MPH

• MKP • axial wire or lugs terminals • high current
• high frequency • switching applications

Main applications
Storage, high frequency, high ripple current applications, input and output filtering in SMPSs, resonant circuits, high-end audio applications

Dielectric
Polypropylene

Electrodes
Vacuum deposited metal layers

Coating
UL 510 / CSA TIL I-26 polyester tape wrapping; UL 94 V-0 resin end fill. Flame retardant execution

Construction
Extended metallized film (refer to General Technical Information)

Terminals
Tinned copper wire (lead free)

Reference standard
IEC 60384/16, IEC 60068, MIL-C 55514/9, RoHS compliant

Climatic category
55/100/21(IEC 60068/1), FME (DIN40040)
Please refer also to paragraph C10 (humid ambient) of the General Technical Information

Operating temperature range (case)
-55°...+105°C

Nominal Capacitance (Cn) µF
1µF to 30µF. Refer to article table

Capacitance tolerance (at 1kHz)
±10% (code=K), ±5% (code=J) and ±20% (code=M). Other tolerances upon request

Capacitance temperature coefficient
Refer to General Technical Information

Long term stability (at 1kHz)
Capacitance variation ≤ ±1% after a period of 2 years at standard environmental conditions

Rated voltage (Ur) (Vdc) at 85°C
100, 200, 400 Vdc
(Permissible AC voltage at 60Hz: 60, 120, 200 Vac)

Non recurrent surge voltage (Upk) at 85°C
200, 400, 800Vdc

Category voltage (Uc)
Uc=Ur at +105°C

Self inductance
≤ 1nH/mm of capacitor and leads length used for connection

Maximum pulse rise time V/µs
Refer to article table

Dissipation factor (DF), max.
tgδ x10-4, measured at 25 ±5°C 1 kHz
≤ 10

Insulation resistance (R_{INS})
Measured between terminals, at 25±°C, after 1 minute of electrification at 100Vdc: R_{INS} ≥ 100000s

Test voltage between terminals (Ut)
1,6xUr (DC) applied for 2s at 25±5°C (1 minute for type test)

Damp heat test (steady state)
Test conditions:
Temperature = +40 ±2°C
Relative humidity =93 ±2%
Test duration = 21 days
Performance:
Capacitance change ≤ ±2%
DF change ≤ 0.0010 at 1kHz
R_{INS} ≥ 50% of initial limit value

Endurance test
Test conditions:
Temperature = +85 ±2°C
Test duration = 1000h
Voltage applied = 1.25xUr (DC)
Performance:
Capacitance change ≤ ±3%
DF change ≤ 0.0010 at 1kHz
R_{INS} ≥ 50% of initial limit value

Resistance to soldering heat test (wire terminals only)
Test conditions:
Solder bath temperature= +260±5°C
Dipping time (with heat screen)= 10±1s
Performance:
Capacitance change ≤ ±1%
DF change ≤ 0.0010 at 1kHz
R_{INS} ≥ 50% of initial limit value

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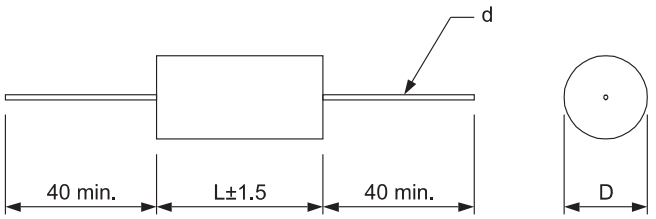

Wire style

MPH wire terminals style article table (different values available upon request)

Voltage at +85°C		Cn	Dimensions (mm)			du/dt	Ipeak	Maximum ripple current (A rms) 20÷100kHz[2]							ESR[3]	ICEL CODE[1]
Ur (Vdc)	Upk (Vdc)	µF	D	L	d	V/µs	A	+25°C	+35°C	+45°C	+55°C	+65°C	+75°C	+85°C	mΩ	-
100	200	1	13,4	19	0,8	10	10	9,2	8,5	7,8	7	6	4,9	4,5	15	MPH1104100*D
100	200	2	15,1	24	0,8	10	20	10,8	10	9,1	8,2	7	5,8	5,3	12	MPH1104200*E
100	200	3	18,2	24	1	10	30	12,1	11,2	10,3	9,2	8	6,5	5,9	11	MPH1104300*E
100	200	5	18,6	32	1	10	50	13,8	12,7	11,6	10,4	9	7,4	6,7	10	MPH1104500*J
100	200	10	22,8	38	1	10	100	15	15	14,2	12,7	11	9	8,2	9	MPH1105100*L
100	200	20	25,4	57	1	10	200	15	15	15	15	13,6	11,1	10	8	MPH1105200*S
100	200	30	30,4	57	1	10	300	15	15	15	15	15	12,4	11,4	6	MPH1105300*S
200	400	1	13	32	0,8	15	15	7,3	7,3	7,3	7,3	7,2	5,9	5,4	20	MPH1204100*J
200	400	2	17,7	32	0,8	15	30	12	12	11,3	10,1	8,7	7,1	6,5	15	MPH1204200*J
200	400	3	18,9	38	1	15	45	15	13,8	12,6	11,3	9,8	8	7,3	13	MPH1204300*L
200	400	5	21,8	44	1	15	75	15	15	14,7	13,1	11,4	9,3	8,5	11	MPH1204500*N
200	400	10	26,1	57	1	15	150	15	15	15	15	13,8	11,1	10	9	MPH1205100*S
200	400	20	36,5	57	1	15	300	15	15	15	15	15	14,1	12,8	6	MPH1205200*S
400	800	1	18,1	38	1	20	20	9,5	9,5	9,5	9,5	9,5	7,8	7,1	19	MPH1404100*L
400	800	2	22,7	44	1	20	40	15	15	15	13,4	11,6	9,5	8,7	15	MPH1404200*N
400	800	3	27,5	44	1	20	60	15	15	15	15	13,1	10,7	9,8	12	MPH1404300*N
400	800	5	30,2	57	1	20	100	15	15	15	15	15	12,5	11,4	10	MPH1404500*S
400	800	10	42,3	57	1	20	200	15	15	15	15	15	15	14,1	6	MPH1405100*S

