Conductive Polymer Aluminum Solid Capacitor –Radial Type

PE5P Series

MERITEK

FEATURE

- Rated voltage: 6.3 ~ 16VDC
- Endurance: 5000hours at 105°C
- Low ESR, High ripple current capability
- Suitable for DC-DC converters, voltage regulators applications
- RoHS Compliant

PART NUMBERING SYSTEM

PE5P	6R3	152	M	0812
(1)	(2)	(3)	(4)	(5)

RoHS

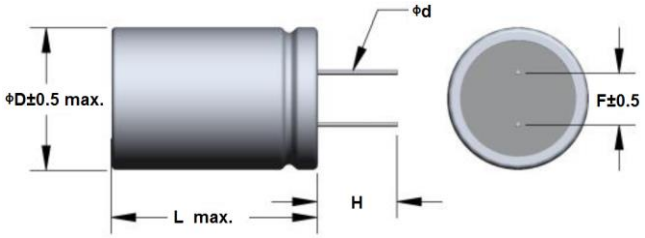
No	Item	Digit	Description	Series Reference
(1)	**Meritek Series**	PE5P	Conductive Polymer Aluminum Solid Cap	Radial Type
(2)	**Rated Voltage**	6R3	6R3: 6.3VDC	16V: 16VDC
(3)	**Capacitance**	152	152: 1500µF	561: 560µF, 681: 680µF, 821: 820µF
(4)	**Tolerance**	M	M: ±20%	-20% ~ +20%
(5)	**Size Code**	0812	Diameter X Length: 8.0X12.0 mm	0606, 0609, 0809, 1012

ELECTRICAL SPECIFICATIONS

Item	Characteristics		
Operating Temperature Range	-55°C ~ +105°C		
Rated Working Voltage	6.3VDC ~ 16VDC		
Capacitance	270µF ~ 1500µF		
Capacitance Tolerance	-20% ~ +20% (M)		
Leakage Current	Shall not exceed values shown in electrical characteristics.		
Dissipation Factor (tanδ)	≤ 0.1 (Max.) at 20°C, 120Hz		
Impedance at high & Low Temperature	Impedance at 100kHz at -55±3°C or 105±2°C shall meet the values listed on the right	Z(-55°C)/Z(+20°C)	≤1.25
		Z(105°C)/Z(+20°C)	≤1.25

DIMENSION

Size (mm)	ΦD±0.5	L max.	Φd±0.5	F±0.4	H±0.3
0606	6.3	6.0	0.45	2.5	3.2
0609	6.3	9.0	0.6	2.5	3.2
0610	6.3	10.0	0.6	2.5	3.2
0809	8.0	9.0	0.6	3.5	3.2
0812	8.0	12.0	0.6	3.5	3.2
1012	10.0	12.0	0.6	5.0	3.2



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ELECTRICAL CHARACTERISTICS

WV/SV (VDC)	Part No.	Cap (μF)@120Hz	Case Size Code	Leakage Current Max. (μA)	ESR Max. (mΩ) @100kHz	Ripple Current (A r.m.s) @100kHz
6.3/7.2	PE5P6R3561M0609	560	0609	705	8	4,700
	PE5P6R3681M0609	680	0609	857	12	3,500
	PE5P6R3821M0610	820	0610	1,033	8	4,700
	PE5P6R3152M0812	1500	0812	1,890	7	6,100
16/18.4	PE5P16V271M0812	270	0812	864	10	5,320
	PE5P16V331M0809	330	0809	1,056	13	4,700
	PE5P16V331M0812	330	0812	1,056	10	5,230
	PE5P16V471M0812	470	0812	1,505	10	5,230
	PE5P16V561M0812	560	0812	1,792	14	4,970
	PE5P16V821M1012	820	1012	2,624	12	5,400
	PE5P16V102M1012	1000	1012	3,200	12	5,400

