

# DSM Series Standard Supercapacitor Modules

***Connect-and-Energize!***

***High energy storage, up to 30 volts and  
18 amps of current.***



ENERGIZING IDEAS

**CORNELL  
DUBILIER**

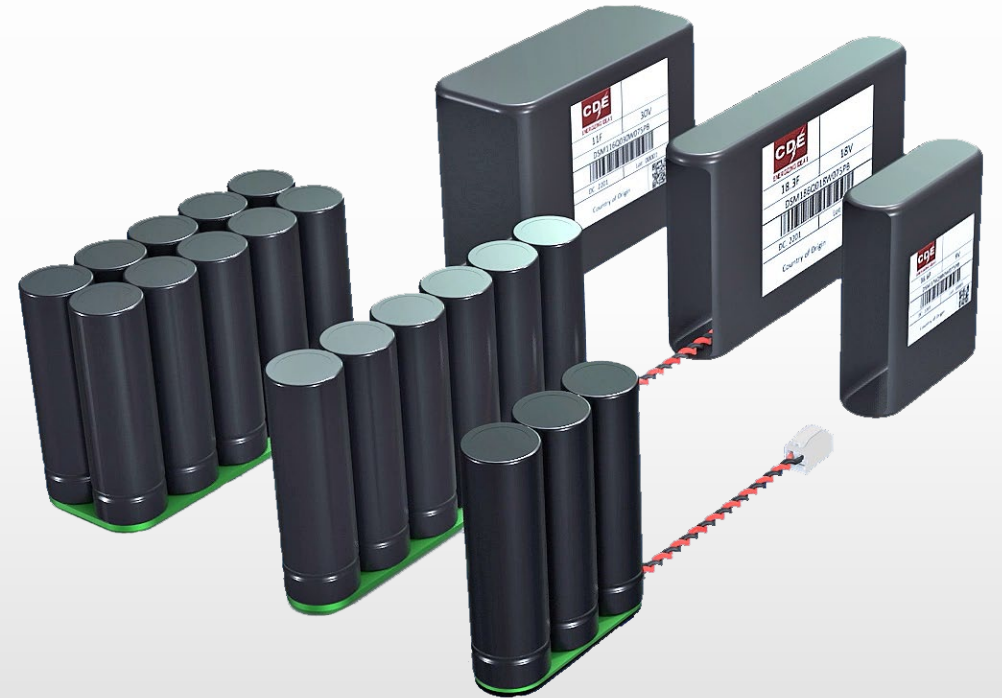
# DSM Modules utilize EDLC supercapacitors offering energy storage at higher voltages than single cells.

- Modules have 3, 6, or 10 cells in series, for 9V, 18V, and 30V outputs.
- Capacitance values from 0.15 to 36.6 Farads.
- Integrated passive cell balancing.
- Operating range of  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ .
- Easy and safe alternative to lithium-ion batteries.
- Use in power systems for energy harvesting, storage, and backup applications.
- Cable assemblies with Molex Mini-Lock connectors.
- RoHS and REACH Compliant with UL 810A recognized cells.



# DSM modules make it easy to verify energy storage and power needs.

- Standard off-the-shelf modules provide high voltage and wide capacitance ratings.
- Plug-and-Play modules simplify product prototyping, saving valuable engineering time and design validation.
- Modules offer both high energy and high-power density.



# For many applications, DSM modules are an easy and safe alternative to typical battery applications.

- DSM Series offers the simplicity of typical battery packs with many application-specific benefits.
- Used in parallel with or in place of batteries.
- Modules have excellent storage capability, with operating voltages greater than conventional battery packs.
- Instant charging and on-demand discharge.
- Not subject to potential thermal runaway or fires common to lithium-ion batteries.
- No shipping restrictions.
- Life cycle performance significantly exceeds battery life or extends battery life when used in parallel.



