



Vishay Intertechnology, Inc.

# Vishay ESTA Power Film Capacitors



**GLI**  
Low Losses at High  
Frequencies



**PhMKD**  
Compact Design for  
Maximum Output,  
56 kvar



**PhMKP**  
Flexible Design Options Up  
to 1000 VAC<sub>RMS</sub>



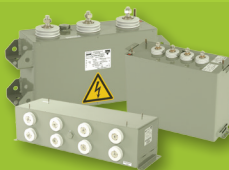
**Phao,  
Phafo**  
Insulation Level  
Up to 36 kV  
(70 kV / 170 kV<sub>p</sub>)



**HDMKP**  
Low Self-Inductance



**Phawo**  
Frequency Range  
Up to 100 kHz



**DCMKP**  
Long Life Expectancy








**ACMKP**  
High Reliability and  
Long Life Expectancy




# VISHAY ESTA POWER FILM CAPACITORS

## Focus Products







### Power Electronic Capacitors

Series	Rated Voltage min. (V)	Rated Voltage max. (V)	Capacitance min. (µF)	Capacitance max. (µF)	Rated Current min. (A)	Rated Current max. (A)	Dimensions min. to max. (mm)	Filling Agent	
	<b>ACMKP-Tubular</b>	1000	3000	0.2	10	5	20	84.4 x 140 to 340	Dry
	Low PD level; high reliability and life expectancy								
	<b>GLI-A</b>	700	2150	7.5	230	20	80	87 x 44 to 87	Dry
	Low inductance; low losses at high frequencies; high current ratings, custom designs available								
	<b>GLI-I</b>	700	2150	7.5	230	20	80	87 x 44 to 87	Dry
	Low inductance; low losses at high frequencies; high current ratings; custom designs available								
	<b>GLI-B</b>	700	2150	7.5	230	20	80	87 x 44 to 87	Dry
	Low inductance; low losses at high frequencies; high current ratings; custom designs available								
	<b>HDMKP</b>	900	2700	40	2235	17	120	84.4 to 116 x 105 to 260	Dry
	High impulse current rating, low inductance, compact design								

### Power Electronic Capacitors

Series	Rated Voltage min. (V)	Rated Voltage max. (V)	Capacitance min. (µF)	Capacitance max. (µF)	Rated Current min. (A)	Rated Current max. (A)	Filling Agent	Application	
	<b>DCMKP - Rectangular</b>	800	25 000	50	20 000	100	800	Dry	DC-link
	High RMS and impulse current rating; low inductance; high reliability and life expectancy; custom designs available								
	<b>DCMKP - Rectangular</b>	800	25 000	50	20 000	100	800	Dry	HVDC
	High RMS and impulse current rating; low inductance; high reliability and life expectancy; custom designs available								
	<b>ACMKP - Rectangular</b>	200	3000	50	5 000	100	800	Dry	AC-filter
	High RMS and impulse current rating; low inductance; high reliability and life expectancy; custom designs available								
	<b>DCMKP - Rectangular</b>	800	25 000	50	20 000	100	800	Dry	Powertrans mission
	High RMS and impulse current rating; low inductance; high reliability and life expectancy; custom designs available								
	<b>DCMKP - Rectangular</b>	800	25 000	50	20 000	100	800	Dry	Industrial drives
	High RMS and impulse current rating; low inductance; high reliability and life expectancy; custom designs available								

