

CONDUCTIVE POLYMER ALUMINUM SOLID ELECTROLYTIC CAPACITORS

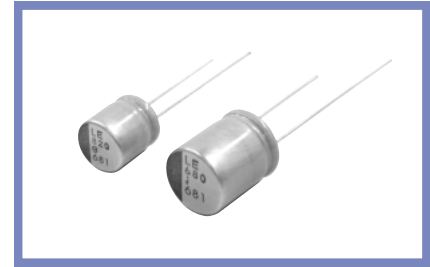
nichicon

LE Ultra Low ESR
series



NEW

- Ultra Low ESR, High ripple current.
- Load life of 2000 hours at 105°C.
- Radial lead type :
Lead free flow soldering condition correspondence
- Adapted to the RoHS directive (2002/95/EC).



■ Specifications

Item	Performance Characteristics									
Category Temperature Range	-55 ~ +105°C									
Rated Voltage Range	2.5 ~ 6.3V									
Rated Capacitance Range	470 ~ 1500μF									
Capacitance Tolerance	± 20% at 120Hz, 20°C									
tan δ	Not more than value of Standard ratings at 120Hz, 20°C									
ESR (*1)	Not more than value of Standard ratings at 100kHz, 20°C									
Leakage Current (*2)	Not more than value of Standard ratings. After 2 minute's application of rated voltage. 20°C									
Characteristics of Temperature Impedance Ratio	$Z+105^{\circ}\text{C} / Z+20^{\circ}\text{C} \leq 1.25$ (100kHz) $Z-55^{\circ}\text{C} / Z+20^{\circ}\text{C} \leq 1.25$									
Endurance	After 2000 hours' application of rated voltage at 105°C, capacitors meet the specified value for life characteristics listed at right.	<table border="1"> <tr> <td>Capacitance change</td> <td>Within ± 20% of initial value (*3)</td> </tr> <tr> <td>tan δ</td> <td>150% or less of the initial specified value</td> </tr> <tr> <td>ESR (*1)</td> <td>150% or less of the initial specified value</td> </tr> <tr> <td>Leakage current (*2)</td> <td>Initial specified value or less</td> </tr> </table>	Capacitance change	Within ± 20% of initial value (*3)	tan δ	150% or less of the initial specified value	ESR (*1)	150% or less of the initial specified value	Leakage current (*2)	Initial specified value or less
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Damp Heat	After 1000 hours' application of rated voltage at 60°C 90%RH, capacitors meet the specified value for life characteristics listed at right.	<table border="1"> <tr> <td>Capacitance change</td> <td>Within ± 20% of initial value (*3)</td> </tr> <tr> <td>tan δ</td> <td>150% or less of the initial specified value</td> </tr> <tr> <td>ESR (*1)</td> <td>150% or less of the initial specified value</td> </tr> <tr> <td>Leakage current (*2)</td> <td>Initial specified value or less</td> </tr> </table>	Capacitance change	Within ± 20% of initial value (*3)	tan δ	150% or less of the initial specified value	ESR (*1)	150% or less of the initial specified value	Leakage current (*2)	Initial specified value or less
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Leakage current (*2)	Initial specified value or less									
Resistance to Soldering Heat	To comply with recommended conditions for reflow soldering. Pre-heating shall be done at 150 ~ 200°C and for 60 ~ 180 sec. Peak temp. is 265°C, within 10 sec. Measurement for solder temperature profile shall be made at a point on the terminal nearest where the terminals protrude through the soldering side of PC board.	<table border="1"> <tr> <td>Capacitance change</td> <td>Within ± 10% of initial value (*3)</td> </tr> <tr> <td>tan δ</td> <td>130% or less of the initial specified value</td> </tr> <tr> <td>ESR (*1)</td> <td>130% or less of the initial specified value</td> </tr> <tr> <td>Leakage current (*2)</td> <td>Initial specified value or less</td> </tr> </table>	Capacitance change	Within ± 10% of initial value (*3)	tan δ	130% or less of the initial specified value	ESR (*1)	130% or less of the initial specified value	Leakage current (*2)	Initial specified value or less
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tan δ	130% or less of the initial specified value									
ESR (*1)	130% or less of the initial specified value									
Leakage current (*2)	Initial specified value or less									
Marking	Navy blue print on the case top.									

(*1) ESR measurements should be made at a point on the terminal nearest the end seal of the capacitor.

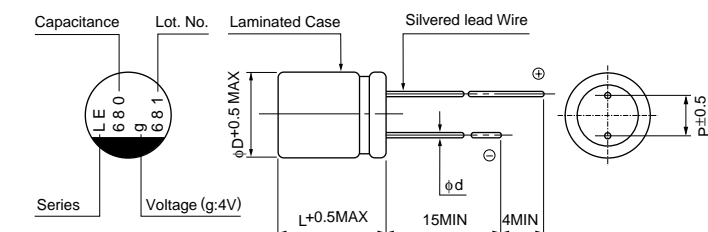
(*2) Conditioning : If there is doubt about the measured result, measurement should be made again after the rated voltage is applied for 120 minutes at the temperature of 105°C.

(*3) Initial value : The value before test of examination of resistance to soldering.

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■ Dimensions

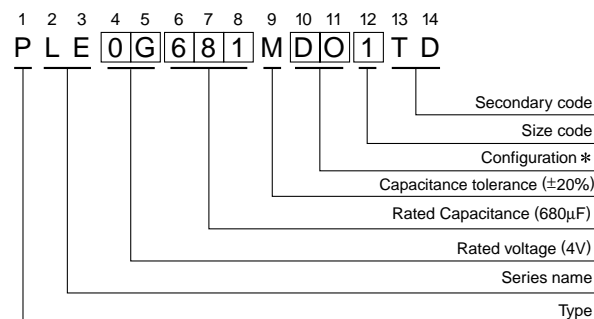


Voltage

V	2.5	4	6.3
Code	e	g	j

Size	φ8 × 9L	φ8 × 12L	φ10 × 13L
φD	8.0	8.0	10.0
L	8.5	11.5	12.5
P	3.5	3.5	5.0
φd	0.6	0.6	0.6

Type numbering system (Example : 4V 680μF)



* Configuration

φD × L	Code
8 × 9	CO
8 × 12	DO
10 × 13	DO

■ Standard ratings

Rated Voltage (V)	Rated Capacitance (μF)	Case Size φD × L (mm)	tan δ	Leakage Current (μA)	ESR (mΩ) (20°C / 100kHz)	Rated ripple (mArms) (105°C / 100kHz)	Code
2.5	560	8 × 9	0.08	280	5	6000	PLE0E561MCO1
	▲ 820	8 × 9	0.08	410	5	6300	PLE0E821MCO6
	820	8 × 12	0.08	410	5	6600	PLE0E821MDO1
	1000	10 × 13	0.08	500	5	7100	PLE0E102MDO1
	1500	10 × 13	0.08	750	5	7300	PLE0E152MDO1
4	560	8 × 9	0.08	448	5	6000	PLE0G561MCO1
	680	8 × 12	0.08	544	5	6500	PLE0G681MDO1
	820	10 × 13	0.08	656	5	7000	PLE0G821MDO1
	1200	10 × 13	0.08	960	5	7200	PLE0G122MDO1
6.3	470	8 × 12	0.08	592	5	6400	PLE0J471MDO1
	680	10 × 13	0.08	857	5	6700	PLE0J681MDO1
	820	10 × 13	0.08	1033	5	6800	PLE0J821MDO1

▲ : In this case, 6 will be put at 12th digit of type numbering system.

Design, Specifications are subject to change without notice.