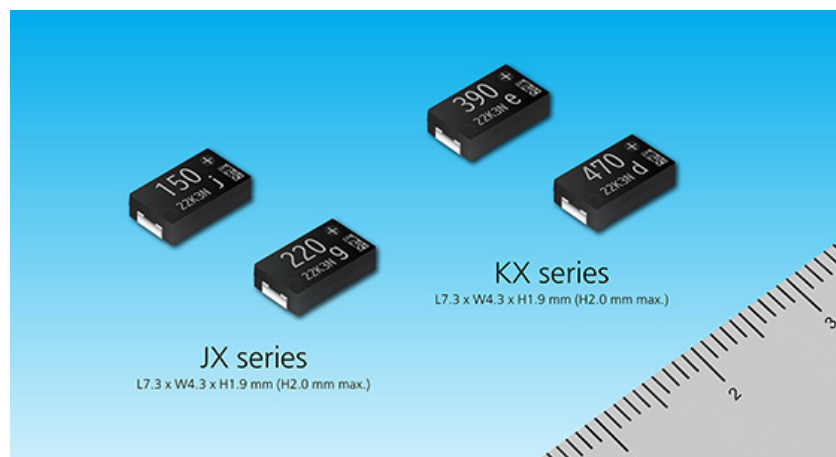


Feb 28, 2022

Panasonic Commercializes the KX Series SP-Cap® Conductive Polymer Aluminum Electrolytic Capacitors with Industry's Longest*1 5,500 Hours of Endurance

- The new capacitors contribute to improving the reliability of power supply circuits employed in communication base stations, servers, etc.
- The company has expanded the JX Series SP-Cap® product lineup of the low-ESR and a variety of rated voltages.



(High temperature long life product)
Conductive Polymer Aluminum Electrolytic Capacitors
(Panasonic 2.2022)

Osaka, Japan – Panasonic Corporation announced today that its Industry Company has commercialized the KX series of SP-Cap® conductive polymer aluminum electrolytic capacitors^[1] with the highest level of reliability in the industry – up to 5,500 hours of endurance at 125°C. This new series of capacitors is suitable for use in power circuits for servers and communication base stations, etc. that require capacitors with a higher durability for high-speed communications. Mass production of the new capacitors will start in April 2022.

Panasonic pursues even higher endurance performance in the development of conductive polymer aluminum electrolytic capacitors. With the combination of its proprietary conductive polymer forming technology and manufacturing process technology, the company has commercialized the KX series of SP-Cap® with the industry's longest endurance*1 of 5,500 hours at 125°C, 1.8 times the lifetime of the JX series SP-Cap®.

Panasonic has also expanded the JX series SP-Cap® product lineup with low-ESR^[2] products and an added range of rated voltages.

Furthermore, both the KX and JX series of SP-Cap® guarantee long endurance even under high temperature and high humidity conditions – 1,000 hours at 85°C/85% (dump-heat steady state).

Panasonic contributes to stabilizing power supply circuits through the development of conductive polymer aluminum electrolytic capacitors that feature low ESR and excellent large capacitance characteristics.

Panasonic's conductive polymer aluminum electrolytic capacitors SP-Cap® "KX Series" and "JX Series" have the following features.

1. Achieving the Industry's Longest*1 5,500 Hours of Endurance at 125°C: KX series SP-Cap®

- The KX series SP-Cap® capacitors achieve 1.8 times the lifetime of the JX series SP-Cap® (JX series: 3,000 hours at 125°C)

2. Product lineup expansion with addition of low-ESR products and a further variety of rated voltages: JX series SP-Cap®

- Addition of products with ESR of 3/4.5 mΩ (100 kHz) to the 2 V and 2.5 V rated voltage product lineups.
- Increase in the variety of rated voltages with the addition of 4 V and 6.3 V products (ESR: 15 mΩ (100 kHz))

3. Space-saving and lowering environmental impact

*1. As conductive polymer aluminum electrolytic capacitors with endurance of 5,500 hours at 125°C (Panasonic data as of February 28, 2022)

Suitable applications:

Output-side of low voltage power rail in power supply circuits employed in the ICT infrastructure industries such as communication base stations, servers, etc.