### Low-Voltage Power Capacitors



Series	Rated Voltage min. (V)	Rated Voltage max. (V)	Output min. (kvar)	Output max. (kvar)	Capacitance min. (µF)	Capacitance max. (µF)	Dimensions min. to max. (mm)	Filling Agent	
	<b>PhMKP 3-phase</b>	230	1000	2.5	14.0	Δ 3 x 11.5	Δ 3 x 100.3	64 x 190 to 265	Dry or oil
	MKP film; self-healing; all-phase tear-off fuse system; slim diameter; stacked winding elements, IP20								
	<b>PhMKP 1-phase</b>	230	690	2.5	10.0	1 x 49.7	1 x 251.0	64 x 82 to 240	Oil
	MKP film; self-healing; all connection tear-off fuse system; slim diameter; IP20								
	<b>PhMKP 3-phase</b>	230	1000	8.33	30.0	Δ 3 x 20.3	Δ 3 x 300.9	84.4 x 190 to 340	Dry or oil
	MKP film; self-healing; all-phase tear-off fuse system; slim diameter; stacked winding elements; IP00 or IP20								
	<b>PhMKP 1-phase</b>	230	690	5.0	20.0	1 x 165.7	1 x 332.2	84.4 x 140 to 240	Oil
	MKP film; self-healing; all connection tear-off fuse system; slim diameter; IP00 or IP20								
	<b>PhMKP 3-phase</b>	230	1000	10.0	37.1	Δ 3 x 77.0	Δ 3 x 335.0	116 x 160 to 265	Dry or oil
	MKP film; self-healing; all-phase tear-off fuse system; low profile height; stacked winding elements; IP20								
	<b>PhMKP 3-phase</b>	400	1000	25.0	37.1	Δ 3 x 115.4	Δ 3 x 219.3	136 x 190 to 230	Dry or oil
	MKP film; self-healing; all-phase tear-off fuse system; low profile height; stacked winding elements; IP20								




# VISHAY ESTA POWER FILM CAPACITORS

## Focus Products


### Three Phase Low-Voltage Power Capacitors

Series	Rated Voltage min. (V)	Rated Voltage max. (V)	Output min. (kvar)	Output max. (kvar)	Capacitance min. (µF)	Capacitance max. (µF)	Dimensions min. to max. (mm)	Installation
 <b>PhMKDg 3-phase</b>	230	1000	30.0	56.2	Δ 3 x 115.5	Δ 3 x 331.6	Δ 160 x 210	Indoor
	MKP film, self-healing, dry, all-phase tear-off fuse system, very compact 50 kvar unit with low profile height, M10 connection bolts, IP00							
 <b>PhMKDgF 3-phase</b>	230	1000	30.0	56.2	Δ 3 x 115.5	Δ 3 x 331.6	Δ 160 x 210	Outdoor
	MKP film, self-healing, dry, all-phase tear-off fuse system, very compact 50 kvar unit with low profile height, M10 connection bolts, IP00, for upside-down outdoor pole-mounting, full aluminum casing with welded top, no painting required							

### Three Phase High-Voltage Power Capacitors

Series	Connection	Rated Voltage max. (kV)	Insulation Level (kV)	Output min. (kvar)	Output max. (kvar)	Frequency (Hz)	Filling Agent	Installation	
 <b>Phao 3.3/.../D</b>	Three phase	3300	3600	50	600	50 to 60	Synthetic oil	Indoor	
	All-film dielectric; polypropylene; low losses 0.15 W/kvar; biodegradable; IEC 60871; ANSI / IEEE; CSA; with pressure switch								
	<b>Phao 4.16/.../D</b>	Three phase	4160	7200	50	650	50 to 60	Synthetic oil	Indoor
		All-film dielectric; polypropylene; low losses 0.15 W/kvar; biodegradable; IEC 60871; ANSI / IEEE; CSA; with pressure switch							
	<b>Phao 6.6/.../D</b>	Three phase	6600	7200	50	650	50 to 60	Synthetic oil	Indoor
		All-film dielectric; polypropylene; low losses 0.15 W/kvar; biodegradable; IEC 60871; ANSI / IEEE; CSA; with pressure switch							
<b>Phao 11/.../D</b>	Three phase	11 000	12 000	50	750	50 to 60	Synthetic oil	Indoor	
	All-film dielectric; polypropylene; low losses 0.15 W/kvar; biodegradable; IEC 60871; ANSI / IEEE; CSA; with pressure switch								

