Q: What is a Murata polymer aluminum electrolytic capacitor?
Q: Is the ECAS series a multi-layer device?
Q: What are the advantages of using polymer aluminum capacitors vs other non-ceramic technologies?
Q: What are the advantages of using polymer capacitors vs MLCC?
Q: Do polymer electrolytic capacitors have polarity?
Q: Can the ECAS series be used in AC circuits?
Q: Is voltage derating required for ECAS capacitors?
Q: What is the operating temperature range of Murata's ECAS series?
Q: What is the capacitance and voltage range of the ECAS series?
Q: Can the ECAS series be exposed to reflow and wave soldering environments?
Q: Are there special handling and storage conditions required for the ECAS series?
Q: Do polymer electrolytic capacitors experience the same capacitance changes under applied voltage like MLCCs?
Q: What is the average reel size of the ECAS series?
Q: Will the ECAS product continue to follow Murata's 18 digit global part numbering (GPN) system?
Q: Why did Murata enter the polymer capacitor business after being in MLCCs for so long?
Q: What is a Murata polymer aluminum electrolytic capacitor?
A: There are two kinds of polymer aluminum capacitors: the “surface mount” type (also known as H-Chip), which uses a multilayer aluminum foil structure, and the “Can” type (also known as V-Chip), which consists of a rolled aluminum structure. Murata's H-Chip type (ECAS Series) is designed with a resin molded case structure, which utilizes multilayer aluminum foil for anode and solid conductive polymer for negative cathode.

![Diagram of Al Capacitor](image)

Multilayer type (H-Chip)
H-Chip: Horizontal Chip

Can type (V-Chip)
V-Chip: Vertical Chip

Aluminum / Rolled Structure
- Aluminum case
- Aluminum foil
- Separator (Polymer)
- Sealing rubber

Aluminum / Multilayer Structure
- Polymerization film
- Carbon paste
- Silver paste
- Molded resin
- Loadframe
- Aluminum foil
- Terminal
- Polarity stripe
Q: Is the ECAS series a multi-layer device?
A: Yes. The ECAS series utilizes multilayer aluminum foil for anode and solid conductive polymer for negative cathode.
Murata Polymer Capacitor – Website FAQ

Q: What are the advantages of using polymer aluminum capacitors vs other non-ceramic technologies?

A: ESR and impedance of Murata’s polymer capacitor are lower than other non-ceramic type capacitors because a multilayer structure design uses a conductive polymer for cathode; therefore, the ECAS series exhibits high performance for noise suppression, ripple absorption, and decoupling.

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Diagram showing the comparison of ESR (ohm) at 100kHz and capacitance (uF) at 120Hz among different types of capacitors: Tantalum MnO₂, Aluminum Capacitor (Liquid type), Ta Polymer, Al Polymer (V-Chip), Al Polymer (H-Chip) ECAS series, MLCC.
Q: What are the advantages of using polymer capacitors vs MLCC?
A: MLCCs offer the best overall solution in terms of size, volumetric capacitance, and low impedance. Polymer capacitors extend the high capacitance offering.
Q: Do polymer electrolytic capacitors have polarity?
A: Yes. Unlike MLCCs, polymer electrolytic capacitors have a marked polarity so proper placement on the PCB board is important.

〈 Polarity Marking 〉

Ex. 2V/220uF
Q: Can the ECAS series be used in AC circuits?
A: No, because these components have polarity.

Q: Is voltage derating required for ECAS capacitors?
A: No. Murata's ECAS capacitors can be used without voltage derating because the electrolytic formation voltage is higher during manufacturing.

Q: What is the operating temperature range of Murata's ECAS series?
A: Operating temperature range is: -40°C to 105°C

Q: What is the capacitance and voltage range of the ECAS series?
A: Capacitance range is 6.8uF to 470uF
    Rated voltage range is 2VDC to 16VDC

Q: Can the ECAS series be exposed to reflow and wave soldering environments?
A: The ECAS series can only be reflowed soldered. Please check our specifications for applicable profiles and conditions.
Q: Are there special handling and storage conditions required for the ECAS series?
A: No. The ECAS series are rated at MSL 3 and are packaged in special packaging and can be stored under normal warehouse conditions.

Q: Do polymer electrolytic capacitors experience the same capacitance changes under applied voltage like MLCCs?
A: No. Polymer electrolytic capacitors do not exhibit “dc bias” characteristics shown by class 2 or 3 (high K) MLCC.
Q: What is the average reel size of the ECAS series?
A: Case Size D4 (T=1.9mm/size is 3000pcs/reel @ 330mm)
    Case Size D6 (T=2.8mm/size is 2500pcs/reel @ 330mm)
    Case Size D9 (T=4.2mm/size is 2000pcs/reel @ 330mm)
Q: Will the ECAS product continue to follow Murata’s 18 digit global part numbering (GPN) system?

A: Yes. The ECAS series will follow Murata’s conventional 18 digit GPN system.
Q: Why did Murata enter the polymer capacitor business after being in MLCCs for so long?

A: Our strategy and goal have been to become a complete capacitor solution provider.
Thank you for your interest in Murata Products.