

## Surface Mount Type **SP-Cap**

Series : **LX (Low ESR / Low ESL Products)**



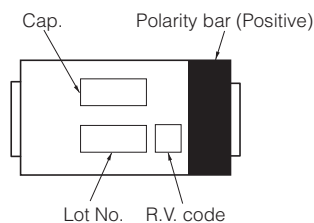
### Features

- Large capacitance (560  $\mu\text{F}$  max.)
- Low ESR (4.5  $\text{m}\Omega$ , 6  $\text{m}\Omega$ )
- Low ESL (3-terminals : 50 % less than 2-terminals)
- High ripple current (8500  $\text{mA}$ r.m.s. max.)
- RoHS compliance, Halogen free

### Specifications

Series	LX	
Category temp. range	-55 °C to +105 °C	
Rated voltage range	2 V.DC to 2.5 V.DC	
Nominal cap.range	330 $\mu\text{F}$ to 560 $\mu\text{F}$	
Capacitance tolerance	$\pm 20\%$ (120 Hz/+20 °C)	
DC leakage current	$I \leq 0.1 \text{ CV}$ ( $\mu\text{A}$ ) 2 minutes	
Dissipation factor ( $\tan \delta$ )	$\leq 0.06$ (120 Hz/+20 °C)	
Surge voltage (V.DC)	Rated voltage $\times 1.25$ (15 °C to 35 °C)	
Endurance	+105 °C, 2000 h, rated voltage applied	
	Capacitance change	Within $\pm 20\%$ of the initial value
	$\tan \delta$	$\leq 2$ times of the initial limit
	DC leakage current	$\leq 3$ times of the initial limit
Damp heat (Steady state)	+60 °C, 90 %, 500 h, No-applied voltage	
	Capacitance change of initial measurd value	2 V.DC to 2.5 V.DC +70 %, -20 %
	$\tan \delta$	$\leq 2$ times of the initial limit
	DC leakage current	Within the initial limit

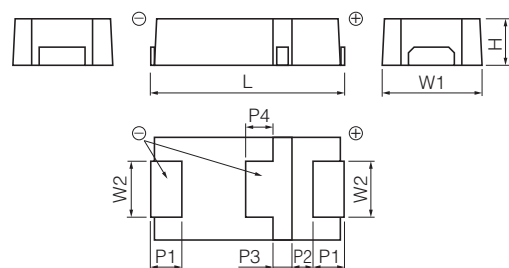
### Marking



Rated voltage mark

d	2 V.DC
e	2.5 V.DC

### Dimensions (not to scale)



Unit : mm

Series	L $\pm 0.2$	W1 $\pm 0.2$	W2 $\pm 0.1$	H $\pm 0.1$	P1 $\pm 0.3$	P2 $\pm 0.1$	P3 $\pm 0.2$	P4 $\pm 0.2$
LX	7.3	4.3	2.4	1.9	1.3	1.1	0.7	1.4

\* Externals of figure are the reference.

## Characteristics list

		Reflow *3		<Standard>					
Series	Rated voltage (V.DC)	Capacitance (±20%) (μF)	Case size (mm)			Specification		Part number	Min.*4 Packaging Q'ty (pcs)
			L	W	H	*1 Ripple current (mAr.m.s.)	*2 ESR (mΩ max.)		
LX	2	330	7.3	4.3	1.9	7500	6	EEFLX0D331R	3500
			7.3	4.3	1.9	8500	4.5	EEFLX0D331R4	3500
		470	7.3	4.3	1.9	7500	6	EEFLX0D471R	3500
			7.3	4.3	1.9	8500	4.5	EEFLX0D471R4	3500
		560	7.3	4.3	1.9	7500	6	EEFLX0D561R	3500
			7.3	4.3	1.9	8500	4.5	EEFLX0D561R4	3500
	2.5	330	7.3	4.3	1.9	7500	6	EEFLX0E331R	3500
			7.3	4.3	1.9	8500	4.5	EEFLX0E331R4	3500
		470	7.3	4.3	1.9	7500	6	EEFLX0E471R	3500
			7.3	4.3	1.9	8500	4.5	EEFLX0E471R4	3500

\*1: Ripple current (100 kHz/ +45°C), \*2: ESR (100 kHz/+20 °C)

\*3: Please refer to the page of "Mounting Specifications".

\*4: Please contact us when 500 pcs packing is necessary.

## Temperature compensation multipliers for ripple current

Temp.	$T \leq 45\text{ }^{\circ}\text{C}$	$45\text{ }^{\circ}\text{C} < T \leq 85\text{ }^{\circ}\text{C}$	$85\text{ }^{\circ}\text{C} < T \leq 105\text{ }^{\circ}\text{C}$
Coefficient	1.0	0.7	0.25

## Guidelines and precautions regarding the technical information and use of our products described in this online catalog.

- If you want to use our products described in this online catalog for applications requiring special qualities or reliability, or for applications where the failure or malfunction of the products may directly jeopardize human life or potentially cause personal injury (e.g. aircraft and aerospace equipment, traffic and transportation equipment, combustion equipment, medical equipment, accident prevention, anti-crime equipment, and/or safety equipment), it is necessary to verify whether the specifications of our products fit to such applications. Please ensure that you will ask and check with our inquiry desk as to whether the specifications of our products fit to such applications use before you use our products.
- The quality and performance of our products as described in this online catalog only apply to our products when used in isolation. Therefore, please ensure you evaluate and verify our products under the specific circumstances in which our products are assembled in your own products and in which our products will actually be used.
- If you use our products in equipment that requires a high degree of reliability, regardless of the application, it is recommended that you set up protection circuits and redundancy circuits in order to ensure safety of your equipment.
- The products and product specifications described in this online catalog are subject to change for improvement without prior notice. Therefore, please be sure to request and confirm the latest product specifications which explain the specifications of our products in detail, before you finalize the design of your applications, purchase, or use our products.
- The technical information in this online catalog provides examples of our products' typical operations and application circuits. We do not guarantee the non-infringement of third party's intellectual property rights and we do not grant any license, right, or interest in our intellectual property.
- If any of our products, product specifications and/or technical information in this online catalog is to be exported or provided to non-residents, the laws and regulations of the exporting country, especially with regard to security and export control, shall be observed.

## <Regarding the Certificate of Compliance with the EU RoHS Directive/REACH Regulations>

- The switchover date for compliance with the RoHS Directive/REACH Regulations varies depending on the part number or series of our products.
- When you use the inventory of our products for which it is unclear whether those products are compliant with the RoHS Directive/REACH Regulation, please select "Sales Inquiry" in the website inquiry form and contact us.

**We do not take any responsibility for the use of our products outside the scope of the specifications, descriptions, guidelines and precautions described in this online catalog.**

---