

Capacitors for Power Electronics (PEC) - Cylindrical



FEATURES

- High impulse current rating up to 10 kA
- Low self-inductance of < 100 nH
- High reliability and life expectancy
- Withstands heavy duty shock and vibration
- Non-polar dielectric
- Dry, resin filled

APPLICATIONS

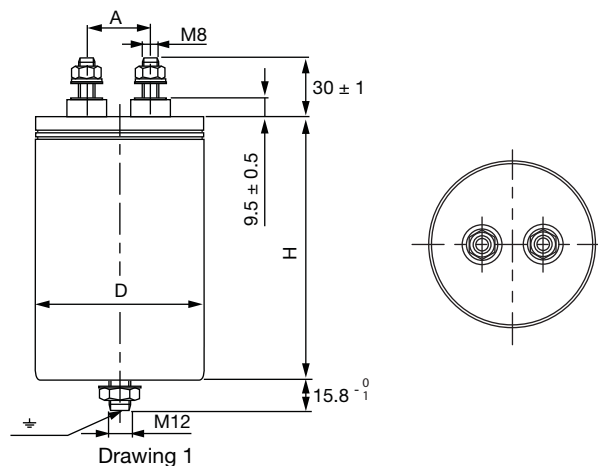
- DC linking and DC filtering in industry and traction converters
- DC linking in low-power drives
- Impulse discharge capacitors for magnetizing and welding
- Replacement of aluminum electrolytic capacitors (lower capacitance, higher currents)

QUICK REFERENCE DATA

DESCRIPTION	VALUE
Rated DC voltage min.	880 V
Rated DC voltage max.	1000 V
Capacitance min.	30 μ F
Capacitance max.	2235 μ F
Technology	Metallized polypropylene
Dissipation factor ($\tan \delta_0$)	< 2×10^{-4}
Capacitance tolerance	$\pm 5 \%$
Operating temperature (hot spot)	$\theta_{\min.} - 40 \text{ }^\circ\text{C}$ $\theta_{\max.} + 80 \text{ }^\circ\text{C}$
Inductance	< 100 nH
Lifetime expectancy	200 000 h at U_{NDC} and < 60 $^\circ\text{C}$ hotspot
Reliability	200 FIT
Test voltage	Terminal/terminal = $1.5 \times U_{NDC}$, 10 s Terminal/case = $2 \times U_{NDC} + 1000 V_{AC}$, 60 s
Casing material	Aluminum
Filling	Resin polyurethane, UL 94 V-0
Standards	IEC 61071-1, IEC 61881 and EN 61071-1

DIMENSIONS in millimeters

$D \leq 84.4 \text{ mm}$	$A = 32 \text{ mm}$
$D = 116 \text{ mm}$	$A = 50 \text{ mm}$





