

# MHBS - (Expanded range; new lugs)

## Metallized polypropylene film capacitor

### MKP - Switching - High current - DC-Link - AC

#### 2/4/6 x Wire or lug terminals - Small size



#### Main applications

DC-Link, switching capacitor for industrial and motor speed controls, SMPS, solar inverters, power converters and UPS, AC output filtering, suitable for AC (not for across the line) applications

#### Main characteristics

High voltage and high capacitance in small size with long life expectancy, high current and high frequency operation capability

#### Dielectric

Polypropylene

#### Electrodes

Vacuum deposited metal layers

#### Coating

Solvent resistant plastic case with resin sealing (UL 94 V-0). Flame retardant execution

#### Construction

Extended metallized film (refer to general technical information)

#### Terminals

Tinned copper wire (lead-free). 2, 4 or 6x terminals or tinned copper (brass) lug terminals (lead-free) execution (please refer to article table)

#### Degree of protection

IP00

#### Installation

Whatever position **assuring correct heat dissipation**. Arrangement of many components with box walls in contact not admitted; suggested minimum distance between side by side elements  $\geq 1/8$  of the box thickness (B size). Box with lugs terminals must be free to correctly dissipate from all the body faces

#### Reference standard

IEC 61071, IEC 60068, RoHS compliant

#### Climatic category

40/85/56 (IEC 60068/1), GPD (DIN40040)

#### Operating temperature range (case)

-40°...+85°C (+100°C observing voltage and current de-rating)

#### Max. permissible ambient temperature (operation at rated power, rated current and natural cooling)

+70°C (+85°C observing voltage and current de-rating); at Tamb. >+95°C superimposed Irms not admitted (Irms= 0 at Tamb.>+95°C)

#### Rated capacitance (Cr)

0,68µF to 100µF. Refer to article table

#### Capacitance tolerance (at 1kHz)

$\pm 10\%$  (code=K),  $\pm 5\%$  (code=J). Other tolerances upon request

#### Capacitance temperature coefficient

Refer to graphs in general technical information

#### Long term stability (at 1 kHz)

Capacitance variation  $\leq \pm 1\%$  after a period of 2 years at standard environmental conditions

#### Rated voltage (Ur) at T=+85°C, case (continuous operation)

575, 700, 800, 900, 1000, 1100, 1275Vdc

#### Temperature de-rated voltage and current

For operating temperature (case) > +85°C, Ur, Urms, Upkr and Upk must be decreased 1.5% for every °C exceeding +85°C. For current de-rating please also refer to the  $\Delta T/T_{amb}$ . data in function of the applied Irms listed in the article table

#### Permissible AC voltage (Urms) at T=+85°C, case (continuous operation)

240, 285, 315, 350, 400, 420, 440 Vac

#### Max. admissible voltage at T+70°C, case (continuous operation)

Please refer to the article table

#### Max. repetitive peak voltage (Upkr), total 1hour max/day:

Up to case T=+85°C max.

660, 805, 920, 1035, 1150, 1265, 1465 Vdc

Up to case T=+70°C max.

720, 885, 1010, 1150, 1265, 1380, 1610 Vdc

#### Non Recurrent Surge Voltage (Upk):

Up to case T=+85°C max.

750, 910, 1040, 1170, 1300, 1430, 1655 Vdc

Up to case T=+70°C max.

815, 1000, 1140, 1300, 1430, 1560, 1820 Vdc

#### Self inductance

$\leq 1\text{nH/mm}$  of fixing pitch

#### Maximum pulse rise time

Refer to article table

#### Maximum peak current (Ipeak)

Refer to article table. Max. non repetitive Ipk= 1,5 x Ipeak

#### RMS Current (Irms)

Please refer to the article table; no superimposed Irms must be applied at Tamb.>+95°C (at Tamb.>+95°C Irms must be= 0)

#### Dissipation factor (DF), max. $T_g \times 10^{-4}$ , at 25±5°C, 1kHz

$\leq 6$  for Cr  $\leq 4.0\mu\text{F}$

$\leq 8$  for  $4.0\mu\text{F} < \text{Cr} \leq 12.0\mu\text{F}$  (P $\leq 37.5\text{mm}$ )

$\leq 11$  for  $12.0\mu\text{F}$  (P $\leq 37.5\text{mm}$ ) < Cr  $\leq 20.0\mu\text{F}$

$\leq 14$  for  $20.0\mu\text{F} < \text{Cr} \leq 40.0\mu\text{F}$

$\leq 18$  for  $40.0\mu\text{F} < \text{Cr} \leq 75.0\mu\text{F}$

$\leq 22$  for Cr > 75.0µF

#### Insulation resistance (IR)

$\geq 3000\text{s}$  (10000s typical) but need not exceed  $3\text{G}\Omega$ , between terminals, at 25±°C, after 1 minute of electrification at 100Vdc

#### Test voltage between terminals (Ut)

1,5xUr (DC) or 1,5xUrms (AC) applied for 10s, at 25±5°C

#### Test voltage between terminals and case (Utc)

3kV 50+60Hz applied for 60s at 25±5°C

#### Damp heat test (steady state)

Test conditions	Performance
Temperature= +40±2°C	Capacitance change $\leq \pm 3\%$
Relative humidity=93±2%	DF change $\leq 2 \times$ initial limit (1kHz)
Test duration= 56 days	IR $\geq 50\%$ of initial limit value

#### Typical capacitance change versus operating time (at Tcase=+70°C)

$\pm 5\%$  after 30'000 hours at Urms or after 100'000 hours at Ur

#### Life expectancy

$\geq 60'000$  hours at Urms or  $\geq 200'000$  hours at Ur with T(case)  $\leq +70^\circ\text{C}$ : **expected life max. limit reference.**

$\geq 30'000$  hours at Urms or  $\geq 100'000$  hours at Ur with T(case)= +85°C: **reference for expected life calculations at different operating conditions** (and expected life at max. admissible voltage at +70°C, case).

$\geq 10'000$  hours at de-rated Urms (Urms x 0.8) or  $\geq 30'000$  hours at de-rated Ur (Ur x 0.8) at T(case)= +100°C; **NO superimposed Irms applied.**

#### Failure quota

300/10<sup>9</sup> component hours

#### Resistance to soldering heat test

Test conditions:

Solder bath temperature= +260±5°C

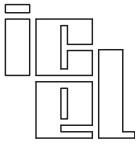
Dipping time (with heat screen)= 10±1s

Performance:

Capacitance change  $\leq \pm 1\%$

DF change  $\leq 0.0010$  at 1kHz

IR  $\geq 50\%$  of initial limit value



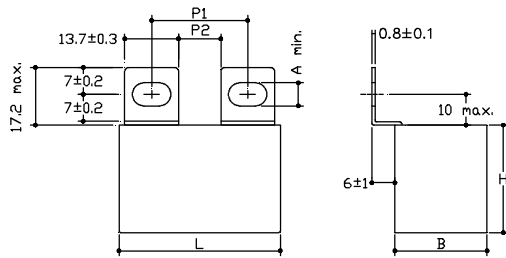
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 2/4/6 x Wire or lug terminals - Small size

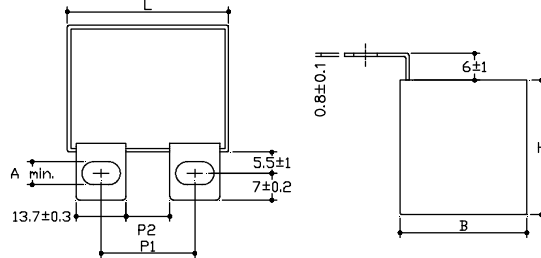


Dimensions in mm (drawings not in scale)

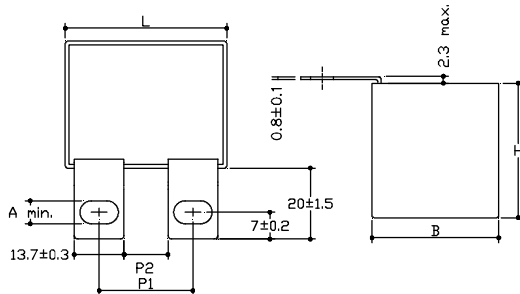
Style **SP-SPM8 / SR-SRM8**



Style **VP-VPM8 / VR-VRM8**



Style **FP-FPM8 / FR-FRM8**

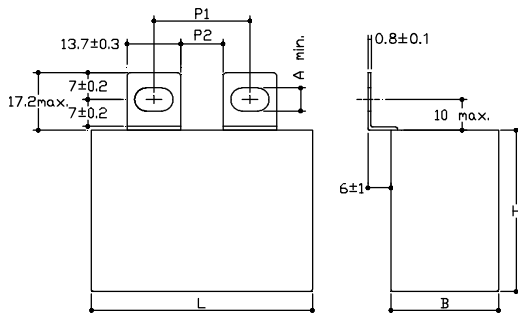


Fixing pitch and distance between lugs (mm)				
Lugs style	L	P1		P2
SP-SPM8	42+42,5	23+28(M6)	25+26(M8)	11min.
VP-VPM8	57,5	37+42(M6)	39+40(M8)	24min.
FP-FPM8				
SR-SRM8	42+42,5	20+25(M6)	22+23(M8)	8min.
VR-VRM8	57,5	34+39(M6)	36+37(M8)	21min.
FR-FRM8				

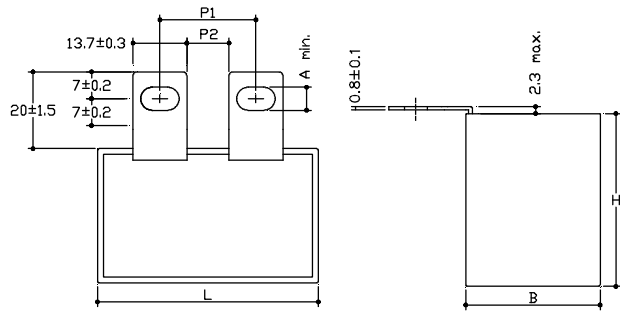
Fixing slot size (mm)**	
SP, VP, FP, SR, VR, FR	A= 6min.
SPM8, VPM8, FPM8, SRM8, VRM8, FRM8	A= 8min.

