ARCOTRONICS

R71

MKP/MKT Series

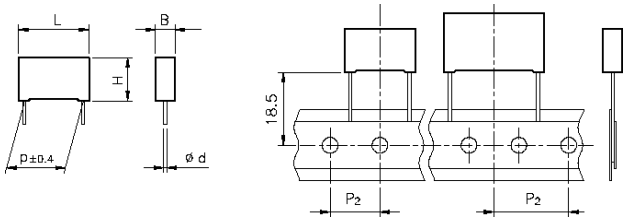
METALLIZED POLYPROPYLENE AND POLYESTER FILM CAPACITOR

Typical applications: P.F.C. (Power Factor Correction)

PRODUCT CODE: **R71**

Loose Taped

Fig.1 Fig.2



MKP Series

GENERAL TECHNICAL DATA

Dielectric: polypropylene film.
Plates: metal layer deposited by evaporation under vacuum.
Winding: non-inductive type.
Leads: tinned wire.
Protection: plastic case, thermosetting resin filled. Box material is solvent resistant and flame retardant according to UL94 V0.
Marking: Manufacturer's logo, series, capacitance, tolerance, D.C. rated voltage.
Operating temperature range: -40 to +110°C
For temperatures between +105°C and 110°C a decreasing factor of 4% per degree C on the rated voltage V_R has to be applied.

ELECTRICAL CHARACTERISTICS

Capacitance range: 0.01µF to 22µF
Capacitance tolerances (measured at 1 kHz)**:**
±5%(J); 10% (K); ±20% (M).
Total self-inductance (L)**:** (lead length ~2mm)

Pitch (mm)	10	15	22.5	27.5	37.5
L(nH) ≈	9	10	18	18	20

Dissipation factor (DF):

$tg\delta \times 10^{-4}$ at +25°C ±5°C: ≤10 (6)* at 1kHz
* Typical value

Insulation resistance:

Test conditions

Temperature: +25°C±5°C
Voltage charge time: 1 min
Voltage charge: 100 Vdc

Performance

≥1 x 10^5 MΩ for C ≤0.33µF (5 x 10^5 MΩ)*
≥30000 s for C >0.33µF (150000 s)*
*Typical value

Test voltage between terminations:

$1.6 \times V_R$ applied for 2 s at +25°C±5°C

MKT Series

GENERAL TECHNICAL DATA

Dielectric: polyester film (polyethylene terephthalate).
Plates: metal layer deposited by evaporation under vacuum.
Winding: non-inductive type.
Leads: tinned wire.
Protection: plastic case, thermosetting resin filled. Box material is solvent resistant and flame retardant according to UL94 V0.
Marking: Manufacturer's logo, series, capacitance, tolerance, D.C. rated voltage.
Operating temperature range: -40 to +110°C
For temperatures between +85°C and 110°C a decreasing factor of 1.1% per degree C on the rated voltage V_R has to be applied.

ELECTRICAL CHARACTERISTICS

Capacitance range: 0.1µF to 22µF
Capacitance tolerances (measured at 1 kHz)**:**
±10% (K); ±20% (M).
Total self-inductance (L)**:** (lead length ~2mm)

Pitch (mm)	15	22.5	27.5	37.5
L(nH) ≈	10	18	18	22

Dissipation factor (DF):

$tg\delta \times 10^{-4}$ at +25°C ±5°C: ≤100 (50)* at 1kHz
* Typical value

Insulation resistance:

Test conditions

Temperature: +25°C±5°C
Voltage charge time: 1 min
Voltage charge: 100 Vdc

Performance

≥30000 MΩ for C ≤0.33µF (50000 MΩ)*
≥10000 s for C >0.33µF (17000 s)*
*Typical value

Test voltage between terminations:

