CDE Q Series Polypropylene Film Capacitors for Medical Defibrillator Applications

High Energy Density,
Multiple Packaging Options

CDE
ENERGIZING IDEAS
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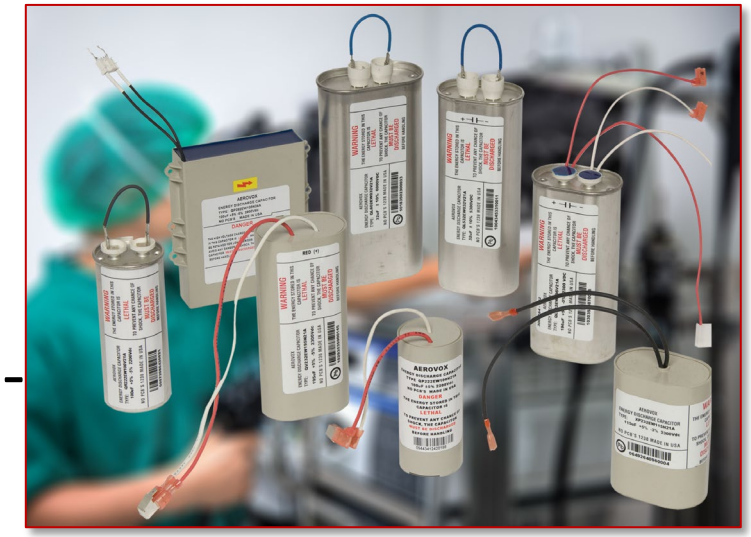
CDE Q Series Polypropylene Film Capacitors for Defibrillators

Designed specifically for today's external medical defibrillators

- Meets the reliability demands of Class III medical devices
- Used extensively in professional-grade and automated external defibrillators (AEDs)
- Highest in-class energy density
- Broadest range of packaging options
- RoHS compliant



Film Capacitors for Defibrillators

- Defibrillators restore a normal heartbeat by shocking the heart with a high energy pulse.
- Used to prevent or correct an arrhythmia, a heartbeat that is uneven.
- Shock can also restore the heart's beating if the heart suddenly stops.

Film Capacitors for Defibrillators

- Energy storage capacitors are considered a critical component in a critical device – They must work!
- CDE Q type capacitors are for external defibrillator applications only.

Q Series Key Performance Parameters

- Very high energy density…some devices deliver in excess of 2 joules/cc; 500 joules, fully charged
- Voltage ratings range from 800 Vdc to 6,000 Vdc
- Capacitance values from 32 to 500 µF
- Excellent temperature and humidity specs
- Q Series film technology has numerous advantages when compared to aluminum electrolytics

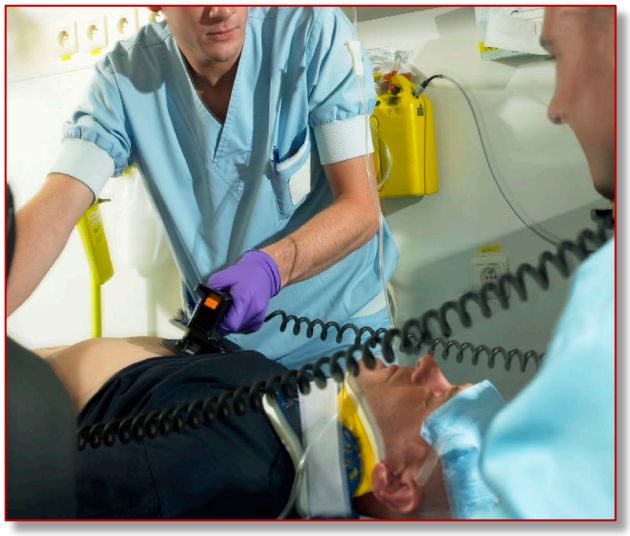
Q Series Key Performance Parameters

- Metallized polypropylene film capacitor design is self-healing
- Highest quality film and metallization materials
- Over 5 million units sold with no field failures!
- Meet or exceed customer demands for performance and reliability

High Performance for External Medical Defibrillators

General applications include:

- External medical defibrillators
- Both manual and Automated External Defibrillators (AEDs)
- For both monophasic and bi-phasic defibrillators
- 100% factory tested with serialized test data for traceability



Q Series Case Styles and Lead Configurations

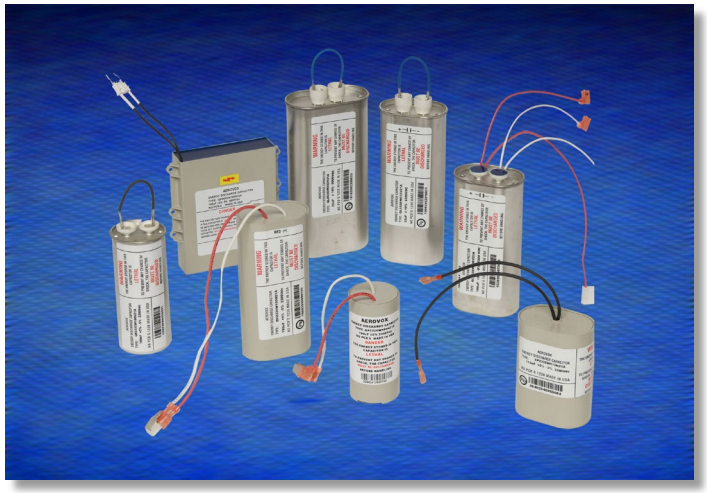
- There are 13 standard designs, with ratings from 800 Vdc to 6,000 Vdc, with capacitance values from 32 to 500 µF
- Designs for customer-specific applications including molded packages

