

Power Electronic, DC Capacitors

STANDARD CAPACITORS IN CYLINDRICAL CASING, OIL IMPREGNATED, SELF-HEALING, WITH FUSE

DC CAPACITORS

Series GMKP 1000V - 3000V, higher voltages upon request.

Capacitance range 1-400 μ F, in relation to rated voltage and dimension. Other capacitance values, upon request.

GENERAL

VISHAY ESTA DC-capacitors may be loaded with a comparatively high component of alternating voltage or alternating current due to the low ohmic and low dielectric losses. Thus the capacitors can equally be employed for all DC applications.

The capacitors can also be applied as AC capacitors at a rated frequency of 50 Hz for the quoted root-mean-square voltages.

TECHNICAL DATA

OPERATING MODE

continuous operation

CLASS OF APPLICATION

HSF (refer to general information)

IMPREGNATING AGENT

Oil (NON PCB, refer to general information)

PERMISSIBLE TEMPERATURE RANGE

Min./max. casing temperature: - 25°/70°C

Min./max. storage temperature: - 40°/85°C

SELF-DISCHARGE TIME CONSTANT

> 10.000s

PERMISSIBLE RELATIVE AIR HUMIDITY

95%

LIFE EXPECTANCY WITH 3% FAILURE RATE

100.000h

NUMBER OF DISCHARGES

upon request

TIME INTERVAL BETWEEN 2 DISCHARGES

With a periodic discharge: 2 sec.

With oscillating discharge: upon request

TERMINALS

AMP plugs 6.3 x 0.8 or

Threaded bolts M10

MOUNTING POSITION

vertical/horizontal

upside down position, upon request only

PROTECTION

Overpressure tear-off fuse, refer to general information

LOSS FACTOR

(50Hz) 1.5×10^{-4}

(14kHz) 2.0×10^{-4}

CAPACITANCE TOLERANCE

$\pm 10 \%$

OVERVOLTAGES

1.1 x Un 1.15 x Un

30% operation 30 min./day

1.2 x Un 1.3 x Un 1.5 x Un

5min./day 1min./day 100ms/day

TEST VOLTAGES

terminal/ terminal 1.5 x Un DC/10 sec.

terminal/casing 2.0 x Un/2 + 1.000 VAC/10 sec.

PEAK CURRENT (periodical) $du/dt \times C$ [A]

STANDARD

IEC 61071-1 EN 61071

DIELECTRIC

metallized polypropylene film (refer to general information)

**DC CAPACITORS**
SERIES GMKP 1000V - 3000V**Rated voltage 1000VDC****U_{rms} = 470 V**

MODEL	C μF	I A	du / dt V / μs	L nH	DIMENSIONS Ø d x h (mm)	WEIGHT kg	FIGURE*
GMKP 1000 - 2 IA	2.0	12.0	500	< 150	30 x 52	0.04	1
GMKP 1000 - 4 IA	4.0	12.0	500	< 150	30 x 52	0.05	1
GMKP 1000 - 8 IA	8.0	12.0	500	< 150	40 x 72	0.09	1
GMKP 1000 - 10 IA	10.0	15.0	500	< 150	50 x 72	0.09	1
GMKP 1000 - 16 IA	16.0	15.0	500	< 150	50 x 72	0.14	4
GMKP 1000 - 20 IA	20.0	15.0	300	< 150	50 x 97	0.18	4
GMKP 1000 - 32 IA	32.0	18.0	200	< 150	50 x 127	0.25	4
GMKP 1000 - 40 IA	40.0	18.0	200	< 150	50 x 127	0.25	4
GMKP 1000 - 64 IA	64.0	20.0	200	< 150	64 x 140	0.45	4
GMKP 1000 - 80 IA	80.0	20.0	200	< 200	64 x 190	0.61	6 I
GMKP 1000 - 100 IA	100.0	20.0	150	< 200	84 x 140	0.78	4
GMKP 1000 - 200 IA	200.0	35.0	70	< 220	84 x 240	1.34	5
GMKP 1000 - 400 IA	400.0	35.0	50	< 250	84 x 340	1.88	5