# Key characteristics of DSM Modules meet many power and energy storage requirements.

- 21 Capacitance and Voltage combinations
- Operating Temperature Range
  - 40 °C to +65 °C for 9V, 18V, and 30V
- Extended Temperature Range
  - 40 °C to +85 °C at 7.5V, 15V, and 25V
- Low ESR and High Current capability
- 500,000 charge/discharge cycles



# DSM Module performance specifications summary.

Rated Voltage Range	9 Vdc to 30 Vdc
Capacitance Range	0.15 F to 36.6 F
Capacitance Tolerance	-10% +30% (20 °C)
Operating Temperature Range	-40 °C to +65 °C 9V, 18V, 30V
Extended Temperature Range	-40 °C to +85 °C 7.5V, 15V, 25V
Storage Temperature	-40 °C to +70 °C
Life Time	1000 Hours at rated voltage 65 °C
Shelf Life	1000 Hours at 65 °C
Life Cycles	500,000 Cycles at 25 °C, Vr to 1/2 Vr



- ***RoHS Compliant***
- ***Cells are UL810A Recognized***

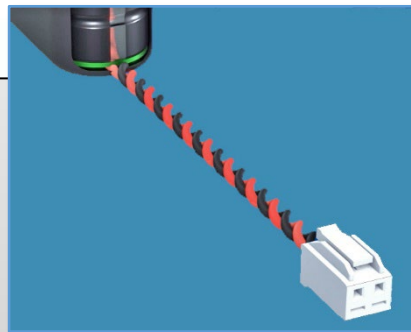
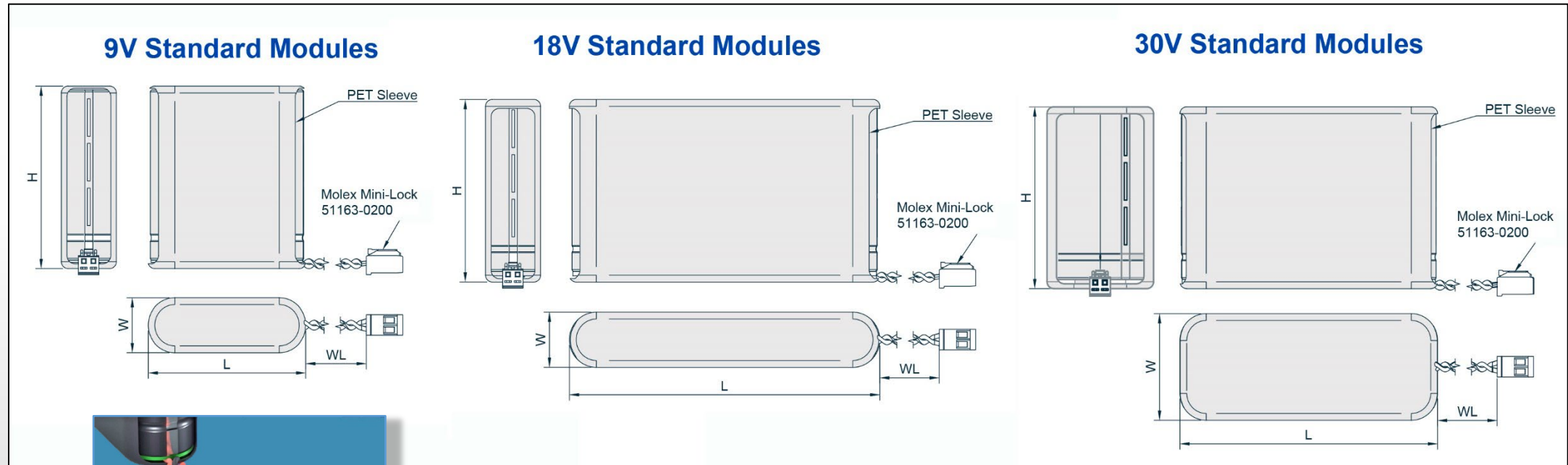
# Choose from 21 different DSM Series SKUs