### Single Phase High-Voltage Power Capacitors

Series	Connection	Rated Voltage max. (kV)	Insulation Level (kV)	Output min. (kvar)	Output max. (kvar)	Frequency (Hz)	Filling Agent	Installation	
 <b>Phao 3.64/kvar/1</b>	Single phase	3640	7200	50	800	50 to 60	Synthetic oil	Indoor	
	With or without internal fuses; all-film dielectric; polypropylene; low losses 0.15 W/kvar; biodegradable; IEC 60871; ANSI / IEEE; CSA								
	<b>Phao 6.35/kvar/1</b>	Single phase	6350	12 000	50	900	50 to 60	Synthetic oil	Indoor
		With or without internal fuses; all-film dielectric; polypropylene; low losses 0.15 W/kvar; biodegradable; IEC 60871; ANSI / IEEE; CSA							
	<b>Phao 8.66/kvar/1</b>	Single phase	8660	17 500	50	900	50 to 60	Synthetic oil	Indoor
		With or without internal fuses, all-film dielectric, polypropylene; low losses 0.15 W/kvar; biodegradable; IEC 60871; ANSI / IEEE; CSA							
	<b>Phao 12.7/kvar/1</b>	Single phase	12 700	24 000	50	900	50 to 60	Synthetic oil	Indoor
		With or without internal fuses; all-film dielectric; polypropylene; low losses 0.15 W/kvar; biodegradable; IEC 60871; ANSI / IEEE; CSA							
	<b>Phafo 3.64/kvar/1</b>	Single phase	3640	7200	50	800	50 to 60	Synthetic oil	Outdoor
		With or without internal fuses; all-film dielectric; polypropylene; low losses 0.15 W/kvar; biodegradable; IEC 60871; ANSI / IEEE; CSA							
	<b>Phafo 6.35/kvar/1</b>	Single phase	6350	12 000	50	900	50 to 60	Synthetic oil	Outdoor
		With or without internal fuses; all-film dielectric; polypropylene; low losses 0.15 W/kvar; biodegradable; IEC 60871; ANSI / IEEE; CSA							
<b>Phafo 8.66/kvar/1</b>	Single phase	8660	17 500	50	900	50 to 60	Synthetic oil	Outdoor	
	With or without internal fuses; all-film dielectric; polypropylene; low losses 0.15 W/kvar; biodegradable; IEC 60871; ANSI / IEEE; CSA								
<b>Phafo 12.7/kvar/1</b>	Single phase	12 700	24 000	50	900	50 to 60	Synthetic oil	Outdoor	
	With or without internal fuses; all-film dielectric; polypropylene; low losses 0.15 W/kvar; biodegradable; IEC 60871; ANSI / IEEE; CSA								

# VISHAY ESTA POWER CAPACITORS OFFER CUSTOM DESIGNS FOR THE BEST POWER SOLUTIONS



## Advantages of Vishay ESTA Power Capacitors

- High power
- Low losses
- High reliability
- Compact design

## For the Following Applications

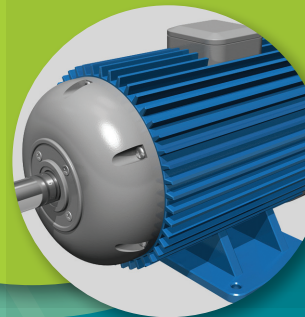
- Power factor correction (PFC) and filtering
- Industrial drives
- Power transmission, FACTS, HVDC
- Induction heating



Use DCMKP for long life expectancy



Use PhMKP in your wind applications to go green



## CONTACT US

### C&H Technology Inc.

6121 Baker Rd. Suite 108 Minnetonka, MN 55345

PH: 1-952-933-6190 TOLL FREE: 1-800-274-4284

FAX: 1-952-933-6223

[www.chtechnology.com](http://www.chtechnology.com) [sales@chtechnology.com](mailto:sales@chtechnology.com)

## Useful Links

- For our product overview, please visit:  
[www.vishay.com/capacitors/power-heavy-current/](http://www.vishay.com/capacitors/power-heavy-current/)