**\*\* Standard fixing slots for M6 screws, slots for M8 screws available upon request**

Style **SN-SNM8** (for L=57,5mm only)



Style **VN-VNM8** (for L=57,5mm only)

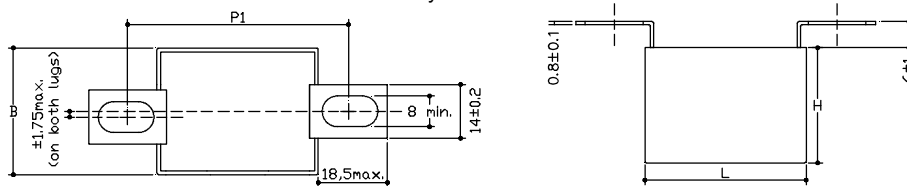


Fixing pitch and distance between lugs (mm)				
Lugs style	L	P1		P2
SN-SNM8	42+42,5	Not available		
VN-VNM8	57,5	23+28(M6)	25+26(M8)	11min.

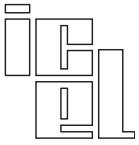
Fixing slot size (mm)**	
SN, VN	A= 6min.
SNM8, VNM8	A= 8min.

**\*\* Standard fixing slots for M6 screws, slots for M8 screws available upon request**

Style **AP**



Fixing pitch and distance between lugs (mm)			
Lugs style	L	P1	P2
AP	42+42,5	53,5+63 (M8)	-
	57,5	68,5+77 (M8)	-

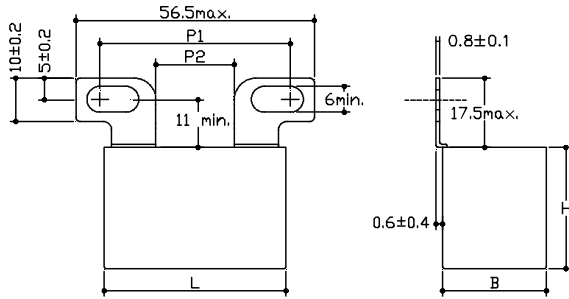


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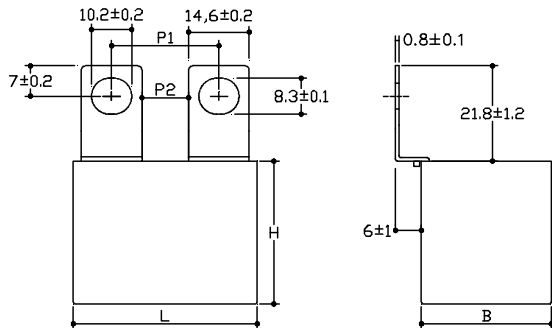
Dimensions in mm (drawings not in scale)

Style **BP** (Not available for L=57,5mm)



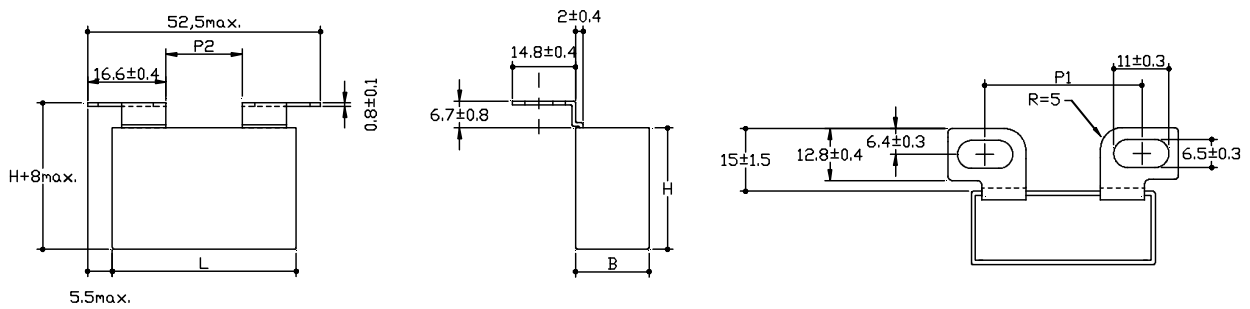
Fixing pitch and distance between lugs (mm)			
Lugs style	L	P1	P2
BP	42÷42,5	32÷45 (M6)	17min.
	57,5	Not available	

Style **SL** (M8 slots only)

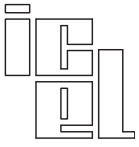


Fixing pitch and distance between lugs (mm)			
Lugs style	L	P1	P2
SL	42÷42,5	22÷24 (M8)	8min.
	57,5	36÷38 (M8)	21min.

Style **BN** (M6 slots only; not available for L=57,5mm and for L=42÷42,5mm having B>22mm)



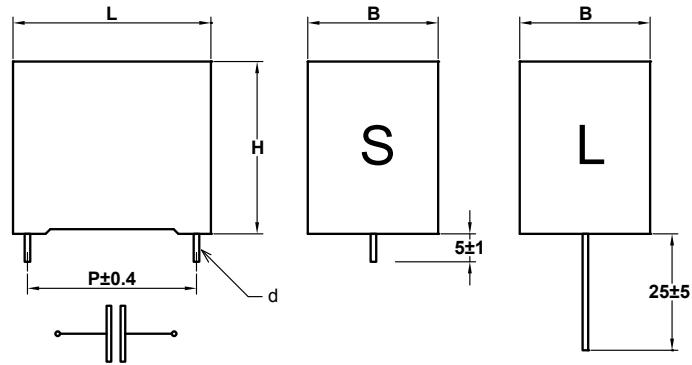
Fixing pitch and distance between lugs (mm)			
Lugs style	L	P1	P2
BN	42÷42,5	30÷37 (M6)	15min.
		Not available for B>22	
	57,5	Not available	



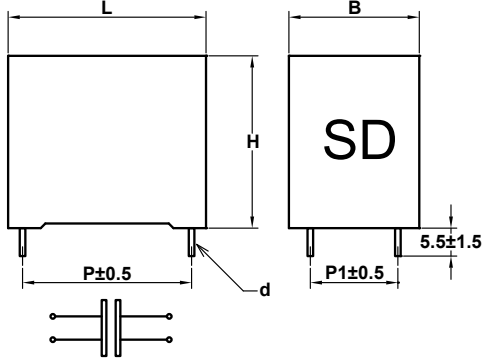
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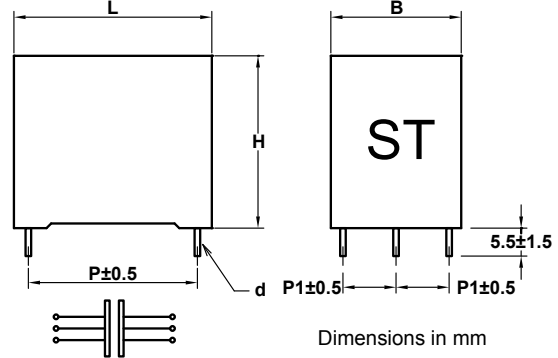
2 terminals execution



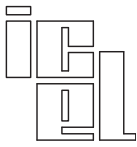
4 terminals execution



6 terminals execution



Dimensions in mm



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**MHBS35...: Ur=575Vdc; Urms= 240Vac<sup>(6)</sup>; Upkr= 660Vdc; Upk= 750Vdc**