$1.6 \times V_R$ applied for 2 s at +25°C±5°C

METALLIZED POLYPROPYLENE AND POLYESTER FILM CAPACITOR

PRODUCT CODE: **R71**

R71 MKP Series

Rated Cap.	420Vdc/220Vac				Ø d	Max dv/dt	Max K_0	Part Number
	B	H	L	p	(mm)	(V/µs)	(V^2/µs)	
0.010 µF	4.0	9.0	13.0	10.0	0.6	250	210 E3	R71MF 2100--0--
0.015 µF	4.0	9.0	13.0	10.0	0.6	250	210 E3	R71MF 2150--0--
0.022 µF	4.0	9.0	13.0	10.0	0.6	250	210 E3	R71MF 2220--0--
0.033 µF	4.0	9.0	13.0	10.0	0.6	250	210 E3	R71MF 2330--0--
0.047 µF	4.0	9.0	13.0	10.0	0.6	250	210 E3	R71MF 2470--0--
0.068 µF	5.0	11.0	13.0	10.0	0.6	250	210 E3	R71MF 2680--0--
0.10 µF	5.0	11.0	13.0	10.0	0.6	250	210 E3	R71MF 3100--0--
0.15 µF	6.0	12.0	13.0	10.0	0.6	250	210 E3	R71MF 3150--0--
0.10 µF	5.0	11.0	18.0	15.0	0.6	160	134 E3	R71MI 3100--0--
0.15 µF	5.0	11.0	18.0	15.0	0.6	160	134 E3	R71MI 3150--0--
0.22 µF	5.0	11.0	18.0	15.0	0.6	160	134 E3	R71MI 3220--0--
0.33 µF	6.0	12.0	18.0	15.0	0.6	160	134 E3	R71MI 3330--0--
0.47 µF	7.5	13.5	18.0	15.0	0.6	160	134 E3	R71MI 3470--0--
0.47 µF	6.0	17.5	18.0	15.0	0.6	160	134 E3	R71MI 3470--1--
0.47 µF	9.0	12.5	18.0	15.0	0.6	160	134 E3	R71MI 3470--2--
0.68 µF	10.0	16.0	18.0	15.0	0.8	160	134 E3	R71MI 3680--0--
0.68 µF	7.5	18.5	18.0	15.0	0.8	160	134 E3	R71MI 3680--1--
0.68 µF	13.0	12.0	18.0	15.0	0.8	160	134 E3	R71MI 3680--2--
1.0 µF	11.0	19.0	18.0	15.0	0.8	160	134 E3	R71MI 4100--0--
0.22 µF	6.0	15.0	26.5	22.5	0.8	100	84 E3	R71MN 3220--0--
0.33 µF	6.0	15.0	26.5	22.5	0.8	100	84 E3	R71MN 3330--0--
0.47 µF	6.0	15.0	26.5	22.5	0.8	100	84 E3	R71MN 3470--0--
0.68 µF	6.0	15.0	26.5	22.5	0.8	100	84 E3	R71MN 3680--0--
1.0 µF	8.5	17.0	26.5	22.5	0.8	100	84 E3	R71MN 4100--0--
1.5 µF	10.0	18.5	26.5	22.5	0.8	100	84 E3	R71MN 4150--0--
2.2 µF	13.0	22.0	26.5	22.5	0.8	100	84 E3	R71MN 4220--0--
0.68 µF	9.0	17.0	32.0	27.5	0.8	80	67 E3	R71MR 3680--0--
1.0 µF	9.0	17.0	32.0	27.5	0.8	80	67 E3	R71MR 4100--0--
1.5 µF	10.0	20.0	32.0	27.5	0.8	80	67 E3	R71MR 4150--0--
2.2 µF	11.0	20.0	32.0	27.5	0.8	80	67 E3	R71MR 4220--0--
3.3 µF	15.0	24.0	32.0	27.5	0.8	80	67 E3	R71MR 4330--0--
4.7 µF	18.0	33.0	32.0	27.5	0.8	80	67 E3	R71MR 4470--0--
6.8 µF	22.0	37.0	32.0	27.5	0.8	80	67 E3	R71MR 4680--0--
3.3 µF	11.0	22.0	41.5	37.5	1.0	60	50 E3	R71MW 4330--0--
4.7 µF	16.0	28.5	41.5	37.5	1.0	60	50 E3	R71MW 4470--0--
5.6 µF	16.0	28.5	41.5	37.5	1.0	60	50 E3	R71MW 4560--0--
6.8 µF	16.0	28.5	41.5	37.5	1.0	60	50 E3	R71MW 4680--0--
10 µF	20.0	40.0	41.5	37.5	1.0	60	50 E3	R71MW 5100--0--
15 µF	24.0	44.0	41.5	37.5	1.0	60	50 E3	R71MW 5150--0--
22 µF	30.0	45.0	41.5	37.5	1.0	60	50 E3	R71MW 5220--0--