Rated voltage 1800VDC**U_{rms} = 640 V**

MODEL	C μF	I A	du / dt V / μs	L nH	DIMENSIONS Ø d x h (mm)	WEIGHT kg	FIGURE*
GMKP 1800 - 4 IA	4.0	12.0	500	< 150	50 x 72	0.14	4
GMKP 1800 - 8 IA	8.0	12.0	500	< 150	50 x 127	0.25	4
GMKP 1800 - 10 IA	10.0	15.0	500	< 150	50 x 127	0.25	4
GMKP 1800 - 16 IA	16.0	15.0	500	< 150	60 x 127	0.36	4
GMKP 1800 - 20 IA	20.0	18.0	300	< 150	64 x 140	0.41	4
GMKP 1800 - 32 IB	32.0	20.0	200	< 200	84 x 140	0.78	6 I
GMKP 1800 - 40 IB	40.0	25.0	200	< 120	84 x 190	1.05	6 I

Rated voltage 3000VDC

MODEL	C μF	I A	du / dt V / μs	L nH	DIMENSIONS Ø d x h (mm)	WEIGHT kg	FIGURE*
GMKP 3000 - 2 IA	2.0	15.0	500	< 150	50 x 97	0.18	4
GMKP 3000 - 4 IA	4.0	15.0	500	< 150	50 x 127	0.25	4
GMKP 3000 - 8 IA	8.0	15.0	500	< 150	64 x 140	0.41	4
GMKP 3000 - 8 IB	8.0	15.0	500	< 150	64 x 140	0.41	6
GMKP 3000 - 10 IA	10.0	18.0	400	< 200	64 x 190	0.61	4
GMKP 3000 - 16 IB	16.0	25.0	300	< 200	64 x 240	1.05	6 II
GMKP 3000 - 20 IB	20.0	35.0	300	< 200	84 x 190	1.05	6 II
GMKP 3000 - 28 IB	28.0	35.0	200	< 250	84 x 240	1.33	6 II

*See dimensional drawings document number : 13105

Other values available upon request. Standard capacitors types usually, available ex stock. Non-standard and custom styles to be manufactured in accordance with specific orders. Minimum order quantities are applicable depending on the various capacitor types. Vishay reserve the right to change any dimensions without notice.