Max. admissible voltage at +70°C (case)= 630Vdc, 250Vac, Upkr=720Vdc, Upk=815Vdc

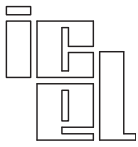
Cap. µF	B	H	Dimension in mm				du/dt V/µs	Ipeak (A)	Irms max. (A) for Δt/Ta <sup>(1)</sup>			ESR <sup>(2)</sup> mΩ	ICEL Code <sup>(3)</sup>
			L	d	P	P1		+15°C	+10°C	+5°C			
3	11	20	32	0,8	27,5	-	27	81	4	3	2	16,5	MHBS354330*H#
3,3	11	20	32	0,8	27,5	-	27	89,1	4,5	3,5	2,5	15	MHBS354330*H#
4,7	13	22	32	1,0	27,5	-	27	126,9	5,5	4,5	3,5	11,6	MHBS354470*H#
5	13	22	32	1,0	27,5	-	27	135	6	4,5	3,5	11	MHBS354500*H#
6,8	15	24,5	32	1,0	27,5	-	27	102,6	7	5,5	4	9,4	MHBS354680*H#
7,5	14	28	32	1,2	27,5	-	27	202,5	8	6,5	4,5	8,6	MHBS354750*H#
10	18	33	32	1,2	27,5	-	27	270	10	8	5,5	7	MHBS355100*H#
12	18	33	32	1,2	27,5	-	27	324	11	8,5	6,5	6,1	MHBS355120*H#
12	18	33	32	1,2	27,5	5,1	27	324	12	9,5	7	5,4	MHBS355120*HSD
12	17	28	42,5	1,2	37,5	-	19	228	9,5	7,5	5,5	7,4	MHBS355120*J#
12	17	28	42,5	See lugs drawing			19	228	11	8,5	6,5	6,6	MHBS355120*\$\$
15	22	37	32	1,2	27,5	-	27	405	13,5	10,5	7,5	5,6	MHBS355150*H#
15	22	37	32	1,2	27,5	10,2	27	405	14,5	11,5	8,5	4,9	MHBS355150*HSD
15	22	30	42,5	1,2	37,5	-	19	285	11	8,5	6,5	6,4	MHBS355150*J#
15	22	30	42,5	See lugs drawing			19	285	13	10	7,5	5,6	MHBS355150*\$\$
20	20	40	41,5	1,2	37,5	-	19	380	13,5	11	8	5,6	MHBS355200*J#
20	20	40	41,5	1,2	37,5	10,2	19	380	15	12	8,5	5	MHBS355200*JSD
20	20	40	41,5	See lugs drawing <sup>(4)</sup>			19	380	16,5	12,5	9,5	4,8	MHBS355200*\$\$
25	28	37	42,5	1,2	37,5	-	19	475	14	11,5	8,5	5	MHBS355250*J#
25	28	37	42,5	1,2	37,5	10,2	19	475	15,5	12,5	9	4,4	MHBS355250*JSD
25	28	37	42,5	See lugs drawing			19	475	17	13,5	10	4,2	MHBS355250*\$\$
30	28	37	42,5	1,2	37,5	-	19	570	14	12	9	4,6	MHBS355300*J#
30	28	37	42,5	1,2	37,5	10,2	19	570	16,5	13	9,5	4	MHBS355300*JSD
30	28	37	42,5	See lugs drawing			19	570	18,5	14,5	10,5	3,8	MHBS355300*\$\$
30	24	44	41,5	1,2	37,5	-	19	570	14	12	9	4,6	MHBS355300*J#A
30	24	44	41,5	1,2	37,5	10,2	19	570	17,5	14	10	4	MHBS355300*JSDA
35	30	45	42,5	1,2	37,5	-	19	665	14	14	11	4,3	MHBS355350*J#
35	30	45	42,5	1,2	37,5	20,3	19	665	19	15,5	11	3,7	MHBS355350*JSD
35	30	45	42,5	See lugs drawing			19	665	21	16,5	12,5	3,5	MHBS355350*\$\$
40	30	45	42,5	1,2	37,5	-	19	760	14	14	11	4	MHBS355400*J#
40	30	45	42,5	1,2	37,5	20,3	19	760	20	16	12	3,4	MHBS355400*JSD
40	30	45	42,5	See lugs drawing			19	760	22	17,5	13	3,2	MHBS355400*\$\$
50	30	45	57,5	1,2	52,5	-	12,5	625	14	14	10	4,6	MHBS355500*R#
50	30	45	57,5	1,2	52,5	20,3	12,5	625	19	15,5	11	4	MHBS355500*RSD
50	30	45	57,5	See lugs drawing			12,5	625	21,5	17,5	12,5	3,8	MHBS355500*\$\$
60	30	45	57,5	1,2	52,5	-	12,5	750	14	14	10,5	4,2	MHBS355600*R#
60	30	45	57,5	1,2	52,5	20,3	12,5	750	20,5	16,5	12	3,6	MHBS355600*RSD
60	35	50	57,5	See lugs drawing			12,5	750	23	18,5	13,5	3,4	MHBS355600*\$\$
75	35	50	57,5	1,2	52,5	-	12,5	937,5	14	14	12	3,9	MHBS355750*R#
75	35	50	57,5	1,2	52,5	20,3	12,5	937,5	23	18,5	13,5	3,3	MHBS355750*RSD
75	35	50	57,5	See lugs drawing			12,5	937,5	25,5	20,5	15	3,1	MHBS355750*\$\$
90	38	57,5	57,5	1,2	52,5	20,3	12,5	1125	25	20	15	3,1	MHBS355900*RSD
90	38	57,5	57,5	1,2	52,5	10,2	12,5	1125	26	21	15,5	2,9	MHBS355900*RST
90	38	57,5	57,5	See lugs drawing			12,5	1125	27,5	22	16,5	2,9	MHBS355900*\$\$
100	38	57,5	57,5	1,2	52,5	20,3	12,5	1250	26	20,5	15,5	3	MHBS356100*RSD
100	38	57,5	57,5	1,2	52,5	10,2	12,5	1250	27	21,5	16	2,8	MHBS356100*RST

<sup>(1)</sup> at f=10kHz+60kHz for P=27.5mm, at f=10kHz+45kHz for P=37.5mm, at f=10kHz+30kHz for P=52.5mm; Irms rating for Δt/Ta (Ta= T ambient)= +15°C typical is the absolute max. Irms applicable (ratings limited by terminals type and execution); **for lug terminals execution, the power dissipation capability is calculated considering all the box walls and sealing surface able to dissipate and not in contact with any surface**; Irms values are referred to max. tolerance on rated Capacitance=±10%, for wider C tolerances, ESR variation from typical data and related different power dissipation must be taken in consideration

<sup>(2)</sup> typical value at f=10kHz+60kHz for P=27.5mm, at f=10kHz+45kHz for P=37.5mm, at f=10kHz+30kHz for P=52.5mm; for operating frequency out of the range, ESR variation from typical data and related different power dissipation must be taken in consideration

<sup>(3)</sup> change the "\*" symbol with the desired capacitance tolerance code (±5%=J; ±10%=K); change the "#" symbol with S for 5mm and L for 25mm leads length terminals; change the "\$\$" characters with the desired lug style code

<sup>(4)</sup> Upon request only; <sup>(6)</sup> Not suitable for across the line applications



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**MHBS40...: Ur=700Vdc; Urms= 285Vac<sup>(6)</sup>; Upkr= 805Vdc; Upk= 910Vdc**  
Max. admissible voltage at +70°C (case)= 770Vdc, 300Vac, Upkr=885Vdc, Upk=1000Vdc