RELIBILITY

Item	Characteristics		
Endurance	Appearance	No significant damage	105°C, 5000 hours, rated voltage applied
	Capacitance Change	≤ ±20% of the initial value	
	Dissipation Factor	≤ 150% of the initial specified value	
	ESR	≤ 150% of the initial specified value	
	Leakage Current	≤ The initial specified value	
Damp Heat, Steady State	Appearance	No significant damage	60°C, 90 to 95%RH, 1000 hours No Voltage applied
	Capacitance Change	≤ ±20% of the initial value	
	Dissipation Factor	≤ 150% of the initial specified value	
	ESR	≤ 150% of the initial specified value	
	Leakage Current	≤ The initial specified value	
Surge Voltage	Appearance	No significant damage	The capacitors shall be subjected to 1000 cycles each consisting of charge with the surge voltages at 105±2°C
	Capacitance Change	≤ ±20% of the initial value	
	Dissipation Factor	≤ 150% of the initial specified value	
	ESR	≤ 150% of the initial specified value	
	Leakage Current	≤ The initial specified value	
Pull strength	Gradually up to the specified value list below and held for 10±1 s.		No significant damage

Case Diameter (mm)	Load Strength (N)	Load Strength (kg)
4	2.5	0.255
6.3	5	0.51
8	10	1.0
10	10	1.0

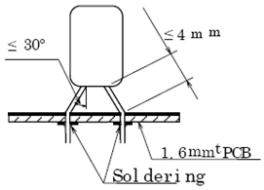
Bending strength

Bending strength load listed below will be hung at the end of the lead wire termination, and the body of a capacitor shall be bent 90° and return to its original position. For 2 to 3 seconds.

No significant damage

Case Diameter (mm)	Load Strength (N)	Load Strength (kg)
4	1.25	0.218
6.3	2.5	0.255
8	5	0.51
10	5	0.51

RELIBILITY (CONTINUED)

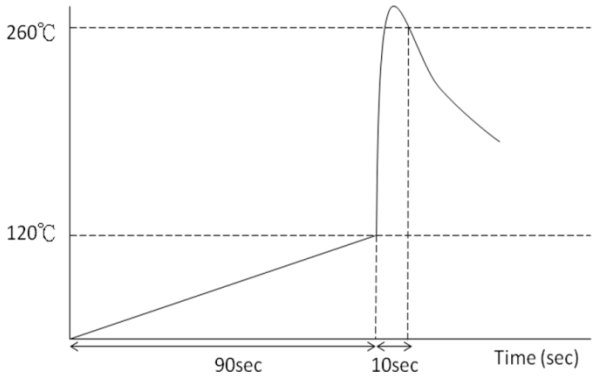
Item	Characteristics		
Vibration	Vibration cycle should vary from 10 to 55Hz with total amplitude of 1.5mm and return to 10Hz in about 1 minute. Vibration applied to a capacitor should be three directions, which each perpendicular to the other two as longitudinal axis of capacitor set as z axis, and last for 2 hours in each direction. 		No significant damage
Solderability	Time: 2±0.5s, Temperature: 235±5°C, Up to 1.5 to 2.0mm from		at least 95% should be covered
Resistance to soldering heat	Capacitance Change	≤ ±5% of the initial value	Time: 10±1s, Temperature: 260±5°C, Up to 1.5 to 2.0mm from body
	Dissipation Factor	≤ The initial specified value	
	Leakage Current	≤ The initial specified value	
Resistance to solvent	A Capacitor will be immersed for 30±5 seconds in isopropylalcohol at 20°C to 25°C and then pull it out.		No significant damage
Rapid Temperature Change	Appearance	No significant damage	Temperature cycle: -55°C: 30±5mins -55°C to 105°C: ≤3mins 105°C:30±5mins 105°C to -55°C: ≤3mins Cycles numbers: 5 cycles
	Capacitance Change	≤ ±10% of the initial value	
	Dissipation Factor	≤ The initial specified value	
	ESR	≤ The initial specified value	
	Leakage Current	≤ The initial specified value	

SOLDERING RECOMMANDTION

Solder capacitors under the soldering conditions as follows.

(a) Pre-heat condition:
Atmosphere temperature 120°C or less for up to 90 seconds

(b) Soldering condition:
Solder temperature 260°C or less for up to 10 seconds.



PACKAGING SPECIFICATION

Case size	PE bag	inner box	outer box
0606	500 PCS	12 bags (6,000 PCS)	5 inner boxes (30,000 PCS)
0609	500 PCS	8 bags (4,000 PCS)	5 inner boxes (20,000 PCS)
0610	500 PCS	8 bags (4,000 PCS)	5 inner boxes (20,000 PCS)
0809	500 PCS	6 bags (3,000 PCS)	5 inner boxes (15,000 PCS)
0812	500 PCS	4 bags (2,000 PCS)	5 inner boxes (10,000 PCS)
1012	500 PCS	4 bags (2,000 PCS)	5 inner boxes (10,000 PCS)