[1] Change the * symbol with the needed capacitance tolerance code: J=±5%, K=±10%, M=±20%
[2] Maximum ripple current as function of case temperature, C tol.≤ ±10%
[3] Max values for f=20÷100kHz

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

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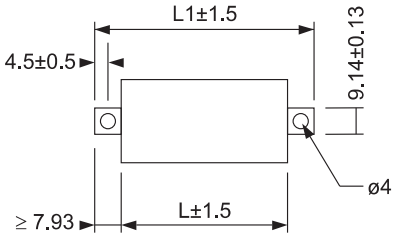

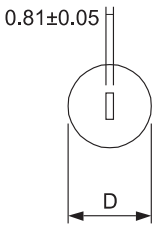

Lug style

MPHL lug terminals style article table (different values available upon request)

Voltage at +85°C		Cn	Dimensions (mm)			du/dt	Ipeak	Maximum ripple current (A rms) 20÷100kHz[2]							ESR[3]	ICEL CODE[1]
Ur (Vdc)	Upk (Vdc)	µF	D	L	L1	V/µs	A	+25°C	+35°C	+45°C	+55°C	+65°C	+75°C	+85°C	mΩ	-
100	200	2	15,1	29	46,45	10	20	12	11	10	8,9	7,8	6,3	5,8	12	MPH1104200*HL
100	200	3	18,2	29	46,45	10	30	13,3	12,3	11,2	10	8,7	7,1	6,5	11	MPH1104300*HL
100	200	5	18,6	36	54,35	10	50	14,8	13,7	12,5	11,2	9,7	7,9	7,2	10	MPH1104500*KL
100	200	10	22,8	44	60,7	10	100	17,8	16,5	15	13,5	11,7	9,5	8,7	9	MPH1105100*NL
100	200	20	25,4	60	79,75	10	200	21,6	20	18,3	16,4	14,2	11,6	10,6	8	MPH1105200*TL
100	200	30	30,4	60	79,75	10	300	24,3	22,5	20,5	18,4	15,9	13	11,9	6	MPH1105300*TL
200	400	2	17,7	36	54,35	15	30	14,3	13,2	12,1	10,8	9,4	7,7	7	15	MPH1204200*KL
200	400	3	18,9	44	60,7	15	45	15,9	14,7	13,5	12	10,4	8,5	7,8	13	MPH1204300*NL
200	400	5	21,8	47	67	15	75	18,3	17	15,5	13,9	12	9,8	8,9	11	MPH1204500*OL
200	400	10	26,1	60	79,75	15	150	22,4	20,7	18,9	16,9	14,6	12	10,9	9	MPH1205100*TL
200	400	20	36,5	60	79,75	15	300	27,4	25,4	23,2	20,7	17,9	14,7	13,4	6	MPH1205200*TL
400	800	1	18,1	44	60,7	20	20	9,5	9,5	9,5	9,5	9,5	8,3	7,5	19	MPH1404100*NL
400	800	2	22,7	47	67	20	40	15	15	15	14,2	12,3	10	9,1	15	MPH1404200*OL
400	800	3	27,5	47	67	20	60	21,1	19,5	17,8	15,9	13,8	11,3	10,3	12	MPH1404300*OL
400	800	5	30,2	60	79,75	20	100	24,4	22,6	20,6	18,5	16	13,1	11,9	10	MPH1404500*TL
400	800	10	42,3	60	79,75	20	200	30	27,8	25,4	22,7	19,7	16,1	14,7	6	MPH1405100*TL

[1] Change the * symbol with the needed capacitance tolerance code: J=±5%, K=±10%, M=±20%
[2] Maximum ripple current as function of case temperature, C tol.≤ ±10%
[3] Max values for f=20÷100kHz

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