



## SMD CAP Aluminum Solid Electrolytic Capacitor - ECAH series

### ■ Introduction

- Low ESR, SMD type, Reduced height, wide temperature range
- Rated voltage: 2.0Vdc, 2.5Vdc
- Endurance: 2,000 hours at 105°C
- Suitable for DC-DC converters, voltage regulators and decoupling applications.
- RoHS Compliant

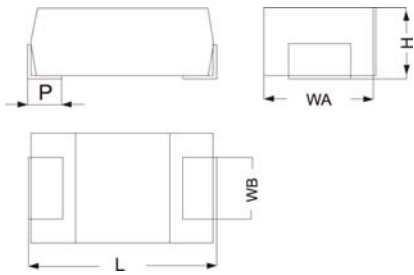


### ■ Specifications

ITEMS	CONDITIONS	CHARACTERISTICS	
Category Temperature Range		-55 to +105°C	
Rated Voltage Range		2 V.DC , 2.5 V.DC	
Capacitance Tolerance	20°C, 120Hz	M= ±20% ; Y= +10%~-35%	
Leakage Current	20°C , after 2 minutes	I ≤ 0.1 CV(2V.DC , 2.5V.DC) I:Leakage Current(μA) / C:Rated Capacitance(μF) / V:Rated Voltage(V)	
Surge Voltage	15°C to 35°C	Rated voltage x 1.25V	
Dissipation Factor (tan δ)	at 20°C, 120Hz	Case Height : S type, 0.06 max.	
Endurance	105°C, rated voltage applied, 2,000 hours	Appearance	No significant damage
		Capacitance Change	±20% of initial measured value
		DF (tan δ)	≤ 200% of the initial specified value
		Leakage current	≤ 300% of the initial specified value
Damp Heat, Steady State	60°C, 90 to 95% RH, 500 hours.	Appearance	No significant damage
		Capacitance Change	+70%, -20% of the initial value
		DF (tan δ)	≤ 200% of the initial specified value
		Leakage current	≤ 300% of the initial specified value
Damp Heat, Steady State, Applied voltage	60°C, 90 to 95% RH, rated voltage, 500 hours.	Appearance	No significant damage
		Capacitance Change	+70%, -20% of the initial value
		DF (tan δ)	≤ 200% of the initial specified value
		Leakage current	Within the initial specified value
Surge Voltage	The Capacitors shall be subjected to 1,000 cycles each consisting of charge with the surge voltages, 125% rated voltage, at 15°C to 35°C for 30 seconds through a protective resistor (R=1kΩ) and discharge for 5 minutes 30 seconds.	Appearance	No significant damage
		Capacitance Change	≤ ±10% of the initial value
		DF (tan δ)	Within the initial specified value
		Leakage current	Within the initial specified value



## ■ Shape and Dimensions (Unit: mm)



Case size	L	WA	WB	H	P
S	7.3±0.3	4.3±0.3	2.4±0.2	1.9±0.3	1.3±0.2

## ■ Electrical Characteristics

Part No.	Cap(μF) @120Hz	ESR Max (mΩ) @ 100kHz	WV(VDC)	tan δ Max @120Hz	Leakage Current (μA) Max	Ripple Current (A r.m.s) @100kHz
ECAHS-471E04-2R0	470	4.5	2	0.06	94	8.5
ECAHS-471E06-2R0	470	6.0		0.06	94	7.5
ECAHS-471E09-2R0	470	9.0		0.06	94	6.3
ECAHS-471E04-2R5	470	4.5	2.5	0.06	117.5	8.5
ECAHS-471E06-2R5	470	6.0		0.06	117.5	7.5
ECAHS-471E09-2R5(Y)	470	9.0		0.06	117.5	6.3

### Temperature Compensation Multipliers for Ripple Current

≤45°C	45°C < T ≤ 85°C	85°C < T ≤ 105°C
1.0	0.7	0.25

## ■ Ordering Information

EC AH S 471 E09 2R5  
1 2 3 4 5 6

1. DIP Type

2. Series Name

3. Case Height

4. Capacitance : **471**=470 μF.

5. ESR : **E09**= 9 mΩ.

6. Working Voltage(WV) : **2R0** = 2.0 VDC ; **2R5** = 2.5 VDC.

7. Capacitance tolerance : **Blank**= ± 20% ; **Y**= +10~-35%. .