Rated Cap.	520Vdc/250Vac				Ø d	Max dv/dt	Max K_0	Part Number
	B	H	L	p	(mm)	(V/µs)	(V^2/µs)	
0.010 µF	4.0	9.0	13.0	10.0	0.6	300	312 E3	R71VF 2100--0--
0.015 µF	4.0	9.0	13.0	10.0	0.6	300	312 E3	R71VF 2150--0--
0.022 µF	4.0	9.0	13.0	10.0	0.6	300	312 E3	R71VF 2220--0--
0.033 µF	4.0	9.0	13.0	10.0	0.6	300	312 E3	R71VF 2330--0--
0.047 µF	5.0	11.0	13.0	10.0	0.6	300	312 E3	R71VF 2470--0--
0.068 µF	5.0	11.0	13.0	10.0	0.6	300	312 E3	R71VF 2680--0--
0.10 µF	6.0	12.0	13.0	10.0	0.6	300	312 E3	R71VF 3100--0--
0.10 µF	5.0	11.0	18.0	15.0	0.6	200	208 E3	R71VI 3100--0--
0.15 µF	6.0	12.0	18.0	15.0	0.6	200	208 E3	R71VI 3150--0--
0.22 µF	7.5	13.5	18.0	15.0	0.6	200	208 E3	R71VI 3220--0--
0.22 µF	6.0	17.5	18.0	15.0	0.6	200	208 E3	R71VI 3220--1--
0.33 µF	8.5	14.5	18.0	15.0	0.6	200	208 E3	R71VI 3330--0--
0.33 µF	9.0	12.5	18.0	15.0	0.6	200	208 E3	R71VI 3330--2--
0.33 µF	7.5	18.5	18.0	15.0	0.8	200	208 E3	R71VI 3330--1--
0.47 µF	10.0	16.0	18.0	15.0	0.8	200	208 E3	R71VI 3470--0--
0.47 µF	7.5	18.5	18.0	15.0	0.8	200	208 E3	R71VI 3470--1--
0.47 µF	13.0	12.0	18.0	15.0	0.8	200	208 E3	R71VI 3470--2--
0.68 µF	11.0	19.0	18.0	15.0	0.8	200	208 E3	R71VI 3680--0--
0.22 µF	6.0	15.0	26.5	22.5	0.8	120	125 E3	R71VN 3220--0--
0.33 µF	6.0	15.0	26.5	22.5	0.8	120	125 E3	R71VN 3330--0--
0.47 µF	7.0	16.0	26.5	22.5	0.8	120	125 E3	R71VN 3470--0--
0.68 µF	10.0	18.5	26.5	22.5	0.8	120	125 E3	R71VN 3680--0--
1.0 µF	11.0	20.0	26.5	22.5	0.8	120	125 E3	R71VN 4100--0--
1.5 µF	13.0	22.0	26.5	22.5	0.8	120	125 E3	R71VN 4150--0--
0.68 µF	9.0	17.0	32.0	27.5	0.8	100	104 E3	R71VR 3680--0--
1.0 µF	10.0	20.0	32.0	27.5	0.8	100	104 E3	R71VR 4100--0--
1.5 µF	11.0	20.0	32.0	27.5	0.8	100	104 E3	R71VR 4150--0--
2.2 µF	15.0	24.5	32.0	27.5	0.8	100	104 E3	R71VR 4220--0--
3.3 µF	18.0	33.5	32.0	27.5	0.8	100	104 E3	R71VR 4330--0--
4.7 µF	22.0	37.5	32.0	27.5	0.8	100	104 E3	R71VR 4470--0--
2.2 µF	11.0	22.0	41.5	37.5	1.0	70	73 E3	R71VW 4220--0--
3.3 µF	16.0	28.5	41.5	37.5	1.0	70	73 E3	R71VW 4330--0--
4.7 µF	16.0	28.5	41.5	37.5	1.0	70	73 E3	R71VW 4470--0--
5.6 µF	19.0	32.0	41.5	37.5	1.0	70	73 E3	R71VW 4560--0--
6.8 µF	20.0	40.0	41.5	37.5	1.0	70	73 E3	R71VW 4680--0--
10 µF	24.0	44.0	41.5	37.5	1.0	70	73 E3	R71VW 5100--0--
15 µF	30.0	45.0	41.5	37.5	1.0	70	73 E3	R71VW 5150--0--

Mechanical version and packaging
Internal use
Tolerance: J(5%); K (±10%); M (±20%)

