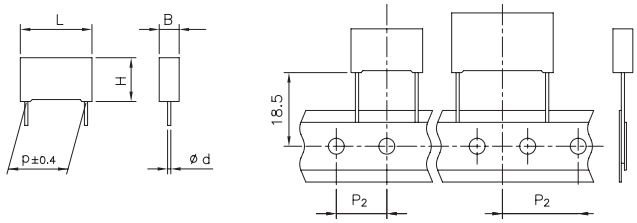
R60 3

MKT Series for 300 Vac

METALLIZED POLYESTER FILM CAPACITOR DESIGNED FOR A.C. APPLICATIONS

Loose Taped

Fig.1 Fig.2



Ø d ±0.05	P = 22.5 ÷ 27.5	P = 37.5
	0.8	1.0

All dimensions are in mm.

Typical applications: This special R60 3 release is specifically designed for applications in series with the main, i.e.: power capacitive supply, line divider, with the request to long stability of capacitance value.

HIGH Capacitance Stability

PRODUCT CODE: **R60 3**

Pitch	Box thickness (B)	Maximum dimensions (mm)		
(mm)	(mm)	B max	H max	L max
22.5	All	B +0.2	H +0.1	L +0.3
27.5	All	B +0.2	H +0.1	L +0.3
37.5	All	B +0.3	H +0.1	L +0.3

PRODUCT CODE SYSTEM

The part number, comprising 14 digits, is formed as follows:

1	2	3	4	5	6	7	8	9	10	11	12	13	14
R	6	0	3									-	

Digit 1 to 3 Series code.

Digit 4 A.C. Rated voltage:
3 = 300 Vac / 560 Vdc

Digit 5 Pitch (mm): N = 22.5; R = 27.5; W = 37.5

Digit 6 to 9 Digits 7 - 8 - 9 indicate the first three digits of Capacitance value and the 6th digit indicates the number of zeros that must be added to obtain the Rated Capacitance in pF.

Digit 10 to 11 Mechanical version and/or packaging (Table1)

Digit 12 Identifies the dimensions and electrical characteristics.

Digit 13 Internal use

Digit 14 Capacitance tolerance:
J=5%; K=10%; M=20%.

GENERAL TECHNICAL DATA

Dielectric: polyester film (polyethylene terephthalate), impregnated.

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, A.C. rated voltage, dielectric code, manufacturing data code.

Climatic category: 55/105/56 IEC 60068-1.

Operating temperature range: -55 to +105°C

Related documents: IEC 60384-2

ELECTRICAL CHARACTERISTICS

Rated voltage (V_R) 300 Vac / 560 Vdc

Rated temperature (T_R) +85°C

Temperature derated voltage:
for temperatures between +85°C and the upper operating temperature a decreasing factor of 1.25 % per degree °C on the rated voltege V_R has to be applied.

Capacitance range 0.15µF to 6.8µF

Capacitance values E6 series (IEC 60063 Norm)

Capacitance tolerances (measured at 1 kHz):
±5% (J);±10% (K); ±20% (M).

Total self-inductance (L): (lead length ~2mm)

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

Dissipation factor (DF): tgδx10^{-4} at +25°C ±5°C:

KhZ	C≤1µF	C>1µF
1	≤100	≤100
10	≤150	-

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:
2200 Vdc for 2 s at +25°C±5°C

Table 1

Standard packaging style	Lead length (mm)	Taping style P_2 (mm)	Fig. (No.)	Pitch (mm)	Ordering code (Digit 10 to 11)
AMMO-PACK		19.05	2	22.5	DQ
REEL Ø 500mm		19.05	2	22.5/27.5	CK
Loose, short leads	4^{+2}				AA
Loose, long leads	$25^{-1/+2}$				50
Loose, long leads	30^{+5}				40

