ACAL Series (2.0H)



- Feature: Surface mounting, Reduced height, Wide temperature range
- Suitable for DC-DC converters, voltage regulators and decoupling applications
- Rate voltage: 2~25Vdc.
- Endurance: 2000hrs at 105℃
- RoHS Compliant

Specifications

Item	Conditions	Characteristics	
Category Temperature Range		-55 to +105 ℃	
Rated Voltage Range		2 to 25 Vdc	
Capacitance Tolerance	at 20℃, 120Hz	±20 % (M)；Y：+10 ~ -35%；J=+10~-5% I1= ESL 0.9 nH MAX.	
Leakage Current	at 20℃ after 2 minutes	I ≦ 0.1CV (2 V.DC to 6.3 V.DC) I ≦ 0.3CV (10 V.DC to 25 V.DC) I：Leakage Current(μA), C：Rated Capacitance(μF), V：Rated Voltage(V)	
Surge Voltage	15℃ to 35℃	Rated voltage × 1.25 (2 V.DC to 16 V.DC) Rated voltage × 1.15 (25 V.DC)	
Dissipation Factor (tanδ)	at 20℃，120Hz	Case Height : S Type, 0.06 max.	
Endurance	105℃, rated voltage applied, 2000 hrs	Appearance	No significant damage
		Capacitance Change	±20% of the initial value
		Dissipation Factor	≤ 200% of the initial specified value
		Leakage Current	2 V.DC to 6.3 V.DC ≤ 300% of the initial specified value 10 V.DC to 35 V.DC ≤within the initial limit
Damp Heat, Steady State	60℃, 90 to 95%RH, 500 hrs	Appearance	No significant damage
		Capacitance Change	(2 V.DC to 2.5 V.DC) +70%, -20% of the initial value (10V.DC to 35V.DC) +60%, -20% of the initial value (6.3V.DC) +50%, -20% of the initial value
		Dissipation Factor	≤ 200% of the initial specified value
		Leakage Current	2 V.DC to 6.3 V.DC within the initial specified value 10 V.DC to 35 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, at 15℃ to 35℃ 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

ACAL Series

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.
2	220	0.06	44	9	6.3	ACAL2R0S221E09
	220	0.06	44	9	6.3	ACAL2R0S221E09Y
	330	0.06	66	6	7.5	ACAL2R0S331E06
	330	0.06	66	9	6.3	ACAL2R0S331E09
	330	0.06	66	9	6.3	ACAL2R0S331E09Y
	470	0.06	94	3	10.2	ACAL2R0S471E03
	470	0.06	94	4.5	8.5	ACAL2R0S471E04
	470	0.06	94	6	7.5	ACAL2R0S471E06
	470	0.06	94	8.5	6.3	ACAL2R0S471E08
	470	0.06	94	9	6.3	ACAL2R0S471E09
	470	0.06	94	9	6.3	ACAL2R0S471E09Y
	560	0.06	112	3	10.2	ACAL2R0S561E03
	560	0.06	112	4.5	8.5	ACAL2R0S561E04
	560	0.06	112	6	7.5	ACAL2R0S561E06
2.5	220	0.06	55	9	6.3	ACAL2R5S221E09
	220	0.06	55	9	6.3	ACAL2R5S221E09Y
	330	0.06	82.5	4.5	8.5	ACAL2R5S331E04
	330	0.06	82.5	6	7.5	ACAL2R5S331E06
	330	0.06	82.5	9	6.3	ACAL2R5S331E09
	330	0.06	82.5	9	6.3	ACAL2R5S331E09Y
	470	0.06	117.5	3	10.2	ACAL2R5S471E03
	470	0.06	117.5	3	10.2	ACAL2R5S471E03J-I1
	470	0.06	117.5	4.5	8.5	ACAL2R5S471E04
	470	0.06	117.5	6	7.5	ACAL2R5S471E06
	470	0.06	117.5	9	6.3	ACAL2R5S471E09
	470	0.06	117.5	9	6.3	ACAL2R5S471E09Y
6.3	100	0.06	63	15	5.1	ACAL6R3S101E15
	150	0.06	94.5	15	5.1	ACAL6R3S151E15Y
	220	0.06	138.6	15	5.1	ACAL6R3S221E15Y
16	15	0.06	72	40	3.2	ACAL160S150E40
	22	0.06	105.6	40	3.2	ACAL160S220E40
	33	0.06	158.4	40	3.2	ACAL160S330E40
	47	0.06	225.6	40	3.2	ACAL160S470E40
	56	0.06	268.8	40	3.2	ACAL160S560E40

25	15	0.06	112.5	40	3.2	ACAL250S150E40
	22	0.06	165	40	3.2	ACAL250S220E40
	33	0.06	247.5	40	3.2	ACAL250S330E40

Temperature Compensation Multipliers for Ripple Current			
	≦ 45°C	45°C ＜ T ≦ 85°C	85°C ＜ T ≦ 105°C
2 V.DC to 6.3 V.DC	1.0	0.7	0.25
10 V.DC to 25 V.DC	1.0	0.8	0.5

PRODUCT IDENTIFICATION

ACAL	2R5	S	331	E06	☐
Product	Rated Voltage 2R5: 2.5V	Case Height S:1.9mm	Capacitance 331=330μF	ESR E06：6mΩ	Suffix for special code Y=+10~-35% J=+10~-5% I1= ESL 0.9 nH MAX.

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±0.1	1.3±0.2



