Fundamental structure

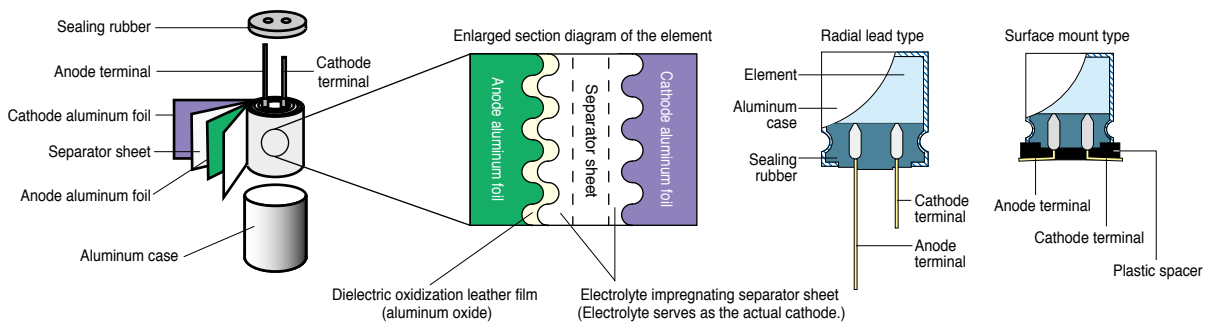
OS-CON Aluminum Solid Capacitors with Conductive Polymer

1. Basic structure of OS-CON

OS-CON has a basic construction similar to an aluminum electrolytic capacitor.
A distinctive difference lies in electrolyte.

Aluminum electrolytic capacitor	Separator sheet impregnated with electrolytic solution.	Liquid electrolyte
OS-CON	Separator sheet impregnated with conductive polymer.	Solid electrolyte

1-1. Basic construction



Characteristics between OS-CON and aluminum electrolytic capacitor due to a difference in electrolyte

	Aluminum electrolytic capacitor	OS-CON
Conductivity	3(mS/cm)	3,000(mS/cm)
	· Difficult to lower ESR due to low conductivity · ESR augments, in particular, in low temperature conditions	· The highest electronic conductivity, realizing super low ESR. · ESR is stable in low temperature conditions
Reliability, lifespan	· Liquid electrolyte is evaporable at high temperature · Static capacitance is on the decline at high temperature · Limited lifespan resulting from dry-up · Major fluctuations in temperature characteristics	· Little evaporation due to solid electrolyte · Little decrease in static capacitance · Long lifespan even at high temperature · Very minor fluctuations in temperature characteristics
Temperature coefficient (for lifespan)	2 times by 10℃ reduction	10 times by 20℃ reduction
	105℃/2,000h→85℃/8,000h	105℃/2,000h→85℃/20,000h

2. OS-CON Manufacturing Method

【Radial lead type】

Aluminum etching foil
Forming
Foil slitter
Winding
Forming and carbonization
impregnation and polymerization
Rubber sealing (curi)
Marking
Aging and Inspection
Packing and Shipping

Lead wire
Separator Sheet
Conductive polymer
Rubber·Case

【Surface mount type】

Aluminum etching foil
Forming
Foil slitter
Winding
Forming and carbonization
impregnation and polymerization
Rubber sealing (curi)
Aging and Inspection
Forming and Marking
Packing and Shipping

Lead wire
Separator Sheet
Conductive polymer
Rubber·Case
Plastic Spacer