Note: Ammo-pack is the preferred packaging for taped version

METALLIZED POLYESTER FILM CAPACITOR DESIGNED FOR A.C. APPLICATIONS

Rated Cap.	300Vac / 560Vdc Std dimensions				Max dv/dt	Max K_0	Part Number
	B	H	L	p	(V/µs)	(V^2/µs)	
0.15 µF	7.0	16.0	26.5	22.5	200	120 E3	R603N 3150--0--
0.18 µF	7.0	16.0	26.5	22.5	200	120 E3	R603N 3180--0--
0.22 µF	7.0	16.0	26.5	22.5	200	120 E3	R603N 3220--0--
0.27 µF	8.5	17.0	26.5	22.5	200	120 E3	R603N 3270--0--
0.33 µF	10.0	18.5	26.5	22.5	200	120 E3	R603N 3330--0--
0.39 µF	10.0	18.5	26.5	22.5	200	120 E3	R603N 3390--0--
0.47 µF	11.0	20.0	26.5	22.5	200	120 E3	R603N 3470--0--
0.56 µF	11.0	20.0	26.5	22.5	200	120 E3	R603N 3560--0--
0.68 µF	13.0	22.0	26.5	22.5	200	120 E3	R603N 3680--0--
0.47 µF	9.0	17.0	32.0	27.5	150	90 E3	R603R 3470--0--
0.56 µF	11.0	20.0	32.0	27.5	150	90 E3	R603R 3560--0--
0.68 µF	11.0	20.0	32.0	27.5	150	90 E3	R603R 3680--0--
0.82 µF	11.0	20.0	32.0	27.5	150	90 E3	R603R 3820--0--
1.0 µF	13.0	22.0	32.0	27.5	150	90 E3	R603R 4100--0--
1.2 µF	13.0	22.0	32.0	27.5	150	90 E3	R603R 4120--0--
1.5 µF	14.0	28.0	32.0	27.5	150	90 E3	R603R 4150--0--
1.8 µF	14.0	28.0	32.0	27.5	150	90 E3	R603R 4180--0--
2.2 µF	18.0	33.0	32.0	27.5	150	90 E3	R603R 4220--0--
2.7 µF	18.0	33.0	32.0	27.5	150	90 E3	R603R 4270--0--
3.3 µF	22.0	37.0	32.0	27.5	150	90 E3	R603R 4330--0--
1.0 µF	11.0	22.0	41.5	37.5	100	60 E3	R603W 4100--0--
1.2 µF	13.0	24.0	41.5	37.5	100	60 E3	R603W 4120--0--
1.5 µF	16.0	28.5	41.5	37.5	100	60 E3	R603W 4150--0--
1.8 µF	16.0	28.5	41.5	37.5	100	60 E3	R603W 4180--0--
2.2 µF	19.0	32.0	41.5	37.5	100	60 E3	R603W 4220--0--
2.7 µF	19.0	32.0	41.5	37.5	100	60 E3	R603W 4270--0--
3.3 µF	20.0	40.0	41.5	37.5	100	60 E3	R603W 4330--0--
3.9 µF	20.0	40.0	41.5	37.5	100	60 E3	R603W 4390--0--
4.7 µF	24.0	44.0	41.5	37.5	100	60 E3	R603W 4470--0--
5.6 µF	24.0	44.0	41.5	37.5	100	60 E3	R603W 4560--0--
6.8 µF	30.0	45.0	41.5	37.5	100	60 E3	R603W 4680--0--

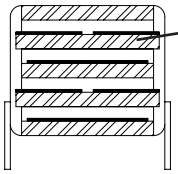
Mechanical version and packaging
Internal use
Tolerance: J (±5%); K (±10%); M (±20%)

All dimensions are in mm

E12 series available upon request.

Appropriate for permanent operation at nominal voltage (means 300 Vac at rated temperature 85°C).

Winding scheme



single sided metallized polyester film

2 sections

TEST METHOD AND PERFORMANCE

Damp heat, steady state:

Test conditions 1st

Temperature:	+40°C±2°C
Voltage:	300 Vac (V_R)
Relative humidity (RH):	93% ±2%
Test duration:	56 days

Test conditions 2nd

Temperature:	+70°C±2°C
Voltage:	300 Vac (V_T)
Relative humidity (RH):	93% ±2%
Test duration:	7 days

Performance

Capacitance change |ΔC/C|:	≤5%
DF change (Δtgδ):	≤50x10^{-4} at 1kHz
Insulation resistance:	≥50% of initial limit.

Endurance:

Test conditions

Temperature:	+105°C±2°C
Test duration:	1000 h
Voltage applied:	1.25xV_R (375 Vac)

Performance

Capacitance change |ΔC/C|:	≤10%
DF change (Δtgδ):	≤30x10^{-4} at 1kHz
Insulation resistance:	≥50% of initial limit.

Resistance to soldering heat:

Test conditions

Solder bath temperature:	+260°C±5°C
Dipping time (with heat screen):	10 s±1 s

Performance

Capacitance change |ΔC/C|:	≤2%
DF change (Δtgδ):	≤30x10^{-4} at 1kHz
Insulation resistance:	≥ initial limit.

Long term stability (after two years)**:**

Storage: standard environmental conditions (see page12)

Performance:

Capacitance chenge |ΔC/C|:	≤2%

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KEMET:

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