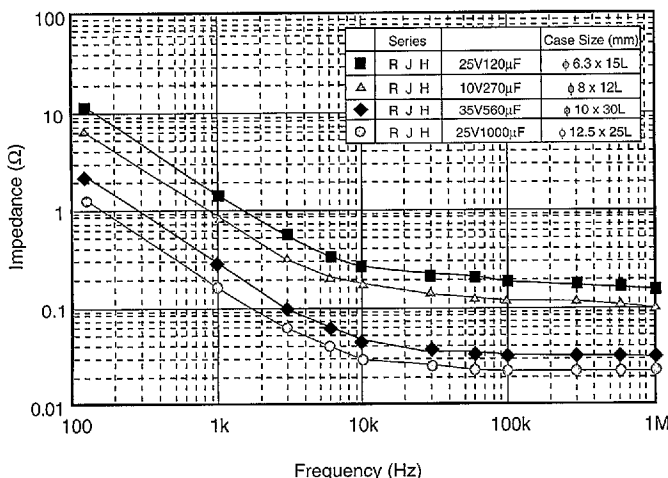
■ Frequency Characteristic



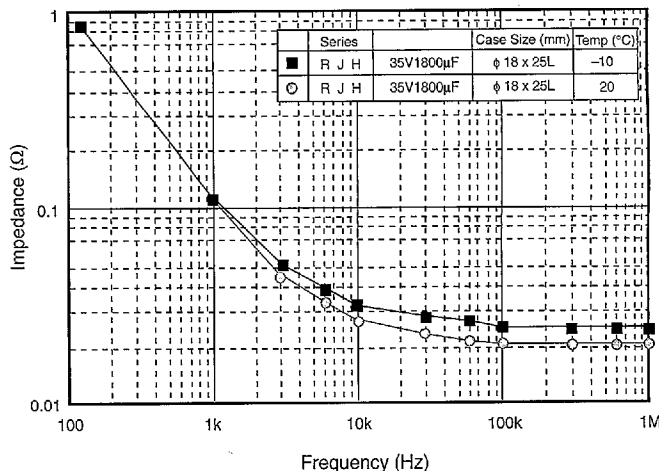
Technical Data

Frequency Characteristic

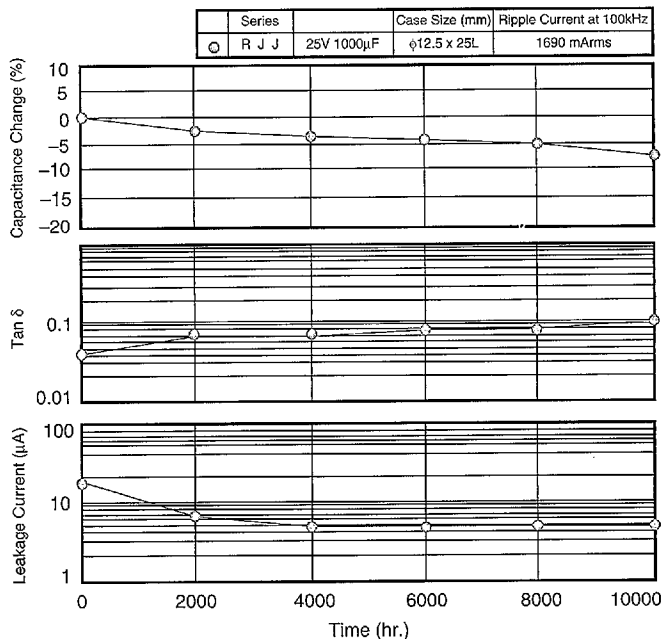
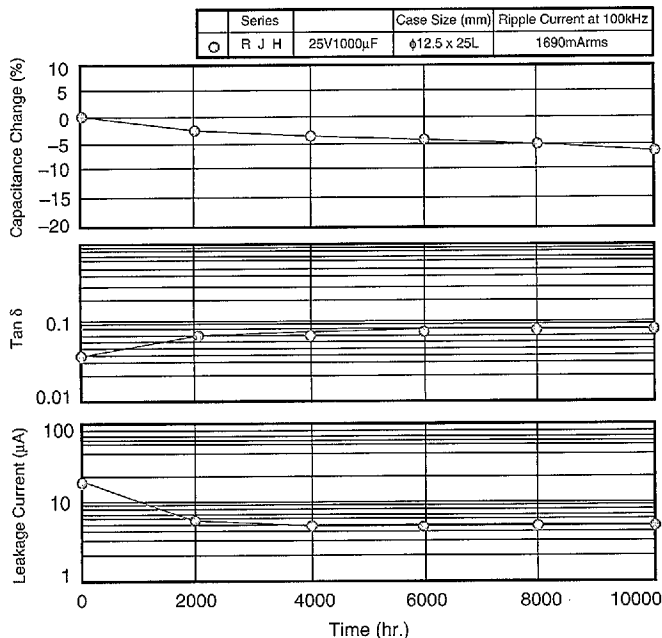
+20°C