R71 MKP Series

Rated Cap.	630Vdc/275Vac				Ø d	Max dv/dt	Max K_0	Part Number
	B	H	L	p	(mm)	(V/µs)	(V^2/µs)	
0.010 µF	5.0	11.0	13.0	10.0	0.6	400	504 E3	R71PF 2100--0--
0.015 µF	5.0	11.0	13.0	10.0	0.6	400	504 E3	R71PF 2150--0--
0.022 µF	5.0	11.0	13.0	10.0	0.6	400	504 E3	R71PF 2220--0--
0.033 µF	5.0	11.0	13.0	10.0	0.6	400	504 E3	R71PF 2330--0--
0.047 µF	6.0	12.0	13.0	10.0	0.6	400	504 E3	R71PF 2470--0--
0.068 µF	6.0	12.0	13.0	10.0	0.6	400	504 E3	R71PF 2680--0--
0.010 µF	5.0	11.0	18.0	15.0	0.6	250	315 E3	R71PI 2100--0--
0.015 µF	5.0	11.0	18.0	15.0	0.6	250	315 E3	R71PI 2150--0--
0.022 µF	5.0	11.0	18.0	15.0	0.6	250	315 E3	R71PI 2220--0--
0.033 µF	5.0	11.0	18.0	15.0	0.6	250	315 E3	R71PI 2330--0--
0.047 µF	5.0	11.0	18.0	15.0	0.6	250	315 E3	R71PI 2470--0--
0.068 µF	5.0	11.0	18.0	15.0	0.6	250	315 E3	R71PI 2680--0--
0.10 µF	6.0	12.0	18.0	15.0	0.6	250	315 E3	R71PI 3100--0--
0.15 µF	7.5	13.5	18.0	15.0	0.6	250	315 E3	R71PI 3150--0--
0.22 µF	8.5	14.5	18.0	15.0	0.6	250	315 E3	R71PI 3220--0--
0.22 µF	6.0	17.5	18.0	15.0	0.6	250	315 E3	R71PI 3220--1--
0.22 µF	9.0	12.5	18.0	15.0	0.6	250	315 E3	R71PI 3220--2--
0.33 µF	10.0	16.0	18.0	15.0	0.8	250	315 E3	R71PI 3330--0--
0.33 µF	7.5	18.5	18.0	15.0	0.8	250	315 E3	R71PI 3330--1--
0.33 µF	13.0	12.0	18.0	15.0	0.8	250	315 E3	R71PI 3330--2--
0.47 µF	11.0	19.0	18.0	15.0	0.8	250	315 E3	R71PI 3470--0--
0.15 µF	6.0	15.0	26.5	22.5	0.8	160	202 E3	R71PN 3150--0--
0.22 µF	6.0	15.0	26.5	22.5	0.8	160	202 E3	R71PN 3220--0--
0.33 µF	7.0	16.0	26.5	22.5	0.8	160	202 E3	R71PN 3330--0--
0.47 µF	10.0	18.5	26.5	22.5	0.8	160	202 E3	R71PN 3470--0--
0.68 µF	11.0	20.0	26.5	22.5	0.8	160	202 E3	R71PN 3680--0--
1.0 µF	13.0	22.0	26.5	22.5	0.8	160	202 E3	R71PN 4100--0--
0.56 µF	9.0	17.0	32.0	27.5	0.8	115	145 E3	R71PR 3560--0--
0.68 µF	9.0	17.0	32.0	27.5	0.8	115	145 E3	R71PR 3680--0--
1.0 µF	10.0	20.0	32.0	27.5	0.8	115	145 E3	R71PR 4100--0--
1.5 µF	13.0	22.0	32.0	27.5	0.8	115	145 E3	R71PR 4150--0--
2.2 µF	14.0	28.0	32.0	27.5	0.8	115	145 E3	R71PR 4220--0--
3.3 µF	18.0	33.0	32.0	27.5	0.8	115	145 E3	R71PR 4330--0--
4.7 µF	22.0	37.0	32.0	27.5	0.8	115	145 E3	R71PR 4470--0--
1.5 µF	11.0	22.0	41.5	37.5	1.0	80	100 E3	R71PW 4150--0--
2.2 µF	13.0	24.0	41.5	37.5	1.0	80	100 E3	R71PW 4220--0--
3.3 µF	16.0	28.5	41.5	37.5	1.0	80	100 E3	R71PW 4330--0--
4.7 µF	19.0	32.0	41.5	37.5	1.0	80	100 E3	R71PW 4470--0--
5.6 µF	20.0	40.0	41.5	37.5	1.0	80	100 E3	R71PW 4560--0--
6.8 µF	20.0	40.0	41.5	37.5	1.0	80	100 E3	R71PW 4680--0--
10 µF	24.0	44.0	41.5	37.5	1.0	80	100 E3	R71PW 5100--0--

Mechanical version and packaging
Internal use
Tolerance: J(5%); K (±10%); M (±20%)

All dimensions are in mm.