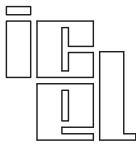
Cap. µF	Dimension in mm						du/dt V/µs	lpeak (A)	Irms max. (A) for Δt/Ta <sup>(1)</sup>			ESR <sup>(2)</sup> mΩ	ICEL Code <sup>(3)</sup>
	B	H	L	d	P	P1			+15°C	+10°C	+5°C		
2,2	11	20	32	0,8	27,5	-	31	68,2	4	3	2,5	17,7	MHBS404220*H#
2,5	11	20	32	0,8	27,5	-	31	77,5	4,5	3,5	3	15,8	MHBS404250*H#
3,3	13	22	32	1,0	27,5	-	31	102,3	5,5	4,5	3,5	13,3	MHBS404330*H#
4,7	15	24,5	32	1,0	27,5	-	31	145,7	6,5	5,5	4	10,5	MHBS404470*H#
5	15	24,5	32	1,2	27,5	-	31	155	7	5,5	4	9,7	MHBS404500*H#
7,5	14	25	42,5	1,2	37,5	-	21	157,5	7,5	6	4,5	9,2	MHBS404750*J#
10	18	33	32	1,2	27,5	-	31	310	11	8,5	6	6,7	MHBS405100*H#
10	18	33	32	1,2	27,5	5,1	31	310	12	9,5	6,5	6	MHBS405100*HSD
12	22	37	32	1,2	27,5	-	31	372	13	10,5	7,5	5,8	MHBS405120*H#
12	22	37	32	1,2	27,5	10,2	31	372	14,5	11,5	8,5	5,2	MHBS405120*HSD
12	22	30	42,5	1,2	37,5	-	21	252	11	8,5	6,5	6,4	MHBS405120*J#
12	22	30	42,5	See lugs drawing			21	252	13	10	7,5	5,6	MHBS405120*J\$
15	22	33,5	42,5	1,2	37,5	-	21	315	12	9,5	7	5,5	MHBS405150*J#
15	22	33,5	42,5	1,2	37,5	5,1	21	315	13,5	10,5	7,5	4,9	MHBS405150*JSD
15	22	33,5	42,5	See lugs drawing			21	315	14,5	11,5	8,5	4,7	MHBS405150*J\$
20	24	44	41,5	See lugs drawing <sup>(4)</sup>			21	420	18,5	14,5	10,5	4,1	MHBS405200*J\$
20	28	37	42,5	1,2	37,5	-	21	420	14	11,5	8,5	4,9	MHBS405200*J#
20	28	37	42,5	1,2	37,5	10,2	21	420	16	12,5	9	4,3	MHBS405200*JSD
20	28	37	42,5	See lugs drawing			21	420	17,5	14	10	4,1	MHBS405200*J\$A
22	24	44	41,5	1,2	37,5	-	21	462	14	13	9,5	4,6	MHBS405220*J#
22	24	44	41,5	1,2	37,5	10,2	21	462	17,5	14	10,5	4	MHBS405220*JSD
22	24	44	41,5	See lugs drawing			21	462	19,5	15,5	11,5	3,8	MHBS405220*J\$
22	28	37	42,5	1,2	37,5	-	21	462	14	12	9	4,6	MHBS405220*J#A
22	28	37	42,5	1,2	37,5	10,2	21	462	16,5	13,5	10	4	MHBS405220*JSDA
22	28	37	42,5	See lugs drawing			21	462	18,5	14,5	10,5	3,8	MHBS405220*J\$A
25	24	44	41,5	1,2	37,5	-	21	525	14	13,5	10	4,3	MHBS405250*J#
25	24	44	41,5	1,2	37,5	10,2	21	525	19	15	11	3,7	MHBS405250*JSD
25	24	44	41,5	See lugs drawing <sup>(4)</sup>			21	525	21	16,5	12	3,5	MHBS405250*J\$
30	30	45	42,5	1,2	37,5	-	21	630	14	14	11	4	MHBS405300*J#
30	30	45	42,5	1,2	37,5	20,3	21	630	20,5	16	12	3,4	MHBS405300*JSD
30	30	45	42,5	See lugs drawing			21	630	22,5	17,5	13	3,2	MHBS405300*J\$
40	30	45	57,5	1,2	52,5	-	14,5	580	14	14	10,5	4,4	MHBS405400*R#
40	30	45	57,5	1,2	52,5	20,3	14,5	580	20	16	11,5	3,8	MHBS405400*RSD
40	30	45	57,5	See lugs drawing			14,5	580	22	17,5	12,5	3,6	MHBS405400*J\$
45	30	45	57,5	1,2	52,5	-	14,5	652,5	14	14	11	4,2	MHBS405450*R#
45	30	45	57,5	1,2	52,5	20,3	14,5	652,5	21	16,5	12	3,6	MHBS405450*RSD
45	30	45	57,5	See lugs drawing			14,5	652,5	23	18	13	3,4	MHBS405450*J\$
50	35	50	57,5	1,2	52,5	-	14,5	725	14	14	12	4	MHBS405500*R#
50	35	50	57,5	1,2	52,5	20,3	14,5	725	22,5	18	13	3,4	MHBS405500*RSD
50	35	50	57,5	See lugs drawing			14,5	725	24,5	19,5	14,5	3,2	MHBS405500*J\$
55	35	50	57,5	1,2	52,5	-	14,5	797,5	14	14	12,5	3,9	MHBS405550*R#
55	35	50	57,5	1,2	52,5	20,3	14,5	797,5	23,5	19	13,5	3,3	MHBS405550*RSD
55	35	50	57,5	See lugs drawing			14,5	797,5	25,5	20,5	15	3,1	MHBS405550*J\$
60	35	50	57,5	1,2	52,5	-	14,5	870	14	14	13	3,7	MHBS405600*R#
60	35	50	57,5	1,2	52,5	20,3	14,5	870	24,5	19,5	14	3,1	MHBS405600*RSD
60	35	50	57,5	See lugs drawing			14,5	870	26,5	21	15,5	2,9	MHBS405600*J\$
75	38	57,5	57,5	1,2	52,5	20,3	14,5	1087,5	26	20,5	15,5	2,9	MHBS405750*RSD
75	38	57,5	57,5	1,2	52,5	10,2	14,5	1087,5	27	21,5	16	2,7	MHBS405750*RST
75	38	57,5	57,5	See lugs drawing			14,5	1087,5	28,5	23	17	2,7	MHBS405750*J\$
80	38	57,5	57,5	1,2	52,5	20,3	14,5	1160	26,5	21	16	2,8	MHBS405800*RSD
80	38	57,5	57,5	1,2	52,5	10,2	14,5	1160	27,5	22	16,5	2,6	MHBS405800*RST

<sup>(1)</sup> at f=10kHz+60kHz for P=27.5mm, at f=10kHz+45kHz for P=37.5mm, at f=10kHz+30kHz for P=52.5mm; Irms rating for Δt/Ta (Ta= T ambient)= +15°C typical is the absolute max. Irms applicable (ratings limited by terminals type and execution); **for lug terminals execution, the power dissipation capability is calculated considering all the box walls and sealing surface able to dissipate and not in contact with any surface**; Irms values are referred to max. tolerance on rated Capacitance=±10%, for wider C tolerances ESR variation from typical data and related different power dissipation must be taken in consideration

<sup>(2)</sup> typical value at f=10kHz+60kHz for P=27.5mm, at f=10kHz+45kHz for P=37.5mm, at f=10kHz+30kHz for P=52.5mm; for operating frequency out of the range, ESR variation from typical data and related different power dissipation must be taken in consideration

<sup>(3)</sup> change the "\*" symbol with the desired capacitance tolerance code (±5%=J; ±10%=K); change the "#" symbol with S for 5mm and L for 25mm leads length terminals; change the "\$\$" characters with the desired lug style code

<sup>(4)</sup> Upon request only; <sup>(6)</sup> Not suitable for across the line applications



# MHBS - (Expanded range; new lugs)

Metallized polypropylene film capacitor  
MKP - Switching - High current - DC-Link - AC  
2/4/6 x Wire or lug terminals - Small size



**MHBS45...: Ur=800Vdc; Urms= 315Vac<sup>(6)</sup>; Upkr= 920Vdc; Upk= 1040Vdc**  
Max. admissible voltage at +70°C (case)= 880Vdc, 330Vac, Upkr=1010Vdc, Upk=1140Vdc