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DIMENSIONAL DRAWINGS

Dimensional drawings of the bushings on last page of this datasheet,

Design IA

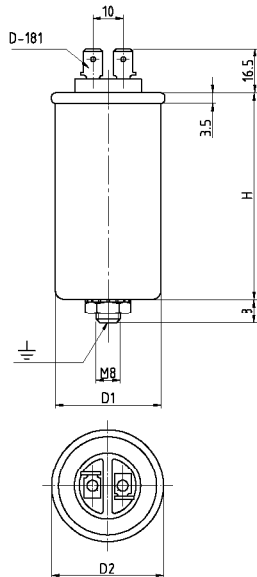


FIGURE 1

Design IAX

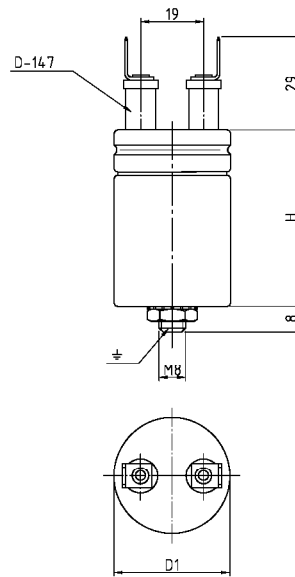


FIGURE 2

Design SA

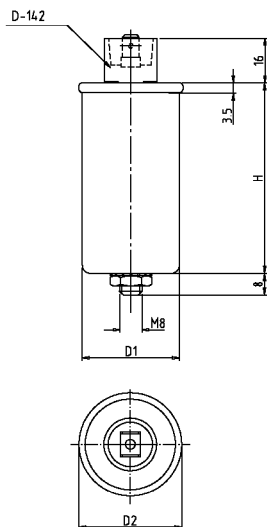


FIGURE 3

Design IA

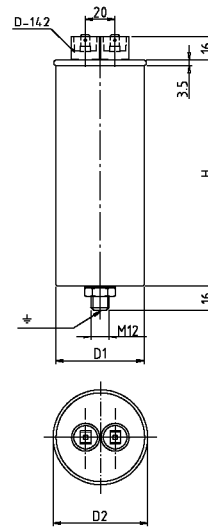


FIGURE 4



STANDARD CAPACITORS IN CYLINDRICAL CASING, OIL IMPREGNATED, SELFHEALING, WITH FUSE

DIMENSIONAL DRAWINGS

Dimensional drawings of the bushings on last page of this datasheet,

Design IS

Design IB

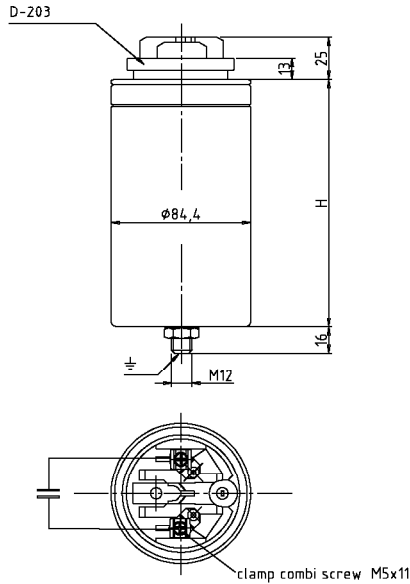


FIGURE 5

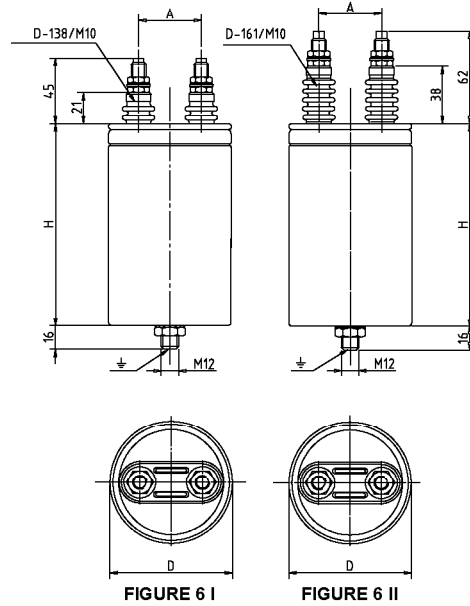


FIGURE 6 I

FIGURE 6 II

Design SB

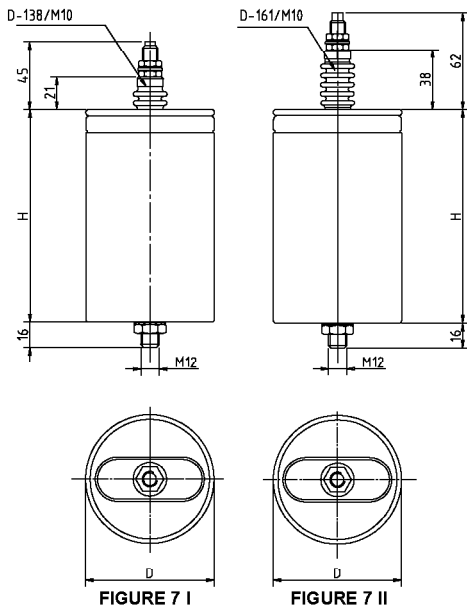


FIGURE 7 I

FIGURE 7 II

Fastening bolt

Diameter of cylindrical case
 <math>< 50\text{mm}</math>
 $\geq 50\text{mm}$

Fastening bolt
 M 8/8mm
 M 12/12mm

Permissible tightening torque
 4Nm
 10Nm

Dimensional Drawings

Vishay ESTA

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DIMENSIONAL DRAWINGS

BUSHINGS

The voltage limit of the bushings for the types of capacitor listed in this catalogue is based on the "Rules for Proportioning Clearance and Creepage Distances in Electrical Equipment", VDE 0110.

