



All dimensions are in mm.

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	15
M	M	L										-		

- Digit 1 to 3 Series code.
- Digit 4 to 6 The rated capacitance of the capacitor is defined by an exponential code where positions 4-5 express the two first capacitance figures and position 6 expresses the number of zeros that must be added to obtain the Rated Capacitance in pF.
- Digit 7 It defines the capacitance tolerance percentage, according to IEC 62 Standard, when possible. At present, the following tolerances have been defined: K=±10%; M=±20%
- Digit 8 It defines the product voltage according to table at page 21.
- Digit 9 to 13 Indicate leads / packaging according to table at page 20.
- Digit 14 to 15 Internal use

STACKED TYPE METALLIZED POLYESTER FILM CAPACITOR

Typical applications:
 Very small size, achieved by our manufacturing method. Ideal for use as interference suppression capacitors because a flame retardant epoxy resin (UL94 V0 recognized resin) is used as an outer coating.

PRODUCT CODE: MML

GENERAL TECHNICAL DATA

- Dielectric:** polyester film (polyethylene terephthalate).
- Plates:** aluminium layer deposited by evaporation under vacuum.
- Winding:** non-inductive type.
- Leads:** tinned wire.
- Protection:** thermosetting resin.

Rated Cap.	125 Vac							Max dv/dt (V/µs)	Part Number	Number of pieces for packing unit	
	W	H	T	P	F	Ø d	Taped (ammopack)			Loose (box)	
0.010 µF	9.8	5.6	4.2	7.5	5.0/7.5	0.6	100	MML103	1000	2000	
0.015 µF	9.8	5.6	4.2	7.5	5.0/7.5	0.6	100	MML153	1000	2000	
0.022 µF	9.8	5.9	4.2	7.5	5.0/7.5	0.6	100	MML223	1000	2000	
0.033 µF	9.8	6.0	4.2	7.5	5.0/7.5	0.6	100	MML333	1000	2000	
0.047 µF	9.8	6.2	4.3	7.5	5.0/7.5	0.6	100	MML473	1000	2000	
0.068 µF	9.8	6.7	4.8	7.5	5.0/7.5	0.6	100	MML683	1000	2000	
0.10 µF	9.8	7.7	4.3	7.5	5.0/7.5	0.6	100	MML104	1000	2000	
0.15 µF	9.8	8.6	5.5	7.5	5.0/7.5	0.6	100	MML154	1000	1500	
0.22 µF	9.8	11.8	5.5	7.5	5.0/7.5	0.6	100	MML224	1000	1500	
0.33 µF	12.5	10.8	6.0	10.0	5.0/7.5/10.0	0.6	100	MML334	1000	1000	
0.47 µF	12.5	11.7	7.0	10.0	5.0/7.5/10.0	0.6	100	MML474	500	1000	
0.68 µF	12.5	14.0	7.7	10.0	5.0/7.5/10.0	0.6	100	MML684	500	500	
1.0 µF	17.8	13.4	6.2	15.0	5.0/7.5/10.0	0.8	100	MML105	400	500	
1.5 µF	17.8	15.5	8.5	15.0	5.0/7.5/10.0	0.8	100	MML155	300	500	
2.2 µF	17.8	17.5	10.3	15.0	5.0/7.5/10.0	0.8	100	MML225	200	250	
3.3 µF	25.5	18.5	9.3	22.5	15.0	0.8	100	MML335		200	
4.7 µF	25.5	20.7	11.3	22.5	15.0	0.8	100	MML475		200	

STACKED TYPE METALLIZED POLYESTER FILM CAPACITOR

PRODUCT CODE: MML

Rated Cap.	250 Vac						Max dv/dt (V/μs)	Part Number	Number of pieces for packing unit	
	W	H	T	P	F	Ø d			Taped (ammopack)	Loose (box)
0.010 μF	9.8	7.3	4.2	7.5	5.0/7.5	0.6	100	MML103 - I - - - - -	1000	2000
0.015 μF	9.8	7.5	4.2	7.5	5.0/7.5	0.6	100	MML153 - I - - - - -	1000	2000
0.022 μF	9.8	7.7	4.5	7.5	5.0/7.5	0.6	100	MML223 - I - - - - -	1000	2000
0.033 μF	9.8	8.2	5.2	7.5	5.0/7.5	0.6	100	MML333 - I - - - - -	1000	2000
0.047 μF	12.5	7.8	4.7	10.0	5.0/7.5/10.0	0.6	100	MML473 - I - - - - -	1000	1600
0.068 μF	12.5	9.8	5.2	10.0	5.0/7.5/10.0	0.6	100	MML683 - I - - - - -	1000	1600
0.10 μF	12.5	11.7	5.2	10.0	5.0/7.5/10.0	0.6	100	MML104 - I - - - - -	1000	1000
0.15 μF	17.8	11.3	4.8	15.0	5.0/7.5/10.0	0.6	100	MML154 - I - - - - -	500	1000
0.22 μF	17.8	12.0	6.0	15.0	5.0/7.5/10.0	0.6	100	MML224 - I - - - - -	500	500
0.33 μF	17.8	13.2	6.8	15.0	5.0/7.5/10.0	0.8	100	MML334 - I - - - - -	400	500
0.47 μF	17.8	15.5	7.3	15.0	5.0/7.5/10.0	0.8	100	MML474 - I - - - - -	400	500
0.68 μF	17.8	17.3	9.3	15.0	5.0/7.5/10.0	0.8	100	MML684 - I - - - - -	300	250
1.0 μF	25.5	18.2	10.2	22.5	15.0/22.5	0.8	100	MML105 - I - - - - -		250

All dimensions are in mm

ELECTRICAL CHARACTERISTICS

- Rated voltage (V_R):** 125 Vac (250 Vdc), 250 Vac (630 Vdc)
- Rated temperature (T_R):** -40 to +105°C
- Capacitance range:** 125 Vac: from 0.010 to 4.7 μF
250 Vac: from 0.010 to 1.0 μF
- Capacitance values:** E12 series (IEC 60063 Norm).
- Capacitance tolerances (measured at 1 kHz):** ±10% (K)
- Total self-inductance (L):** max 1 nH per 1 mm lead and capacitor length.
- Dissipation factor (DF):** ≤100 x 10⁻⁴ at 1kHz
- Insulation resistance:** C≤0.47 μF 2000 MΩ or more
C>0.47 μF 3000 ΩF or more

TEST METHOD AND PERFORMANCE

- Damp heat, steady state:**
 - Test conditions**
 - Temperature: +40°C±2°C
 - Relative humidity (RH): 93% ±2%
 - Test duration: 500 h
 - Performance**
 - Capacitance change |ΔC/C|: ≤7%
 - DF: ≤110 x 10⁻⁴ at 1kHz
 - Insulation resistance: C≤0.47 μF 1000 MΩ or more
C>0.47 μF 1500 ΩF or more
- Endurance:**
 - Test conditions**
 - Temperature: +85°C±2°C
 - Test duration: 1000 h
 - Voltage applied: 1.25xV_R
 - Performance**
 - Capacitance change |ΔC/C|: ≤7%
 - DF: ≤110 x 10⁻⁴ at 1kHz
 - Insulation resistance: C≤0.47 μF 1000 MΩ or more
C>0.47 μF 1500 ΩF or more

MAX. VOLTAGE (I_{r.m.s.}) VERSUS FREQUENCY

