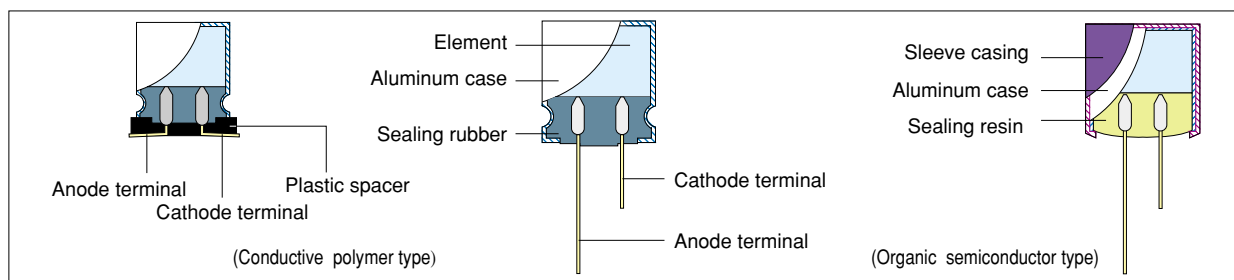
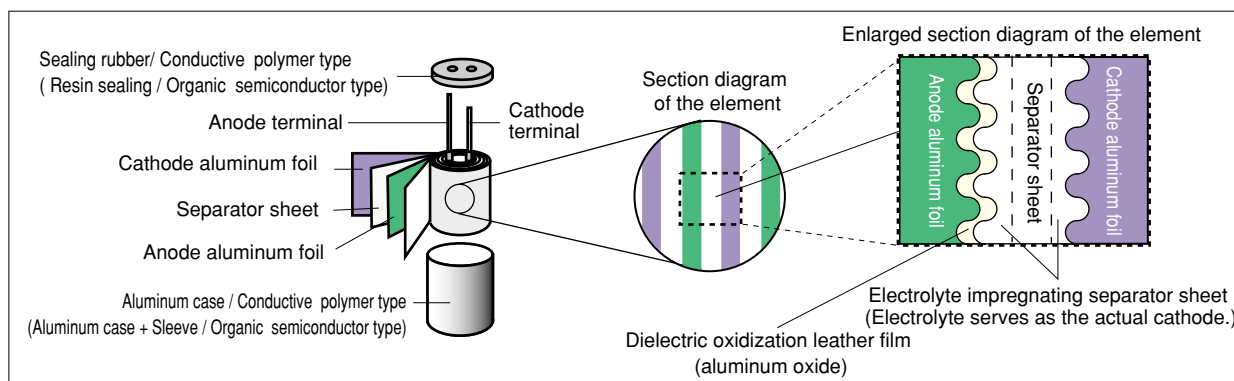


1. Basic structure of OS-CON

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

Aluminum electrolytic capacitor	Separator sheet (electrolyte) impregnated with electrolytic solution .	Liquid electrolyte
OS-CON (Organic semiconductor type)	Separator sheet (electrolyte) impregnated with organic semiconductor .	Solid electrolyte
OS-CON (Conductive polymer type)	Separator sheet (electrolyte) impregnated with conductive polymer .	Solid electrolyte

1-1. Basic construction



- Increased surface area of the aluminum electrode foil (high-speed processing to form rough surface) results in larger capacitance (greater charge density).
- Electrolyte is impregnated so that the rough dielectric aluminum oxide film at the anode aluminum foil sticks close to the cathode aluminum foil.
- Higher conductivity electrolyte is ideal.

2. Differences of electrolyte and in characteristics between OS-CON and an electrolytic capacitor

	Aluminum electrolytic capacitor	OS-CON	
		Organic semiconductor type	Conductive polymer type
Conductivity	3(mS/cm)	300(mS/cm)	3,000(mS/cm)
	<ul style="list-style-type: none"> Difficult to lower ESR due to ionic conduction ESR augments, in particular, in low temperature conditions 	<ul style="list-style-type: none"> High electronic conductivity facilitate to achieve low ESR ESR is stable in low temperature conditions 	<ul style="list-style-type: none"> The highest electronic conductivity, realizing super low ESR. ESR is stable in low temperature conditions
Reliability, lifespan	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Solid electrolyte with little evaporation Less decrease in static capacitance Long lifespan even at high temperature Minor fluctuations in temperature characteristics 	<ul style="list-style-type: none"> Solid electrolyte with little evaporation Little decrease in static capacitance Long lifespan even at high temperature Very minor fluctuations in temperature characteristics
Temperature coefficient	2 times by 10°C reduction	10 times by 20°C reduction	10 times by 20°C reduction
	105°C/2,000h→85°C/8,000h	105°C/2,000h→85°C/20,000h	105°C/2,000h→85°C/20,000h