Product features:

1. Achieving the Industry's Longest*1 5,500 Hours of Endurance at 125°C: KX series SP-Cap®

Panasonic's SP-Cap® capacitors adopt a stacking structure of capacitor elements using aluminum electrode foils. With the combination of the company's proprietary conductive polymer forming technology and manufacturing process technology, the KX series SP-Cap® capacitors achieve high reliability with endurance of 5,500 hours at 125°C - 1.8 times the lifetime of the JX series SP-Cap®.

2. Product lineup expansion with addition of low-ESR products and a further variety of rated voltages: JX series SP-Cap®

Panasonic has added products with ESR of 3/4.5 mΩ (100 kHz) to the 2 V and 2.5 V product lineups (currently, 9 mΩ / 100 kHz) as well as increasing the variety of rated voltages by adding 4 V and 6.3 V products (currently 2 V and 2.5 V). These products will facilitate equipment design with long endurance, contributing to performance improvements.

3. Space-saving and lowering environmental impact

The newly developed capacitors, with an effective capacitance equivalent to that of MLCCs, enable a reduction in the number of required capacitors. Replacing multiple MLCCs with an SP-Cap® capacitor will reduce mounting areas and enable the miniaturization of equipment, thereby lowering environmental impact through the reduction of materials used.

Basic specifications:

KX series SP-Cap®

Rated voltage	2 V		2.5 V		
Capacitance	330 μF	470 μF	220 μF	330 μF	390 μF
Category temperature range	-55°C to +125°C				
Endurance	125°C 5,500 hours				
ESR	9 m Ω max. (100 kHz/+20°C)				
Dimensions	L7.3 mm x W4.3 mm x H1.9 mm				

JX series SP-Cap®

Rated voltage	2 V	2.5 V	2 V	2.5 V
Capacitance	470 μF	390 μF	470 μF	390 μF
Category temperature range	-55°C to +125°C			
Endurance	125°C 3,000 hours			
ESR	3 mΩ max.(100 kHz/+20°C)		4.5 mΩ max.(100 kHz/+20°C)	
Dimensions	L7.3 mm x W4.3 mm x H1.9 mm			

Rated voltage	4 V			6.3 V	
Capacitance	150 μF	180 μF	220 μF	120 μF	150 μF
Category temperature range	-55°C to +125°C				
Endurance	125°C 3,000 hours				
ESR	15 m Ω max. (100 kHz/+20°C)				
Dimensions	L7.3 mm x W4.3 mm x H1.9 mm				

Term Descriptions:

[1] Conductive polymer aluminum electrolytic capacitors

A collective term for aluminum electrolytic capacitors that use a conductive polymer, which is a solid electrolyte, instead of an electrolytic solution. There are two types of structures: the wound type, as used in conventional aluminum electrolytic capacitors, and the stacking type. Conductive polymers have high conductivity and excellent low ESR characteristics.

*SP-Cap® is a registered trademark of Panasonic Corporation.

[2] ESR (Equivalent Series Resistance)

ESR stands for equivalent series resistance, which is a resistance component on the equivalent circuit of electrolytic capacitors. Capacitors with a lower ESR value allow more ripple currents, as well as exhibiting excellent noise absorption.

Detailed product information:

KX Series SP-Cap® Conductive Polymer Aluminum Electrolytic Capacitors

JX Series SP-Cap® Conductive Polymer Aluminum Electrolytic Capacitors

URL: <https://industrial.panasonic.com/ww/products-cap/polymer-capacitors/sp-cap/jx-high-reliability-pr?ad=press20220228>

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Industry Company, Panasonic Corporation

<https://www.panasonic.com/global/corporate/industry.html>

About Panasonic

Panasonic Corporation is a global leader developing innovative technologies and solutions for wide-ranging applications in the consumer electronics, housing, automotive, and B2B sectors. The company, which celebrated its 100th anniversary in 2018, operates 522 subsidiaries and 69 associated companies worldwide and reported consolidated net sales of 6,698.8 billion yen for the year ended March 31, 2021. Committed to pursuing new value through collaborative innovation, the company uses its technologies to create a better life and a better world for customers. Learn more about Panasonic: <https://www.panasonic.com/global>.

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