

SAMWHA Electric's "VP" series

In consideration of demand by Electric Vehicle market, Samwha Electric successfully developed 135°C guaranteed Aluminum electrolytic capacitor. This was very first development of such product in Korean market and it led to exclusive approval in Samwha's domestic EV market.

"VP" series is developed with low resistance high temperature electrolyte and high efficient raw material. It has high reliability in temperature range of -40°C to +135°C. Additionally, it has low rate of capacitance change at high voltage and temperature which offers electrical reliability as well as long lifetime. Lower resistance at high temperature provides help to minimization and lifetime extension of circuits and it makes "VP" series ideal for regenerative brake system and power supply of electric vehicles.

Available up to 35V, 10000 μ F and variety of sizes from Φ 10x12.5mm to Φ 18x40mm, "VP" series satisfies environmental factors such as RoHS and "Halogen Free".

The series, developed in Samwha Electric's R&D center in Cheong-ju, was closely directed by Samwha Capacitor Group Chairman and CEO Young Joo Oh. Rapid growth of EV markets worldwide will lead to increase in demand of capacitors. Samwha Electric already provides many related series from on-board applications to EV chargers. Beginning with "VP" series which obtained exclusive approval from Korean EV manufacturer, Samwha Electric will expand their market.

● Key Features

- 135°C, Long life, Low Impedance Series
- Applied in laminated case
- Suited for automobile applications
- Complied to the RoHS directive
- AEC-Q200 compliant



Item	Characteristics				
Operating temperature range	-40 ~ +135°C				
Leakage current max.	I = 0.01CV or 3 μ A whichever is greater (after 2 minutes)				
Capacitance tolerance	\pm 20% at 120Hz, 20°C				
Dissipation factor max. (at 120Hz, 20°C)	Capacitance > 1000 μ F : tan δ increases by 0.02 for each 1000 μ F from below value.				
	Rated Voltage(V)	10	16	25	35
	tan δ	0.20	0.16	0.14	0.12
Low temperature characteristics (Impedance ratio at 120Hz)	WV	10	16	25	35
	Z-25°C/Z+20°C	3	2	2	2
	Z-40°C/Z+20°C	6	4	3	3
Load life (after application of the rated voltage for 3000 hours at 135°C)	Leakage current	Less than specified value			
	Capacitance change	Within \pm 30% of initial value			
	tan δ	Less than 300% of specified value			
Shelf life (at 135°C)	After 1000 hours no load test, leakage current, capacitance and tan δ are same as load life value. The measurement shall be performed at 20°C by the KS C IEC 60384 - 4				