Capacitors for Power Electronics
(PEC) - Cylindrical

DCMKP
Vishay ESTA

TYPE DESCRIPTION												
TYPE DCMKP ...-...IBR	C _N [μF]	VOLTAGE V _{DC}	R _S [mΩ]	R _{th} [K/W]	I _{MAX.} [A]	I _P [kA]	İ [kA]	HEIGHT [mm]	D [mm]	WEIGHT [kg]	PACKAGING UNIT	DRAWING NO.
DCMKP 880, U_{NDC} = 880 V, V_{AC} = 220 V_{RMS}												
880-200	200	880	3.4	15.0	34.0	0.75	2.25	105	64	0.4	9	1
880-270	270	880	4.4	11.7	35.0	0.73	2.21	130	64	0.4	9	1
880-370	370	880	2.2	12.8	46.0	1.38	4.15	105	84	0.6	4	1
880-510	510	880	2.8	9.8	48.0	1.39	4.18	130	84	0.7	4	1
DCMKP 1.1, U_{NDC} = 1100 V, V_{AC} = 275 V_{RMS}												
1.1-130	130	1100	3.9	14.9	32.0	0.60	1.82	105	64	0.3	9	1
1.1-175	175	1100	5.2	11.6	32.0	0.60	1.80	130	64	0.4	9	1
1.1-240	240	1100	2.5	12.7	43.0	1.12	3.37	105	84	0.6	4	1
1.1-280	280	1100	7.7	7.7	31.0	0.60	1.80	185	64	0.5	9	1
1.1-330	330	1100	3.2	9.8	44.0	1.12	3.37	130	84	0.7	4	1
1.1-525	525	1100	4.5	6.5	46.0	1.68	5.05	185	84	1.3	4	1
1.1-1000	1000	1100	2.9	5.4	62.0	2.14	6.42	185	116	1.9	4	1
DCMKP 1.3, U_{NDC} = 1300 V, V_{AC} = 325 V_{RMS}												
1.3-90	90	1300	4.6	15.0	29.0	0.50	1.50	105	64	0.3	9	1
1.3-120	120	1300	6.0	11.7	29.0	0.94	2.82	130	64	0.7	9	1
1.3-165	165	1300	2.9	12.8	40.0	1.91	5.75	105	84	2.1	4	1
1.3-195	195	1300	9.0	7.7	30.0	0.50	1.50	185	64	0.6	9	1
1.3-230	230	1300	3.6	9.8	41.0	0.93	2.80	130	84	0.7	4	1
1.3-365	365	1300	5.1	6.5	42.0	2.05	6.16	185	84	1.3	4	1
1.3-710	710	1300	3.2	5.4	59.0	3.83	11.5	185	116	1.9	4	1
DCMKP 1.55, U_{NDC} = 1550 V, V_{AC} = 385 V_{RMS}												
1.55-65	65	1550	5.2	15.1	28.0	0.43	1.29	105	64	0.4	9	1
1.55-90	90	1550	6.8	11.6	28.0	0.43	1.29	130	64	0.6	9	1
1.55-120	120	1550	3.2	12.9	38.0	0.78	2.34	105	84	0.6	4	1
1.55-145	145	1550	10.3	7.7	28.0	0.43	1.29	185	64	0.6	9	1
1.55-165	165	1550	4.1	9.9	39.0	0.79	2.37	130	84	0.7	4	1
1.55-265	265	1550	5.9	6.6	39.0	0.79	2.38	185	84	1.0	4	1
1.55-520	520	1550	3.6	5.4	56.0	1.70	5.12	185	116	1.2	4	1
DCMKP 1.75, U_{NDC} = 1750 V, V_{AC} = 440 V_{RMS}												
1.75-50	50	1750	5.7	15.0	26.0	0.37	0.13	105	64	0.3	9	1
1.75-65	65	1750	7.6	11.6	26.0	0.36	1.09	130	64	0.4	9	1
1.75-90	90	1750	3.5	12.9	36.0	0.69	2.09	105	84	0.6	4	1
1.75-110	110	1750	11.5	7.7	26.0	0.37	1.13	185	64	0.5	9	1
1.75-125	125	1750	4.5	9.9	37.0	0.70	2.10	130	84	0.8	4	1
1.75-200	200	1750	6.6	6.6	37.0	0.69	2.08	185	84	1.0	4	1
1.75-390	390	1750	3.9	5.5	53.0	1.46	4.40	185	116	2.1	4	1
DCMKP 2.0, U_{NDC} = 2000 V, V_{AC} = 500 V_{RMS}												
2.0-35	35	2000	6.4	15.2	25.0	0.30	0.90	105	64	0.4	9	1
2.0-50	50	2000	8.4	11.6	25.0	0.31	0.94	130	64	0.4	9	1
2.0-70	70	2000	3.8	12.8	35.0	0.60	1.82	105	84	0.6	4	1
2.0-85	85	2000	12.9	7.8	25.0	0.33	0.99	185	64	0.5	9	1
2.0-110	110	2000	5.0	9.9	35.0	0.62	1.87	130	84	0.8	4	1
2.0-160	160	2000	7.2	6.6	36.0	0.62	1.87	185	84	1.0	4	1
2.0-310	310	2000	4.3	5.5	51.0	1.18	3.56	185	116	1.9	4	1
DCMKP 2.2, U_{NDC} = 2200 V, V_{AC} = 550 V_{RMS}												
2.2-30	30	2200	7.0	15.1	24.0	0.29	0.87	105	64	0.3	9	1
2.2-40	40	2200	9.2	11.6	24.0	0.27	0.83	130	64	0.4	9	1
2.2-55	55	2200	4.1	12.9	33.0	0.53	1.59	105	84	0.6	4	1
2.2-70	70	2200	14.2	7.8	24.0	0.30	0.91	185	64	0.5	9	1
2.2-80	80	2200	5.4	9.9	34.0	0.56	1.68	130	84	0.8	4	1
2.2-130	130	2200	8.0	6.6	34.0	0.56	1.69	185	84	0.9	4	1
2.2-250	250	2200	4.7	5.5	49.0	1.08	3.25	185	116	2.1	4	1

Note

- Other voltage, current and capacitance values are available on request



Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and/or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk and agree to fully indemnify and hold Vishay and its distributors harmless from and against any and all claims, liabilities, expenses and damages arising or resulting in connection with such use or sale, including attorneys fees, even if such claim alleges that Vishay or its distributor was negligent regarding the design or manufacture of the part. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.

Material Category Policy

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as RoHS-Compliant fulfill the definitions and restrictions defined under Directive 2011/65/EU of The European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) - recast, unless otherwise specified as non-compliant.

Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.