Note: If the working voltage (V) is lower than the rated voltage (V_R), the capacitor may work at higher dv/dt. In this case the maximum value allowed is obtained multiplying the above value (see table dv/dt) with the ratio V_R /V. The pulse characteristic K_0 depends on the voltage wave-form and in any case it cannot overcome the value given in the above table.

METALLIZED POLYPROPYLENE AND POLYESTER FILM CAPACITOR

PRODUCT CODE: **R71**

R71 MKT Series

Rated Cap.	450Vdc/220Vac				Ø d	Max dv/dt	Max K_0	Part Number
	B	H	L	p	(mm)	(V/µs)	(V^2/µs)	
0.10 µF	5.0	11.0	18.0	15.0	0.8	120	108 E3	R71XI 3100--0--
0.15 µF	5.0	11.0	18.0	15.0	0.8	120	108 E3	R71XI 3150--0--
0.22 µF	5.0	11.0	18.0	15.0	0.8	120	108 E3	R71XI 3220--0--
0.33 µF	6.0	12.0	18.0	15.0	0.8	120	108 E3	R71XI 3330--0--
0.47 µF	7.5	13.5	18.0	15.0	0.8	120	108 E3	R71XI 3470--0--
0.47 µF	6.0	17.5	18.0	15.0	0.8	120	108 E3	R71XI 3470--1--
0.47 µF	9.0	12.5	18.0	15.0	0.8	120	108 E3	R71XI 3470--2--
0.68 µF	10.0	16.0	18.0	15.0	0.8	120	108 E3	R71XI 3680--0--
0.68 µF	7.5	18.5	18.0	15.0	0.8	120	108 E3	R71XI 3680--1--
0.68 µF	13.0	12.0	18.0	15.0	0.8	120	108 E3	R71XI 3680--2--
1.0 µF	11.0	19.0	18.0	15.0	0.8	120	108 E3	R71XI 4100--0--
1.0 µF	7.5	18.5	18.0	15.0	0.8	120	108 E3	R71XI 4100--1--
1.2 µF	11.0	19.0	18.0	15.0	0.8	120	108 E3	R71XI 4120--0--
0.22 µF	6.0	15.0	26.5	22.5	0.8	80	72 E3	R71XN 3220--0--
0.33 µF	6.0	15.0	26.5	22.5	0.8	80	72 E3	R71XN 3330--0--
0.47 µF	6.0	15.0	26.5	22.5	0.8	80	72 E3	R71XN 3470--0--
0.68 µF	6.0	15.0	26.5	22.5	0.8	80	72 E3	R71XN 3680--0--
1.0 µF	8.5	17.0	26.5	22.5	0.8	80	72 E3	R71XN 4100--0--
1.5 µF	10.0	18.5	26.5	22.5	0.8	80	72 E3	R71XN 4150--0--
2.2 µF	11.0	20.0	26.5	22.5	0.8	80	72 E3	R71XN 4220--0--
2.7 µF	13.0	22.0	26.5	22.5	0.8	80	72 E3	R71XN 4270--0--
1.5 µF	9.0	17.0	32.0	27.5	0.8	60	54 E3	R71XR 4150--0--
2.2 µF	10.0	20.0	32.0	27.5	0.8	60	54 E3	R71XR 4220--0--
3.3 µF	15.0	24.5	32.0	27.5	0.8	60	54 E3	R71XR 4330--0--
4.7 µF	14.0	28.0	32.0	27.5	0.8	60	54 E3	R71XR 4470--0--
6.8 µF	18.0	33.0	32.0	27.5	0.8	60	54 E3	R71XR 4680--0--
10 µF	22.0	37.0	32.0	27.5	0.8	60	54 E3	R71XR 5100--0--
3.3 µF	11.0	22.0	41.5	37.5	1.0	40	36 E3	R71XW 4330--0--
4.7 µF	13.0	24.0	41.5	37.5	1.0	40	36 E3	R71XW 4470--0--
5.6 µF	13.0	24.0	41.5	37.5	1.0	40	36 E3	R71XW 4560--0--
6.8 µF	16.0	28.5	41.5	37.5	1.0	40	36 E3	R71XW 4680--0--
10 µF	19.0	32.0	41.5	37.5	1.0	40	36 E3	R71XW 5100--0--
22 µF	24.0	44.0	41.5	37.5	1.0	40	36 E3	R71XW 5220--0--

Mechanical version and packaging
Internal use
Tolerance: K (±10%); M (±20%)

All dimensions are in mm.

