



ACTH Series

- Feature: Low ESR, Surface mounting, Reduced height, Wide temperature range
- Suitable for DC-DC converters, voltage regulators and decoupling applications
- Rate voltage: 2~25Vdc.
- Endurance: 1000hrs at 125°C
- RoHS Compliant



Specifications

Item	Conditions	Characteristics	
Category Temperature Range		-55 to +125 °C	
Rated Voltage Range		2 to 25Vdc	
Capacitance Tolerance	at 20°C, 120Hz	±20 % (M) ; Y : +10 ~ -35% ; K : ±10 %	
Leakage Current	at 20°C after 2 minutes	I ≤ 0.1CV (2V.DC to 2.5V.DC) I ≤ 0.3CV (16V.DC to 25V.DC) I : Leakage Current(μA), C : Rated Capacitance(μF), V : Rated Voltage(V)	
Surge Voltage	15 to +35°C	Rated voltage × 1.25 (2 V.DC to 16 V.DC) Rated voltage × 1.15 (20 V.DC to 25 V.DC)	
Dissipation Factor (tanδ)	at 20°C , 120Hz	≤ 0.1	
Endurance	125°C, rated voltage applied, 1000 hrs.	Appearance	No significant damage
		Capacitance Change	±20% of the initial value
		Dissipation Factor	≤ 200% of the initial specified value
		Leakage Current	within the initial specified value
Damp Heat, Steady State	60°C, 90 to 95%RH, 500 hrs.	Appearance	No significant damage
		Capacitance Change	(2V.DC to 2.5V.DC)+70%, -20% of the initial value (16V.DC to 25V.DC) +60%, -20% of the initial value
		Dissipation Factor	≤ 200% of the initial specified value
		Leakage Current	2 V.DC to 2.5 V.DC within the initial specified value 10 V.DC to 25 V.DC ≤ 300% of the initial specified value
Surge Voltage	The capacitors shall be subjected to 1000 cycles each consisting of charge with the surge voltages, 125% rated voltage, at 15~35°C for 30 seconds through a protective resistor(R=1KΩ)and discharge for 5min 30 seconds.	Appearance	No significant damage
		Capacitance Change	±10% of the initial value
		Dissipation Factor	within the initial specified value
		Leakage Current	within the initial specified value
Solderability	Pb-free solder Around 25% rosin melted ethanol or isopropylalcohol Temperature : 245 ± 5 °C Immersing time : 2 ± 0.5 s	More than 95% of outer terminal surface to be covered	
Resistance to Solvents	Solvent : isopropylalcohol Immersing time : 30 ± 5 s Room temperature	No significant damage and marking readable	



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Standard Ratings

WV(VDC)		Cap(μF)@120Hz	tanδ Max. @120Hz	Leakage Current Max. (μA)	ESR Max. (mΩ) @100kHz	Ripple Current (A r.m.s) @100kHz	Part No.
105°C	125°C						
2	1.6	330	0.1	66	9	6.3	ACTH2R0S331E09
		330	0.1	66	9	6.3	ACTH2R0S331E09Y
		330	0.1	66	6	7.5	ACTH2R0331E06
		560	0.1	112	3	10.2	ACTH2R0S561E03
2.5	2	330	0.1	82.5	9	6.3	ACTH2R5S331E09
		330	0.1	82.5	9	6.3	ACTH2R5S331E09Y
		330	0.1	82.5	6	7.5	ACTH2R5S331E06
		470	0.1	117.5	4.5	8.5	ACTH2R5S471E04
		470	0.1	117.5	6	7.5	ACTH2R5S471E06
		470	0.1	117.5	9	6.3	ACTH2R5S471E09
16	16	47	0.1	225.6	40	3.2	ACTH160S470E40
		56	0.1	268.8	40	3.2	ACTH160S560E40
25	25	15	0.1	112.5	40	3.2	ACTH250S150E40
		33	0.1	247.5	40	3.2	ACTH250S330E40

Temperature Compensation Multipliers for Ripple Current				
Temperature	≤ 45°C	45°C < T ≤ 85°C	85°C < T ≤ 105°C	125°C < T
2 V.DC to 2.5 V.DC	1.0	0.7	0.25	0.25
16 V.DC to 25 V.DC	1.0	0.8	0.5	0.25

PRODUCT IDENTIFICATION

ACTH	2R5	S	471	E06	☐
Product	Rated Voltage	Case Height	Capacitance	ESR	Suffix for special code
	2R5: 2.5V	S:1.9mm	471=470μF	E06: 6mΩ E04: 4.5mΩ	Y: Capacitance +10 ~ -35% K: Capacitance ±10% Blank space: Capacitance ±20 %

DIMENSIONS AND MARKING

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