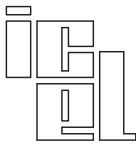
Cap. μF	B	H	Dimension in mm				du/dt V/μs	Ipeak (A)	Irms max. (A) for Δt/Ta <sup>(1)</sup>			ESR <sup>(2)</sup> mΩ	ICEL Code <sup>(3)</sup>
			L	d	P	P1		+15°C	+10°C	+5°C			
2	11	20	32	0,8	27,5	-	36	72	4	3,5	2,5	16,7	MHBS454200*H#
2,2	11	20	32	0,8	27,5	-	36	79,2	4,5	4	3	15,3	MHBS454220*H#
3	13	22	32	1,0	27,5	-	36	108	5,5	4,5	3,5	12,4	MHBS454300*H#
4	15	24,5	32	1,0	27,5	-	36	144	6,5	5,5	4	10,8	MHBS454400*H#
5	14	28	32	1,2	27,5	-	36	180	8	6,5	4,5	9,4	MHBS454500*H#
5	14	25	42,5	1,2	37,5	-	24	120	7,5	6	4	10,3	MHBS454500*J#
6,8	18	33	32	1,2	27,5	-	36	244,8	9,5	7,5	5,5	7,6	MHBS454680*H#
7,5	18	33	32	1,2	27,5	-	36	270	10,5	8,5	6	7,1	MHBS454750*H#
7,5	18	33	32	1,2	27,5	5,1	36	270	11,5	9	6,5	6,5	MHBS454750*HSD
7,5	17	28	42,5	1,2	37,5	-	24	180	9	7	5	8,3	MHBS454750*J#
7,5	17	28	42,5	See lugs drawing			24	180	10,5	8,5	6	7,5	MHBS454750*\$\$
10	22	37	32	1,2	27,5	-	36	360	13	10,5	7,5	5,9	MHBS455100*H#
10	22	37	32	1,2	27,5	10,2	24	360	14,5	11,5	8,5	5,3	MHBS455100*HSD
10	22	30	42,5	1,2	37,5	-	24	240	10,5	8,5	6	7	MHBS455100*J#
10	22	30	42,5	1,2	37,5	5,1	24	240	11,5	9	6,5	6,4	MHBS455100*JSD
10	22	30	42,5	See lugs drawing			24	240	12,5	10	7,5	6,2	MHBS455100*\$\$
12	22	33,5	42,5	1,2	37,5	-	24	288	11,5	9	7	6,4	MHBS455120*J#
12	22	33,5	42,5	1,2	37,5	5,1	24	288	12,5	10	7,5	5,8	MHBS455120*JSD
12	22	33,5	42,5	See lugs drawing			24	288	13,5	11	8	5,6	MHBS455120*\$\$
15	20	40	41,5	1,2	37,5	-	24	360	13,5	11	8	5,6	MHBS455150*J#
15	20	40	41,5	1,2	37,5	10,2	24	360	15	12	8,5	5	MHBS455150*JSD
20	24	44	41,5	1,2	37,5	-	24	480	14	13	9,5	4,8	MHBS455200*J#
20	24	44	41,5	1,2	37,5	10,2	24	480	18	14,5	10,5	4,2	MHBS455200*JSD
22	30	45	42,5	1,2	37,5	-	24	528	14	13,5	10	4,6	MHBS455220*J#
22	30	45	42,5	1,2	37,5	20,3	24	528	18,5	14,5	10,5	4	MHBS455220*JSD
22	30	45	42,5	See lugs drawing			24	528	20,5	16	12	3,8	MHBS455220*\$\$
25	30	45	42,5	1,2	37,5	-	24	600	14	14	10,5	4,3	MHBS455250*J#
25	30	45	42,5	1,2	37,5	20,3	24	600	19,5	15,5	11,5	3,7	MHBS455250*JSD
25	30	45	42,5	See lugs drawing			24	600	22	17	12,5	3,5	MHBS455250*\$\$
30	30	45	57,5	1,2	52,5	-	16,5	495	14	14	10	4,9	MHBS455300*R#
30	30	45	57,5	1,2	52,5	20,3	16,5	495	19	15,5	11	4,3	MHBS455300*RSD
30	30	45	57,5	See lugs drawing			16,5	495	21	16,5	12	4,1	MHBS455300*\$\$
35	30	45	57,5	1,2	52,5	-	16,5	577,5	14	14	11	4,5	MHBS455350*R#
35	30	45	57,5	1,2	52,5	20,3	16,5	577,5	20	16	11,5	3,9	MHBS455350*RSD
35	30	45	57,5	See lugs drawing			16,5	577,5	22	17,5	13	3,7	MHBS455350*\$\$
40	35	50	57,5	1,2	52,5	-	16,5	660	14	14	11,5	4,2	MHBS455400*R#
40	35	50	57,5	1,2	52,5	20,3	16,5	660	21,5	17,5	12,5	3,6	MHBS455400*RSD
40	35	50	57,5	See lugs drawing			16,5	660	23,5	19	14	3,4	MHBS455400*\$\$
45	35	50	57,5	1,2	52,5	-	16,5	742,5	14	14	12	4	MHBS455450*R#
45	35	50	57,5	1,2	52,5	20,3	16,5	742,5	23	18,5	13,5	3,4	MHBS455450*RSD
45	35	50	57,5	See lugs drawing			16,5	742,5	25,5	20	15	3,2	MHBS455450*\$\$
47	35	50	57,5	1,2	52,5	-	16,5	775,5	14	14	12,5	3,9	MHBS455470*R#
47	35	50	57,5	1,2	52,5	20,3	16,5	775,5	23,5	19	13,5	3,3	MHBS455470*RSD
60	38	57,5	57,5	1,2	52,5	20,3	16,5	990	25,5	20,5	15,5	3	MHBS455600*RSD
60	38	57,5	57,5	1,2	52,5	10,2	16,5	990	26,5	21,5	15,5	2,8	MHBS455600*RST
60	38	57,5	57,5	See lugs drawing			16,5	990	28,5	22,5	16,5	2,8	MHBS455600*\$\$
65	38	57,5	57,5	1,2	52,5	20,3	16,5	1072,5	26,5	21	15,5	2,9	MHBS455650*RSD
65	38	57,5	57,5	1,2	52,5	10,2	16,5	1072,5	27,5	22	16	2,7	MHBS455650*RST

<sup>(1)</sup> at f=10kHz+60kHz for P=27.5mm, at f=10kHz+45kHz for P=37.5mm, at f=10kHz+30kHz for P=52.5mm; Irms rating for Δt/Ta (Ta= T ambient)= +15°C typical is the absolute max. Irms applicable (ratings limited by terminals type and execution); **for lug terminals execution, the power dissipation capability is calculated considering all the box walls and sealing surface able to dissipate and not in contact with any surface**; Irms values are referred to max. tolerance on rated Capacitance=±10%, for wider C tolerances ESR variation from typical data and related different power dissipation must be taken in consideration

<sup>(2)</sup> typical value at f=10kHz+60kHz for P=27.5mm, at f=10kHz+45kHz for P=37.5mm, at f=10kHz+30kHz for P=52.5mm; for operating frequency out of the range, ESR variation from typical data and related different power dissipation must be taken in consideration

<sup>(3)</sup> change the "\*" symbol with the desired capacitance tolerance code (±5%=J; ±10%=K); change the "#" symbol with S for 5mm and L for 25mm leads length terminals; change the "\$\$" characters with the desired lug style code

<sup>(4)</sup> Upon request only; <sup>(6)</sup> Not suitable for across the line applications



# MHBS - (Expanded range; new lugs)

Metallized polypropylene film capacitor  
MKP - Switching - High current - DC-Link - AC  
2/4/6 x Wire or lug terminals - Small size



**MHBS50...: Ur=900Vdc; Urms= 350Vac<sup>(6)</sup>; Upkr= 1035Vdc; Upk= 1170VdcMax.**  
Max. voltage at +70°C (case)= 1000Vdc, 370Vac, Upkr=1150Vdc, Upk=1300Vdc

Cap. μF	B	H	Dimension in mm				du/dt V/μs	Ipeak (A)	Irms max. (A) for Δt/Ta <sup>(1)</sup>			ESR <sup>(2)</sup> mΩ	ICEL Code <sup>(3)</sup>
			L	d	P	P1		+15°C	+10°C	+5°C			
2,2	13	22	32	1,0	27,5	-	41,5	91,3	5	4	3	14,7	MHBS504220*H#
2,5	13	22	32	1,0	27,5	-	41,5	103,7	5,5	4,5	3	13,5	MHBS504250*H#
3	15	24,5	32	1,0	27,5	-	41,5	124,5	6,5	5	3,5	11,9	MHBS504300*H#
3,3	14	28	32	1,2	27,5	-	41,5	137	7	5,5	4	11	MHBS504330*H#
4,7	18	33	32	1,2	27,5	-	41,5	195	8,5	6,5	5	9	MHBS504470*H#
4,7	14	25	42,5	1,2	37,5	-	28	131,6	7	5,5	4	10,6	MHBS504470*J#
6	18	33	32	1,2	27,5	-	41,5	249	10	8	6	7,6	MHBS504600*H#
6	18	33	32	1,2	27,5	5,1	41,5	249	11	8,5	6	7	MHBS504600*HSD
6	17	28	42,5	1,2	37,5	-	28	168	8,5	6,5	5	9,2	MHBS504600*J#
6	17	28	42,5	See lugs drawing			28	168	10	8	6	8,4	MHBS504600*SS
7,5	22	37	32	1,2	27,5	-	41,5	311,2	12,5	9,5	7	6,9	MHBS504750*H#
7,5	22	37	32	1,2	27,5	10,2	41,5	311,2	13,5	10,5	8	6,3	MHBS504750*HSD
7,5	22	30	42,5	1,2	37,5	-	28	210	10	8	5,5	8	MHBS504750*H#
7,5	22	30	42,5	See lugs drawing			28	210	12	9,5	7	7,2	MHBS504750*SS
10	22	33,5	42,5	1,2	37,5	-	28	280	11,5	9	6,5	6,8	MHBS505100*J#
10	22	33,5	42,5	1,2	37,5	5,1	28	280	12,5	9,5	7	6,2	MHBS505100*JSD
10	22	33,5	42,5	See lugs drawing			28	280	13,5	10,5	8	6	MHBS505100*SS
12	20	40	41,5	1,2	37,5	-	28	336	13,5	11	7,5	6,3	MHBS505120*J#
12	20	40	41,5	1,2	37,5	10,2	28	336	14,5	11,5	8	5,7	MHBS505120*JSD
12	20	40	41,5	See lugs drawing <sup>(4)</sup>			28	336	15,5	12,5	9	5,5	MHBS505120*SS
15	24	44	41,5	1,2	37,5	-	28	420	14	12,5	9,5	5,3	MHBS505150*J#
15	24	44	41,5	1,2	37,5	10,2	28	420	17	14	10,5	4,7	MHBS505150*JSD
15	24	44	41,5	See lugs drawing <sup>(4)</sup>			28	420	18,5	15	11,5	4,5	MHBS505150*SS
15	28	37	42,5	1,2	37,5	-	28	420	14	11,5	8	5,3	MHBS505150*J#A
15	28	37	42,5	1,2	37,5	10,2	28	420	15,5	12,5	9	4,7	MHBS505150*JSDA
15	28	37	42,5	See lugs drawing			28	420	17,5	14	10,5	4,5	MHBS505150*SSA
20	30	45	42,5	1,2	37,5	-	28	560	14	14	10,5	4,5	MHBS505200*J#
20	30	45	42,5	1,2	37,5	20,3	28	560	19	15	11	3,9	MHBS505200*JSD
20	30	45	42,5	See lugs drawing			28	560	21	16,5	12	3,7	MHBS505200*SS
25	30	45	57,5	1,2	52,5	-	18,5	462,5	14	13	10	5,3	MHBS505250*R#
25	30	45	57,5	1,2	52,5	20,3	18,5	462,5	18	15	11	4,7	MHBS505250*RSD
25	30	45	57,5	See lugs drawing			18,5	462,5	19,5	16	11,5	4,5	MHBS505250*SS
35	35	50	57,5	1,2	52,5	-	18,5	647,5	14	14	12	4,2	MHBS505350*R#
35	35	50	57,5	1,2	52,5	20,3	18,5	647,5	22	17,5	13	3,6	MHBS505350*RSD
35	35	50	57,5	See lugs drawing			18,5	647,5	24	19	14	3,4	MHBS505350*SS
40 <sup>(5)</sup>	35	50	57,5	1,2	52,5	-	18,5	740	14	14	13	3,9	MHBS505400*R# <sup>(5)</sup>
40 <sup>(5)</sup>	35	50	57,5	1,2	52,5	20,3	18,5	740	23,5	19	13,5	3,3	MHBS505400*RSD <sup>(5)</sup>
47	38	57,5	57,5	1,2	52,5	20,3	18,5	869,5	25,5	20,5	15	3	MHBS505470*RSD
47	38	57,5	57,5	1,2	52,5	10,2	18,5	869,5	26,5	21,5	15,5	2,8	MHBS505470*RST
47	38	57,5	57,5	See lugs drawing			18,5	869,5	28,5	23	16,5	2,8	MHBS505470*SS
50	38	57,5	57,5	1,2	52,5	20,3	18,5	925	26	21	15	3	MHBS505500*RSD
50	38	57,5	57,5	1,2	52,5	10,2	18,5	925	27	22	16	2,8	MHBS505500*RST

