

### Features

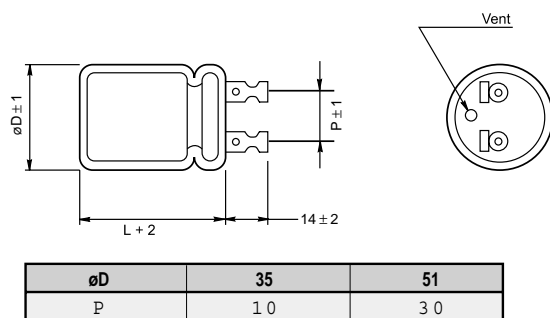
- For the circuit where frequent charging - discharging
- Life time of continuous 1 million cycles for 1 cycle/sec.  
(0.8 sec. charging and 0.2 sec. time constant discharging)



### Specifications

Item	Performance Characteristics				
Operating temperature range	-25℃ ~+70℃				
Rated working voltage range	150V ~ 450V				
Nominal capacitance range	100μF ~ 1000μF				
Capacitance tolerance	-10% ~ +50%(at 20℃, 120Hz)				
D.C Leakage current(at 20℃)	The following specifications shall be satisfied when the rated voltage is applied for the required time. <div>1 ≤ 0.06CV or 3mA (5 min), whichever is less.</div> <div>Where l=Leakage current (μA)                      C=Nominal capacitance(μF)                      V=Rated voltage (V)</div>				
Tanδ(max., at 20℃, 120Hz)	W.V (V)	150	voltage (V)	350	450
	Tanδ	0.15	0.15	0.10	0.10
Load life	After the test of 1000000 cycles with charging and discharging 1 cycle of which time is				
	1 sec.(charge:0.8 sec., discharge:0.2 sec.)at 40℃ and then being stabilized at 20℃, capacitors shall meet following limits.				
	Capacitance change		Within ± 20% of initial measured value		

### Case sizes and Dimensions



### STANDARD RATINGS OF ES SERIES

TYPE		ø D x L (mm)
ES 150L	560	35X100
ES 150L	1000	51X100
ES 250L	270	35X100
ES 250L	560	51X100
ES 350L	150	35X100
ES 350L	330	51X100
ES 450L	100	35X100
ES 450L	220	51X100