Part Number	Nominal Capacitance	ESR DC	Peak Current 1s	Rated Current 5s	Leakage Current 72 hrs	Mass	L (max)	H (max)	W (max)	WL (typ)
	(F)	(mΩ)	(A)	(A)	(mA)	(g)	(mm)	(mm)	(mm)	(mm)
<b>9 VDC (65 °C)   7.5 VDC (85 °C)</b>										
DSM504Q009W075PB	0.5	1940	1.14	0.38	0.20	3.5	21.5	24.5	7.5	75
DSM105Q009W075PB	1.0	455	3.09	0.83	0.30	5.5	27	27	9	75
DSM335Q009W075PB	3.3	546	5.30	2.20	0.90	11	33	30	11	75
DSM505Q009W075PB	5.0	210	12.26	3.86	1.10	13	41	30	14	75
DSM126Q009W075PB	11.6	152	18.89	7.76	3.00	32	51	39	17.5	75
DSM236Q009W075PB	23.3	122	27.29	13.41	9.00	48	57	57	19.5	75
DSM376Q009W075PB	36.6	110	32.84	18.35	11.00	63	57	67	19.5	75
<b>18 VDC (65 °C)   15 VDC (85 °C)</b>										
DSM254Q018W075PB	0.25	3879	1.14	0.38	0.20	6	42	24.5	7.5	75
DSM504Q018W075PB	0.5	909	3.09	0.83	0.30	11	52	27	9	75
DSM165Q018W075PB	1.6	1091	5.24	2.20	0.90	20	64	30	11	75
DSM255Q018W075PB	2.5	334	12.26	3.86	1.10	26	79	30	14	75
DSM585Q018W075PB	5.8	303	18.93	7.76	3.00	64	100	39	17.5	75
DSM126Q018W075PB	11.6	243	27.34	13.41	9.00	96	112	57	19.5	75
DSM186Q018W075PB	18.3	220	32.66	18.08	11.00	126	112	67	19.5	75
<b>30 VDC (65 °C)   25 VDC (85 °C)</b>										
DSM154Q030W075PB	0.15	6464	1.14	0.38	0.20	10	35	24.5	14.5	75
DSM304Q030W075PB	0.3	1515	3.09	0.83	0.30	15	44	27	18	75
DSM105Q030W075PB	1.0	1818	5.32	2.20	0.90	29	54	30	22	75
DSM155Q030W075PB	1.5	700	12.27	3.86	1.10	48	66	30	27	75
DSM355Q030W075PB	3.5	505	18.97	7.76	3.00	89	84	39	34	75
DSM705Q030W075PB	7.0	404	27.43	13.41	9.00	171	94	57	38	75
DSM116Q030W075PB	11.0	360	33.26	18.41	11.00	225	94	67	38	75



# DSM Series package design characteristics.

9V, 18V, and 30V Module Package Configurations. (Sizes are shown on the data table.)

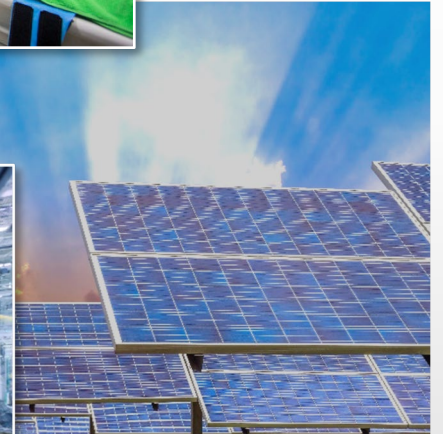


*All modules feature a twisted pair wire lead and a standard Molex Mini-Lock Connector.*



# DSM Series potential applications

- **Industrial**
  - Factory automation and robotics, AGV
  - Mechanical actuator or valve power
- **Transportation**
  - Forklift trucks and personal EVs
- **Energy/Lighting**
  - UPS systems and emergency lighting
  - Solar lights and energy storage
- **IoT and Green Energy**
  - Energy harvesting/storage
- **Memory backup circuits**
- **GPS, Telematics, Tracking**
- **Medical Systems**
- **Battery applications**



# DSM Series product support

## Additional Resources:

- Technical Support
- Datasheet
- Product Brief
- Presentation
- Video
- Part Search

Custom designs available

Email: [supercap@cde.com](mailto:supercap@cde.com)

For more information:

<https://www.cde.com/capacitors/ultracapacitors/modules/>



# DSM Series Summary

DSM Supercapacitor Modules are smart solutions for many energy storage and power applications.

- 3, 6, or 10 cells in series with integrated passive cell balancing.
- Voltages of 9, 18, and 30 volts.
- Capacitance values from 0.15 to 36.6 Farads.
- Designed for use from  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ .
- Easy and safe alternative to lithium-ion batteries.
- Plug & Play with wire leads and Molex Mini-Lock connectors.
- RoHS and REACH Compliant, UL 810A recognized cells.
- In stock at select Cornell Dubilier distributors.



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