<sup>(1)</sup> at f=10kHz±60kHz for P=27.5mm, at f=10kHz±45kHz for P=37.5mm, at f=10kHz±30kHz for P=52.5mm; Irms rating for Δt/Ta (Ta=T ambient)= +15°C typical is the absolute max. Irms applicable (ratings limited by terminals type and execution); **for lug terminals execution, the power dissipation capability is calculated considering all the box walls and sealing surface able to dissipate and not in contact with any surface**; Irms values are referred to max. tolerance on rated Capacitance=±10%, for wider C tolerances ESR variation from typical data and related different power dissipation must be taken in consideration

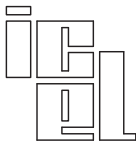
<sup>(2)</sup> typical value at f=10kHz±60kHz for P=27.5mm, at f=10kHz±45kHz for P=37.5mm, at f=10kHz±30kHz for P=52.5mm; for operating frequency out of the range, ESR variation from typical data and related different power dissipation must be taken in consideration

<sup>(3)</sup> change the "\*" symbol with the desired capacitance tolerance code (±5%=J; ±10%=K); change the "#" symbol with S for 5mm and L for 25mm leads length terminals; change the "SS" characters with the desired lug style code

<sup>(4)</sup> Upon request only; <sup>(6)</sup> Not suitable for across the line applications

<sup>(5)</sup> **Not available with tolerance on Capacitance < ±10%**





# MHBS - (Expanded range; new lugs)

Metallized polypropylene film capacitor  
MKP - Switching - High current - DC-Link - AC  
2/4/6 x Wire or lug terminals - Small size



**MHBS55...: =1000Vdc; Urms= 400Vac<sup>(6)</sup>; Upkr= 1150Vdc; Upk= 1300Vdc**

Max. admissible voltage at +70°C (case)= 1100Vdc, 420Vac, Upkr=1265Vdc, Upk=1430Vdc

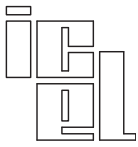
Cap. μF	B	H	Dimension in mm				du/dt V/μs	Ipeak (A)	Irms max. (A) for Δt/Ta <sup>(1)</sup>			ESR <sup>(2)</sup> mΩ	ICEL Code <sup>(3)</sup>
			L	d	P	P1		+15°C	+10°C	+5°C			
1,2	11	20	32	0,8	27,5	-	47	56,4	3,5	2,5	2	20,5	MHBS554120*H#
1,5	11	20	32	0,8	27,5	-	47	70,5	4,5	3,5	2,5	17,8	MHBS554150*HS
2,0	13	22	32	1,0	27,5	-	47	96	5,5	4	3	14,5	MHBS554200*H#
2,5	15	24,5	32	1,0	27,5	-	47	117,5	6	5	3,5	12,8	MHBS554250*H#
3	14	28	32	1,2	27,5	-	47	141	7,5	6	4	11	MHBS554300*H#
4	14	25	42,5	1,2	37,5	-	31	124	7	5,5	4	11	MHBS554400*J#
4,7	18	33	32	1,2	27,5	-	47	220,9	9,5	7,5	5,5	8,3	MHBS554470*H#
4,7	18	33	32	1,2	27,5	10,2	47	220,9	10,5	8,5	6	7,7	MHBS554470*HSD
4,7	17	28	42,5	1,2	37,5	-	31	145,7	8,5	6,5	4,5	9,6	MHBS554470*J#
4,7	17	28	42,5	See lugs drawing		-	31	145,7	9,5	7,5	5,5	8,7	MHBS554470*SS
5	18	33	32	1,2	27,5	-	47	235	10	7,5	5,5	8	MHBS554500*H#
5	18	33	32	1,2	27,5	10,2	47	235	11	9	6,5	7,4	MHBS554500*HSD
5	17	28	42,5	1,2	37,5	-	31	155	9,5	7,5	5,5	9,3	MHBS554500*J#
5	17	28	42,5	See lugs drawing		-	31	155	10,5	8,5	6	8,5	MHBS554500*SS
6,8	22	37	32	1,2	27,5	-	47	319,6	12	10	7,5	6,9	MHBS554680*H#
6,8	22	37	32	1,2	27,5	10,2	47	319,6	13,5	11	8	6,3	MHBS554680*HSD
6,8	22	30	42,5	1,2	37,5	-	31	210,8	10	8	6	7,9	MHBS554680*J#
6,8	22	30	42,5	See lugs drawing		-	31	210,8	11,5	9	7	7,1	MHBS554680*SS
7,5	22	33,5	42,5	1,2	37,5	-	31	232,5	11	8,5	6,5	7,4	MHBS554750*J#
7,5	22	33,5	42,5	1,2	37,5	5,1	31	232,5	12	9,5	7	6,8	MHBS554750*JSD
7,5	22	33,5	42,5	See lugs drawing		-	31	232,5	13	10,5	7,5	6,6	MHBS554750*SS
9	20	40	41,5	1,2	37,5	-	31	279	13	10	7,5	6,6	MHBS554900*J#
9	20	40	41,5	1,2	37,5	10,2	31	279	14,5	11	8	6	MHBS554900*JSD
9	20	40	41,5	See lugs drawing <sup>(4)</sup>		-	31	279	15,5	12	8,5	5,8	MHBS554900*SS
10	20	40	41,5	1,2	37,5	-	31	310	13,5	10,5	8	6,3	MHBS555100*J#
10	20	40	41,5	1,2	37,5	10,2	31	310	15	11,5	8,5	5,7	MHBS555100*JSD
12	24	44	41,5	1,2	37,5	-	31	372	14	12	9	5,7	MHBS555120*J#
12	24	44	41,5	1,2	37,5	10,2	31	372	16,5	13,5	9,5	5,1	MHBS555120*JSD
12	24	44	41,5	See lugs drawing <sup>(4)</sup>		-	31	372	18	14	10,5	4,9	MHBS555120*SS
12	28	37	42,5	1,2	37,5	-	31	372	14	11,5	8	5,7	MHBS555120*J#A
12	28	37	42,5	1,2	37,5	10,2	31	372	15	12	9	5,1	MHBS555120*JSDA
12	28	37	42,5	See lugs drawing		-	31	372	16,5	13,5	10	4,9	MHBS555120*SS
15	30	45	42,5	1,2	37,5	-	31	465	14	13,5	10	5	MHBS555150*J#
15	30	45	42,5	1,2	37,5	20,3	31	465	18	14,5	11	4,4	MHBS555150*JSD
15	30	45	42,5	See lugs drawing		-	31	465	20	16	12	4,2	MHBS555150*SS
22	30	45	57,5	1,2	52,5	-	21	462	14	13,5	10	5,1	MHBS555220*R#
22	30	45	57,5	1,2	52,5	20,3	21	462	18,5	15	11	4,5	MHBS555220*RSD
22	30	45	57,5	See lugs drawing		-	21	462	20,5	16,5	12	4,3	MHBS555220*SS
30	35	50	57,5	1,2	52,5	-	21	630	14	14	11,5	4,3	MHBS555300*R#
30	35	50	57,5	1,2	52,5	20,3	21	630	22	17,5	12,5	3,8	MHBS555300*RSD
30	35	50	57,5	See lugs drawing		-	21	630	24	19	13,5	3,6	MHBS555300*SS
33	35	50	57,5	1,2	52,5	-	21	693	14	14	12	4,1	MHBS555330*R#
33	35	50	57,5	1,2	52,5	20,3	21	693	23	18,5	13	3,5	MHBS555330*RSD
40	38	57,5	57,5	1,2	52,5	20,3	21	840	25	20	14,5	3,2	MHBS555400*RSD
40	38	57,5	57,5	1,2	52,5	10,2	21	840	26	21	15	3	MHBS555400*RST
40	38	57,5	57,5	See lugs drawing		-	21	840	27,5	22	16,5	3	MHBS555400*SS