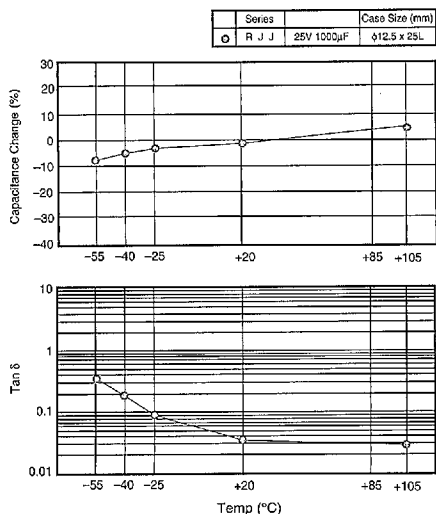
+20°C, -10°C,



Endurance Test (105°C)



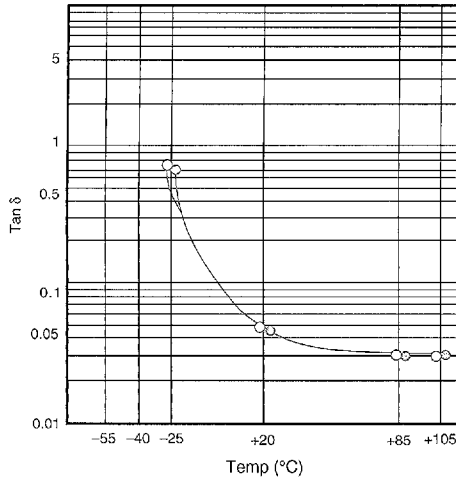
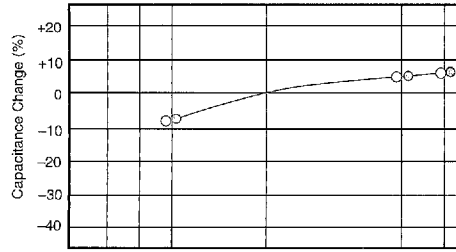
Temperature Characteristic (-55°C~+105°C)



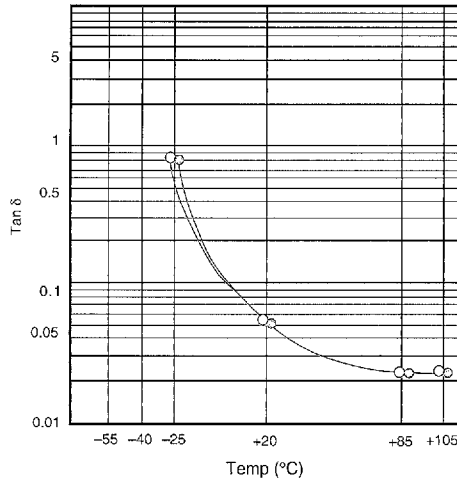
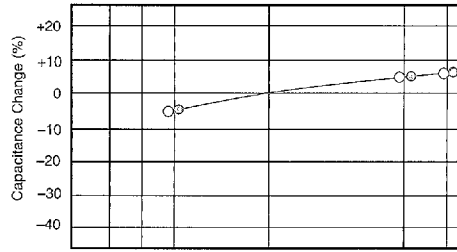
Technical Data

■ Temperature Characteristic (-25°C~+105°C)

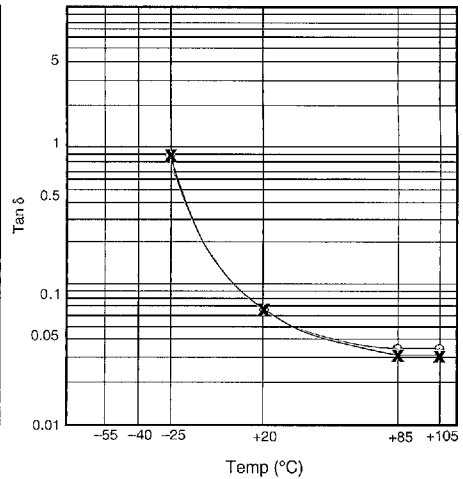
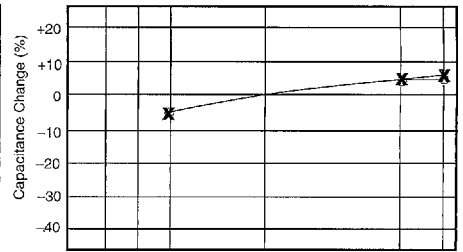
Series	Case Size (mm)
○ L P G 200V470μF	φ25 x 35L
○ L P H 200V470μF	φ25 x 30L