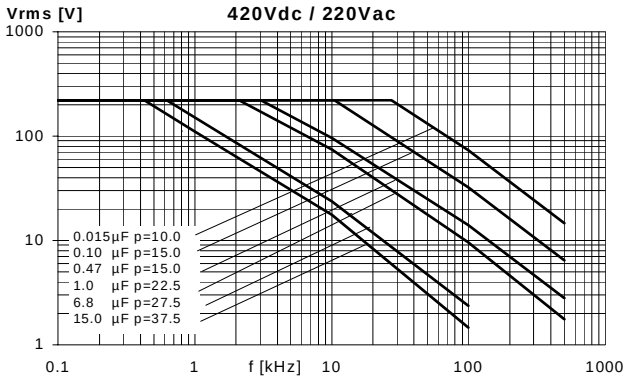
Note: If the working voltage (V) is lower than the rated voltage (V_R), the capacitor may work at higher dv/dt. In this case the maximum value allowed is obtained multiplying the above value (see table dv/dt) with the ratio V_R /V.
The pulse characteristic K_0 depends on the voltage wave-form and in any case it cannot overcome the value given in the above table.

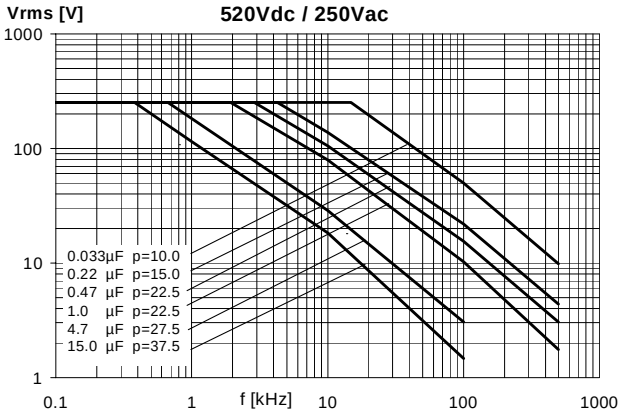
METALLIZED POLYPROPYLENE AND POLYESTER FILM CAPACITOR

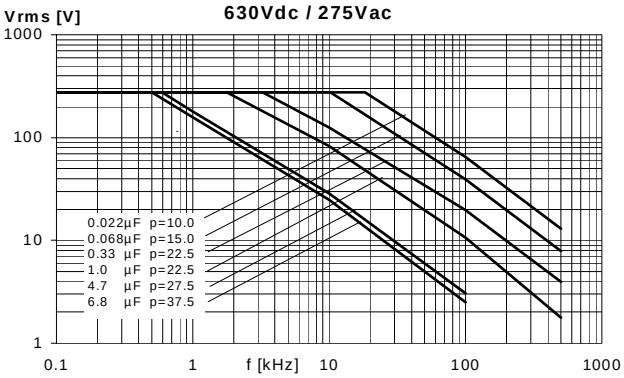
PRODUCT CODE: **R71**

MAX. VOLTAGE (Vr.m.s.) VERSUS FREQUENCY (sinusoidal wave-form / $T_h \leq 40°C$)

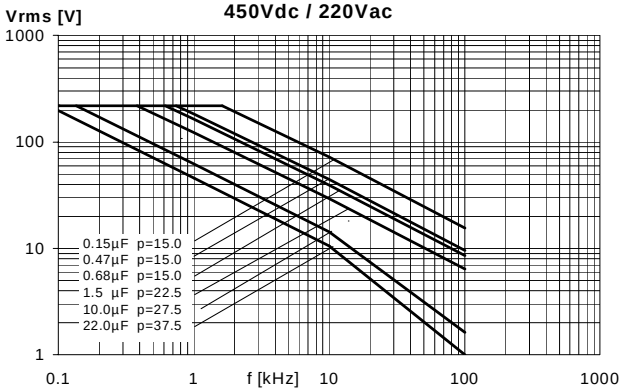
MKP







MKT



Note: p (pitch) in mm.