<sup>(1)</sup> at f=10kHz±60kHz for P=27.5mm, at f=10kHz±45kHz for P=37.5mm, at f=10kHz±30kHz for P=52.5mm; Irms rating for Δt/Ta (Ta= T ambient)= +15°C typical is the absolute max. Irms applicable (ratings limited by terminals type and execution); **for lug terminals execution, the power dissipation capability is calculated considering all the box walls and sealing surface able to dissipate and not in contact with any surface**; Irms values are referred to max. tolerance on rated Capacitance=±10%, for wider C tolerances ESR variation from typical data and related different power dissipation must be taken in consideration

<sup>(2)</sup> typical value at f=10kHz±60kHz for P=27.5mm, at f=10kHz±45kHz for P=37.5mm, at f=10kHz±30kHz for P=52.5mm; for operating frequency out of the range, ESR variation from typical data and related different power dissipation must be taken in consideration

<sup>(3)</sup> change the "\*" symbol with the desired capacitance tolerance code (±5%=J; ±10%=K); change the "#" symbol with S for 5mm and L for 25mm leads length terminals; change the "SS" characters with the desired lug style code

<sup>(4)</sup> Upon request only; <sup>(6)</sup> Not suitable for across the line applications



# MHBS - (Expanded range; new lugs)

Metallized polypropylene film capacitor  
MKP - Switching - High current - DC-Link - AC  
2/4/6 x Wire or lug terminals - Small size



**MHBS60...: Ur=1100Vdc; Urms= 420Vac<sup>(6)</sup>; Upkr= 1265Vdc; Upk= 1430Vdc**  
Max. admissible voltage at +70°C= 1200Vdc, 440Vac, Upkr=1380Vdc, Upk=1560Vdc

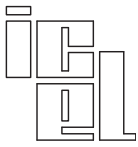
Cap. μF	Dimension in mm						du/dt V/μs	lpeak (A)	Irms max. (A) for Δt/Ta <sup>(1)</sup>			ESR <sup>(2)</sup> mΩ	ICEL Code <sup>(3)</sup>
	B	H	L	d	P	P1			+15°C	+10°C	+5°C		
1	11	20	32	0,8	27,5	-	50	50	3,5	2,5	2	20,5	MHBS604100*H#
1,2	11	20	32	0,8	27,5	-	50	60	4,5	3,5	2,5	18	MHBS604120*H#
1,5	13	22	32	1,0	27,5	-	50	75	5	4	3	15,5	MHBS604150*H#
2	15	24,5	32	1,0	27,5	-	50	100	6	5	3,5	12,9	MHBS604200*H#
2,2	15	24,5	32	1,0	27,5	-	50	110	6	5	3,5	12,2	MHBS604220*H#
2,5	14	28	32	1,2	27,5	-	50	125	7	5,5	4	10,8	MHBS604250*H#
3	14	25	42	1,2	37,5	-	34	102	6,5	5	4	11,8	MHBS604300*J#
3,3	18	33	32	1,2	27,5	-	50	165	9	7	5	9,2	MHBS604330*H#
4	18	33	32	1,2	27,5	-	50	200	9,5	7,5	5,5	8,1	MHBS604400*H#
4	18	33	32	1,2	27,5	5,1	50	200	10,5	8,5	6	7,5	MHBS604400*HSD
4	17	28	42,5	1,2	37,5	-	34	136	8,5	6,5	4,5	9,9	MHBS604400*J#
4	17	28	42,5	See lugs drawing			34	136	9,5	7,5	5,5	9,1	MHBS604400*SS
4,7	22	37	32	1,2	27,5	-	50	235	11,5	9	7	7,4	MHBS604470*H#
4,7	22	37	32	1,2	27,5	10,2	50	235	12,5	10	7,5	6,8	MHBS604470*HSD
4,7	22	30	42,5	1,2	37,5	-	34	159,8	10	7,5	5,5	8,3	MHBS604470*J#
4,7	22	30	42,5	See lugs drawing			34	159,8	11,5	8,5	6,5	7,5	MHBS604470*SS
5	22	37	32	1,2	27,5	-	50	250	12	9,5	7	7,2	MHBS604500*H#
5	22	37	32	1,2	27,5	10,2	50	250	13	10,5	7,5	6,6	MHBS604500*HSD
5	22	30	42,5	1,2	37,5	-	34	170	10,5	8	5,5	8,1	MHBS604470*J#
5	22	30	42,5	See lugs drawing			34	170	12	9	6,5	7,3	MHBS604470*SS
6,8	22	33,5	42,5	1,2	37,5	-	34	231,2	11	9	6,5	6,9	MHBS604680*J#
6,8	22	33,5	42,5	1,2	37,5	5,1	34	231,2	12	9,5	7	6,3	MHBS604680*JSD
6,8	22	33,5	42,5	See lugs drawing			34	231,2	13	10,5	7,5	6,1	MHBS604680*SS
7,5	22	33,5	42,5	1,2	37,5	-	34	255	11,5	9,5	6,5	6,6	MHBS604750*J#
7,5	22	33,5	42,5	1,2	37,5	10,2	34	255	12,5	10,5	7,5	6	MHBS604750*JSD
7,5	20	40	41,5	See lugs drawing <sup>(4)</sup>			34	255	14	11,5	8,5	5,8	MHBS604750*SS
10	24	44	41,5	1,2	37,5	-	34	340	14	12,5	9	5,5	MHBS605100*J#
10	24	44	41,5	1,2	37,5	10,2	34	340	17	13,5	10	4,9	MHBS605100*JSD
10	24	44	41,5	See lugs drawing <sup>(4)</sup>			34	340	18,5	14,5	10,5	4,7	MHBS605100*SS
10	28	37	42,5	1,2	37,5	-	34	340	14	11	8	5,5	MHBS605100*J#A
10	28	37	42,5	1,2	37,5	10,2	34	340	15,5	12	9	4,9	MHBS605100*JSDA
10	28	37	42,5	See lugs drawing			34	340	17	13	9,5	4,7	MHBS605100*SSA
12	30	45	42,5	1,2	37,5	-	34	408	14	13,5	10	5	MHBS605120*J#
12	30	45	42,5	1,2	37,5	20,3	34	408	18,5	14,5	10,5	4,4	MHBS605120*JSD
12	30	45	42,5	See lugs drawing			34	408	20	15,5	11,5	4,2	MHBS605120*SS
20	30	45	57,5	1,2	52,5	-	23	460	14	13,5	10	4,8	MHBS065200*R#
20	30	45	57,5	1,2	52,5	20,3	23	460	19	15	11	4,2	MHBS065200*RSD
20	30	45	57,5	See lugs drawing			23	460	21	17	12,5	4	MHBS605200*SS
22	35	50	57,5	1,2	52,5	-	23	506	14	14	11	4,6	MHBS605220*R#
22	35	50	57,5	1,2	52,5	20,3	23	506	21	17	12	4	MHBS605220*RSD
22	35	50	57,5	See lugs drawing			23	506	23	18,5	13	3,8	MHBS605220*SS
25	35	50	57,5	1,2	52,5	-	23	575	14	14	12	4,4	MHBS605250*R#
25	35	50	57,5	1,2	52,5	20,3	23	575	22	17,5	12,5	3,8	MHBS605250*RSD
25	35	50	57,5	See lugs drawing			23	575	24	19,5	14	3,6	MHBS605250*SS
33	38	57,5	57,5	1,2	52,5	20,3	23	759	24,5	19,5	14,5	3,3	MHBS605330*RSD
33	38	57,5	57,5	1,2	52,5	10,2	23	759	25,5	20,5	15	3,1	MHBS605330*RST
33	38	57,5	57,5	See lugs drawing			23	759	27	21,5	16	3,1	MHBS605330*SS
35	38	57,5	57,5	1,2	52,5	20,3	23	805	25	20	14,5	3,2	MHBS605350*RSD
35	38	57,5	57,5	1,2	52,5	10,2	23	805	26	20,5	15	3	MHBS605350*RST

<sup>(1)</sup> at f=10kHz+60kHz for P=27.5mm, at f=10kHz+45kHz for P=37.5mm, at f=10kHz+30kHz for P=52.5mm; Irms rating for Δt/Ta (Ta= T ambient)= +15°C typical is the absolute max. Irms applicable (ratings limited by terminals type and execution); **for lug terminals execution, the power dissipation capability is calculated considering all the box walls and sealing surface able to dissipate and not in contact with any surface**; Irms values are referred to max. tolerance on rated Capacitance=±10%, for wider C tolerances ESR variation from typical data and related different power dissipation must be taken in consideration