Series	Case Size (mm)
○ L P G 400V120μF	φ25 x 35L
○ L P H 400V120μF	φ25 x 30L



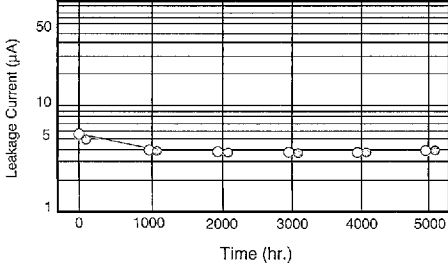
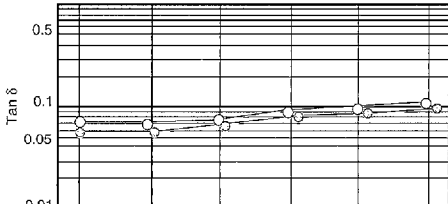
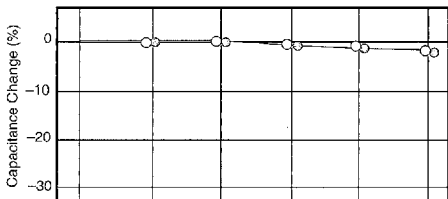
Series	Case Size (mm)
○ L P X 200V100μF	φ30 x 50L
✕ L P X 400V330μF	φ35 x 50L



■ Endurance Test (105°C)

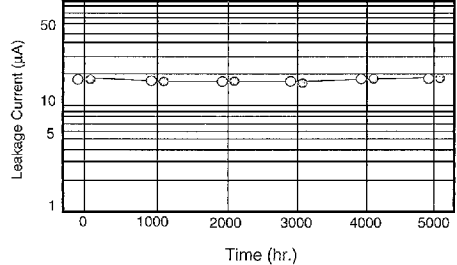
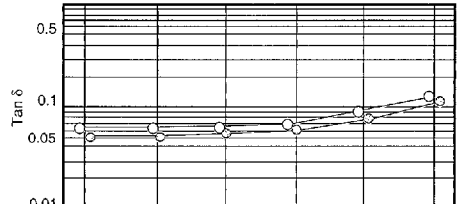
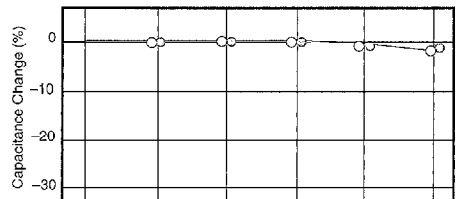
Series	Case Size (mm)
○ L P G 160V330μF	φ22 x 30L
○ L P H 160V330μF	φ22 x 30L

Ripple Current: 1.43Arms (120Hz)

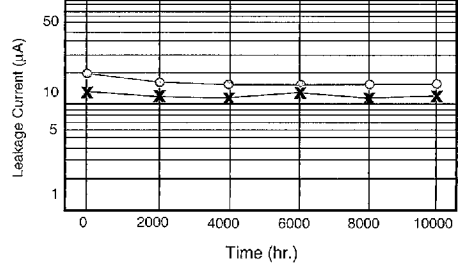
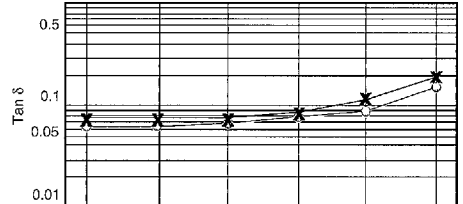
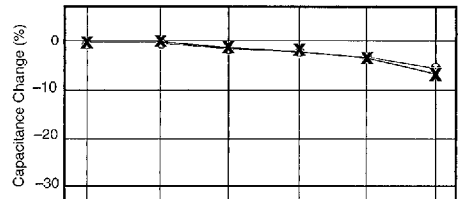


Series	Case Size (mm)
○ L P G 200V1500μF	φ35 x 50L
○ L P H 200V1800μF	φ35 x 50L

Ripple Current: 2.70Arms (120Hz)