Standard Catalog Items

CAP (µF)	CDE P/N	VOLTAGE RATING (VDC)	JOULES (J)	STYLE (FILL)	SIZE W x L x H OR D x H (Inches)
120	QL232EW120V	2300	317	Oval, Metal (Oil)	1.91 x 2.91 x 3.75
32	QL502EW032V	5000	400	Oval, Metal (Oil)	1.91 x 2.91 x 6.75
48	QL422YW048V	4200	423	Oval, Metal (Oil)	1.91 x 2.91 x 5.75
195	QL232EW195V	2300	516	Oval, Metal (Oil)	1.91 x 2.91 x 5.75
195	QV232EW195N	2300	516	Oval, Plastic (Dry)	1.77 x 2.75 x 5.75
32	QL602EW032V	6000	576	Oval, Metal (Oil)	1.97 x 3.66 x 6.88
240	QL232EW240V	2300	635	Oval, Metal (Oil)	1.97 x 3.66 x 5.88
105	QR172YW105V	1760	163	Round, Metal (Oil)	1.88 x 4.75
105	QR222EW105V	2200	254	Round, Metal (Oil)	2.13 x 4.75
90	QR252EW090V	2500	281	Round, Metal (Oil)	2.63 x 4.75
195	QR222EW195V	2200	472	Round, Metal (Oil)	2.63 x 4.75
195	QS222EW195N	2200	472	Round, Plastic (Dry)	2.57 x 4.69
195	QR232EW195V	2300	516	Round, Metal (Oil)	2.38 x 5.60

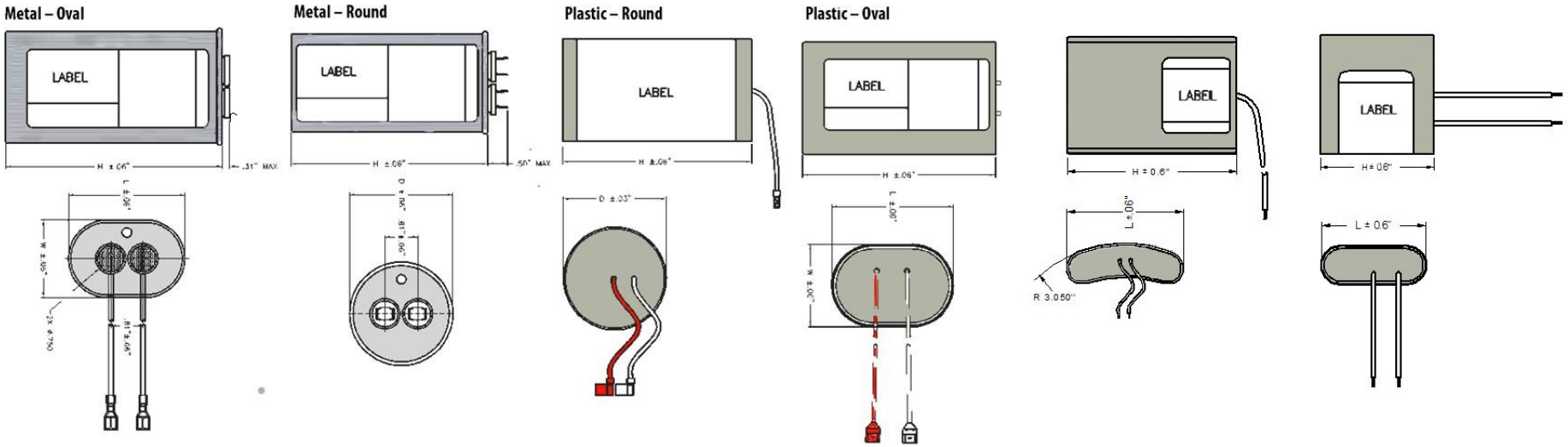
Multiple Packaging Options for Design Flexibility

- Standard packages include oil-filled metal cases, epoxy-filled plastic cases, or dry wrap and fill.
- Available in either standard round, oval configurations or flat form factors
- A multitude of termination options are available, ranging from quick-connect blades to insulated wire leads
- Integration into customers' hardware design



Q Series Case Styles and Lead Configurations

- Seven standard case sizes, varying on values/ratings, ranging from 35x35 up-to 40x63mm.
- Two pin lead on 35 mm and 40 mm diameters.
- Custom designs to match customer needs



CDE Q Series Medical Defibrillator Film Capacitor Summary

- For both monophasic and bi-phasic external defibrillators
- Approved for Class III medical devices, and RoHS compliant
- Very high energy density
- Broad range of case styles and termination options, customization
- Typical range of values:
  - 800 Vdc to 6,000 Vdc with 32 to 500 µF capacitance values
- Made in USA