<sup>(2)</sup> typical value at f=10kHz+60kHz for P=27.5mm, at f=10kHz+45kHz for P=37.5mm, at f=10kHz+30kHz for P=52.5mm; for operating frequency out of the range, ESR variation from typical data and related different power dissipation must be taken in consideration

<sup>(3)</sup> change the "\*" symbol with the desired capacitance tolerance code (±5%=J; ±10%=K); change the "#" symbol with S for 5mm and L for 25mm leads length terminals; change the "SS" characters with the desired lug style code

<sup>(4)</sup> Upon request only; <sup>(6)</sup> Not suitable for across the line applications



# MHBS - (Expanded range; new lugs)

Metallized polypropylene film capacitor  
MKP - Switching - High current - DC-Link - AC  
2/4/6 x Wire or lug terminals - Small size



**MHBS70...: Ur=1275Vdc; Urms= 440Vac<sup>(6)</sup>; Upkr= 1465Vdc; Upk= 1655Vdc**  
Max. admissible voltage at +70°C (case)= 1400Vdc, 460Vac, Upkr=1610Vdc, Upk=1820Vdc

Cap. μF	B	H	Dimension in mm			P1	du/dt V/μs	Ipeak (A)	Irms max. (A) for Δt/Ta <sup>(1)</sup>			ESR <sup>(2)</sup> mΩ	ICEL Code <sup>(3)</sup>
			L	d	P			+15°C	+10°C	+5°C			
0,68	11	20	32	0,8	27,5	-	61	41,5	4	3	2,5	23	MHBS703680*H#
1	13	22	32	1,0	27,5	-	61	61	5	4	3	17,8	MHBS704100*H#
1,5	15	24,5	32	1,0	27,5	-	61	91,5	6	4,5	3,5	14	MHBS704150*H#
2	18	33	32	1,2	27,5	-	61	122	8	6,5	4,5	11,5	MHBS704200*H#
2,2	18	33	32	1,2	27,5	-	61	134,2	8,5	6,5	4,5	10,8	MHBS704220*H#
2,2	14	25	42,5	1,2	37,5	-	41	90,2	6,5	5	4	12,5	MHBS704220*J#
2,5	18	33	32	1,2	27,5	-	61	152,5	9	7	5	9,7	MHBS704250*H#
3	18	33	32	1,2	27,5	-	61	183	9,5	7,5	5,5	8,6	MHBS704300*H#
3	18	33	32	1,2	27,5	5,1	61	183	10,5	8,5	6	8	MHBS704300*HSD
3	17	28	42,5	1,2	37,5	-	41	123	8	6,5	5	10,1	MHBS704300*J#
3	17	28	42,5	See lugs drawing			41	123	9,5	7,5	5,5	9,3	MHBS704300*\$\$
3,3	22	37	32	1,2	27,5	-	61	201,3	11	8,5	6,5	8,1	MHBS704330*H#
3,3	22	37	32	1,2	27,5	10,2	61	201,3	12	9	6,5	7,5	MHBS704330*HSD
3,3	22	30	42,5	1,2	37,5	-	41	135,3	9	7,5	5,5	9,6	MHBS704330*J#
3,3	22	30	42,5	See lugs drawing			41	135,3	10,5	8,5	6	8,8	MHBS704330*\$\$
4	22	37	32	1,2	27,5	-	61	244	12	9,5	7	7,1	MHBS704400*H#
4	22	37	32	1,2	27,5	10,2	61	244	13,5	10,5	7,5	6,5	MHBS704400*H#
4	22	30	42,5	1,2	37,5	-	41	164	10	8	6	8,7	MHBS704400*J#
4	22	30	42,5	See lugs drawing			41	164	11,5	9	6,5	7,9	MHBS704400*\$\$
4,7	22	33,5	42,5	1,2	37,5	-	41	192,7	10,5	8,5	6	7,9	MHBS704470*J#
4,7	22	33,5	42,5	1,2	37,5	5,1	41	192,7	11,5	9	6,5	7,3	MHBS704470*JSD
4,7	22	33,5	42,5	See lugs drawing			41	192,7	12,5	10	7,5	7,1	MHBS704470*\$\$
5	22	33,5	42,5	1,2	37,5	-	41	205	10,5	8,5	6,5	7,7	MHBS704500*J#
5	22	33,5	42,5	1,2	37,5	5,1	41	205	11,5	9	6,5	7,1	MHBS704500*JSD
5	22	33,5	42,5	See lugs drawing			41	205	12,5	10	7,5	6,9	MHBS704500*\$\$
6,8	24	44	41,5	1,2	37,5	-	41	278,8	13,5	11	8	6,5	MHBS704680*J#
6,8	24	44	41,5	1,2	37,5	10,2	41	278,8	14,5	11,5	8,5	5,9	MHBS704680*JSD
6,8	24	44	41,5	See lugs drawing <sup>(4)</sup>			41	278,8	16	12,5	9,5	5,7	MHBS704680*\$\$
7,5	24	44	41,5	1,2	37,5	-	41	307,5	14	11,5	8,5	6,1	MHBS704750*J#
7,5	24	44	41,5	1,2	37,5	10,2	41	307,5	16	12,5	9	5,5	MHBS704750*JSD
7,5	24	44	41,5	See lugs drawing <sup>(4)</sup>			41	307,5	17,5	13,5	10	5,3	MHBS704750*\$\$
7,5	28	37	42,5	1,2	37,5	-	41	307,5	13	10,5	7,5	6,1	MHBS704750*J#A
7,5	28	37	42,5	1,2	37,5	10,2	41	307,5	14,5	11,5	8	5,5	MHBS704750*JSDA
7,5	28	37	42,5	See lugs drawing			41	307,5	16	12,5	9	5,3	MHBS704750*\$\$A
10	30	45	42,5	1,2	37,5	-	41	410	14	13	9,5	5,1	MHBS705100*J#
10	30	45	42,5	1,2	37,5	20,3	41	410	18	14	10,5	4,5	MHBS705100*JSD
10	30	45	42,5	See lugs drawing			41	410	20	15,5	11,5	4,3	MHBS705100*\$\$
12	30	45	57,5	1,2	52,5	-	28	336	14	12,5	9	6	MHBS705120*R#
12	30	45	57,5	1,2	52,5	20,3	28	336	17	13,5	9,5	5,4	MHBS705120*RSD
12	30	45	57,5	See lugs drawing			28	336	18,5	14,5	10	5,2	MHBS705120*\$\$
15	30	45	57,5	1,2	52,5	-	28	420	14	13	10	5,4	MHBS705150*R#
15	30	45	57,5	1,2	52,5	20,3	28	420	18	14,5	10,5	4,8	MHBS705150*RSD
15	30	45	57,5	See lugs drawing			28	420	19,5	15,5	11,5	4,6	MHBS705150*\$\$
20	35	50	57,5	1,2	52,5	-	28	560	14	14	11,5	4,6	MHBS705200*R#
20	35	50	57,5	1,2	52,5	20,3	28	560	21,5	17,5	12	4	MHBS705200*RSD
20	35	50	57,5	See lugs drawing			28	560	23,5	19	13,5	3,8	MHBS705200*\$\$
25	38	57,5	57,5	1,2	52,5	20,3	28	700	23	19	13,5	3,6	MHBS705250*RSD
25	38	57,5	57,5	1,2	52,5	10,2	28	700	24	19,5	14	3,4	MHBS705250*RST
25	38	57,5	57,5	See lugs drawing			28	700	26	21	15	3,4	MHBS705250*\$\$

<sup>(1)</sup> at f=10kHz+60kHz for P=27.5mm, at f=10kHz+45kHz for P=37.5mm, at f=10kHz+30kHz for P=52.5mm; Irms rating for Δt/Ta (Ta= T ambient)= +15°C typical is the absolute max. Irms applicable (ratings limited by terminals type and execution); **for lug terminals execution, the power dissipation capability is calculated considering all the box walls and sealing surface able to dissipate and not in contact with any surface**; Irms values are referred to max. tolerance on rated Capacitance=±10%, for wider C tolerances ESR variation from typical data and related different power dissipation must be taken in consideration

<sup>(2)</sup> typical value at f=10kHz+60kHz for P=27.5mm, at f=10kHz+45kHz for P=37.5mm, at f=10kHz+30kHz for P=52.5mm; for operating frequency out of the range, ESR variation from typical data and related different power dissipation must be taken in consideration

<sup>(3)</sup> change the "\*" symbol with the desired capacitance tolerance code (±5%=J; ±10%=K); change the "#" symbol with S for 5mm and L for 25mm leads length terminals; change the "\$\$" characters with the desired lug style code

<sup>(4)</sup> Upon request only; <sup>(6)</sup> Not suitable for across the line applications

**Warning: this specification must be completed with the data given in the "General technical information" chapter**