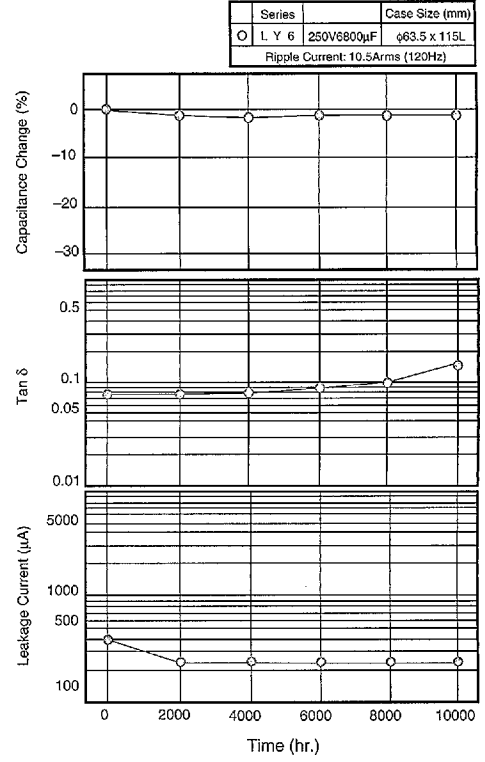
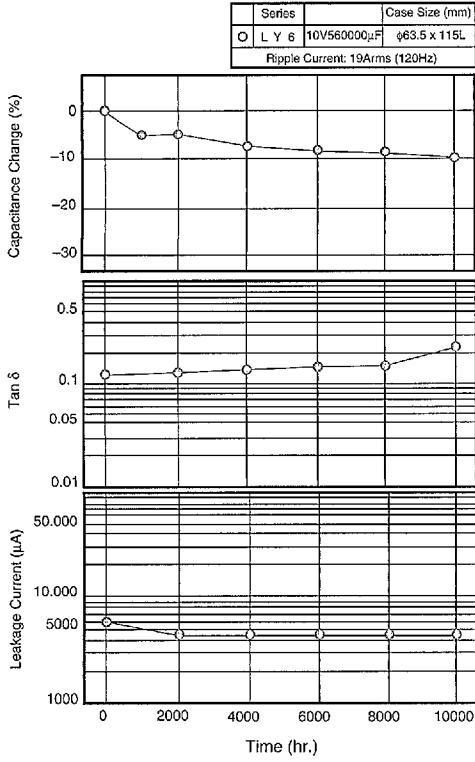


Series	Case Size (mm)	Ripple Current (120Hz)
○ L P X 200V1000μF	φ30 x 50L	2.00Arms
✕ L P X 400V330μF	φ35 x 50L	1.04Arms

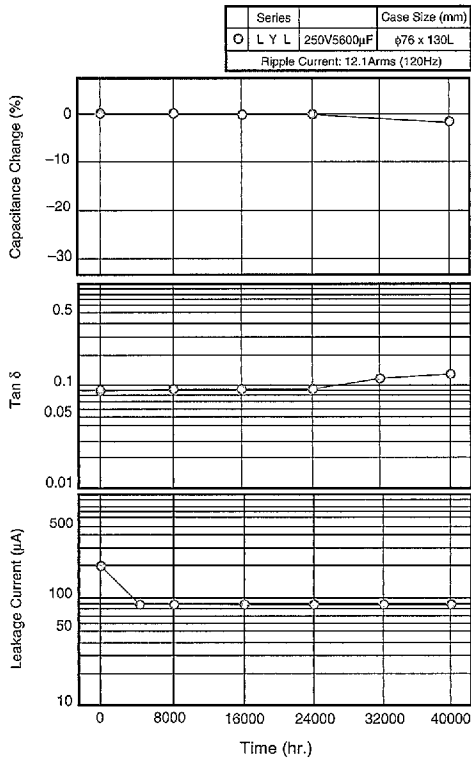


Technical Data

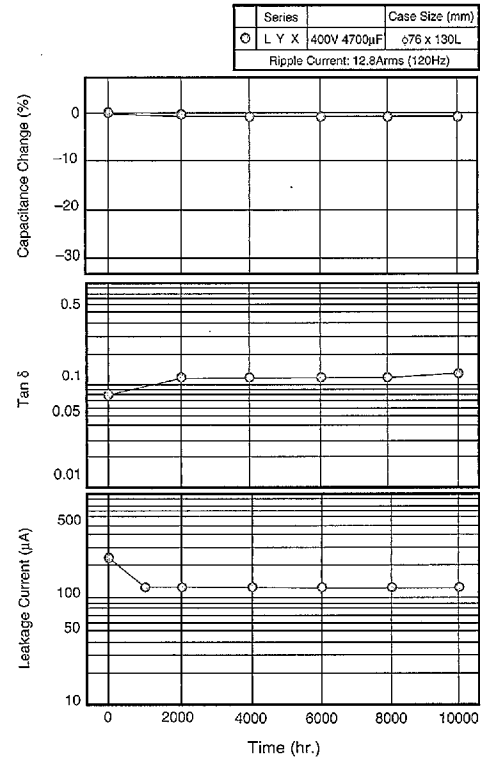
■ Endurance Test  
LY6 Series 85°C



LYL Series 85°C



LYX Series 105°C



Technical Data