

# Type 460M

## Metallized Polyester Film Capacitors

### Type 460M Axial Lead Round Profile Metallized Polyester Film Capacitors



## Specifications

Capacitance Range	0.022 to 100.0 $\mu$ F
Capacitance Tolerance	+5% and +10%, standard (other tolerances available)
Rated Voltage	63 to 400 VDC 40 to 200 VAC
Operating Temperature Range	Units may be operated at full-rated voltage from -55 °C to +85 °C
Voltage De-rating above +85 °C	Units may be operated up to a maximum of 125°C provided the voltage is de-rated linearly to 50% of rated voltage of +125°C
Dissipation Factor	1.0% maximum @ 1 KHz, +25°C
Insulation Resistance	At +25 °C: 10,000 M $\Omega$ for C < 1.0 $\mu$ F 10,000 M $\Omega$ - $\mu$ F for C > 1.0 $\mu$ F At +85°C: 1,000 M $\Omega$ for C < 1.0 $\mu$ F 1,000 M $\Omega$ - $\mu$ F for C > 1.0 $\mu$ F
Encapsulation	Wrapped with flame retardant polyester tape (meets UL510 specifications) and potted with flame retardant epoxy (meets UL94V-0 specifications)
Lead Wire	Tinned copper-clad steel for wire sizes: 0.020 (0.5) diameter (#24 AWG) 0.025 (0.6) diameter (#22 AWG) 0.032 (0.8) diameter (#20 AWG) Tinned copper for wire sizes: 0.040 (1.0) diameter (#18 AWG)
Dielectric/Construction	Metallized polyester film, single section design. Non-inductively wound  <i>In addition to the information provided here, CDE also offers complete design and manufacturing of specific capacitance values, custom form factors, special lead terminations, etc.</i>  <b>Dimensions are in inches, millimeters are in parenthesis.</b>
<a href="#">Regulatory Information</a>	

# Type 460M

## Metallized Polyester Film Capacitors

### General Specifications

The 460M series is designed and manufactured for use in many demanding applications. They are non-inductively wound using some of the most reliable metallized polyester film available today. A wide range of capacitance values, voltage ratings, lead terminations and sizes offer the designer an array of options to best meet the form, fit and function requirements specified.

#### Operating Temperature Range:

Standard operating temperature range is  $-55^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ . Units may be operated at the full rated voltage within this temperature range.

The 460M series may be operated up to a maximum temperature of  $+125^{\circ}\text{C}$ , however the voltage must be linearly de-rated to 50% of the full rated voltage at  $+125^{\circ}\text{C}$ .

#### Dielectric Withstanding Voltage:

Units shall withstand a DC potential of 150% of rated voltage applied between terminals for not more than 2 minutes.

#### Lead Bend Test:

After 3 consecutive  $180^{\circ}$  bends. No damage.

#### Lead Pull Test:

5 pounds (2.3 Kg) for one minute on lead axis. No damage.

#### Humidity Testing:

Units subjected to 95% relative humidity for 250 hours with no voltage applied at  $+40^{\circ}\text{C}$ . After 4 hours of drying, minimum product of insulation resistance and capacitance shall be  $5,000\text{ M}\Omega\text{-}\mu\text{F}$ , but need not exceed  $5,000\text{ M}\Omega$ .

#### DC Voltage Life Test:

500 hours at  $+85^{\circ}\text{C}$  at 125% of rated voltage. After test; capacitance shall not have changed by more than  $\pm 10\%$  of initial value, insulation resistance shall not have decreased by more than 50% of initial value and dissipation factor shall not have increased to more than 1.25%. In addition, there shall be no open or short circuits, and no sign of visible damage.

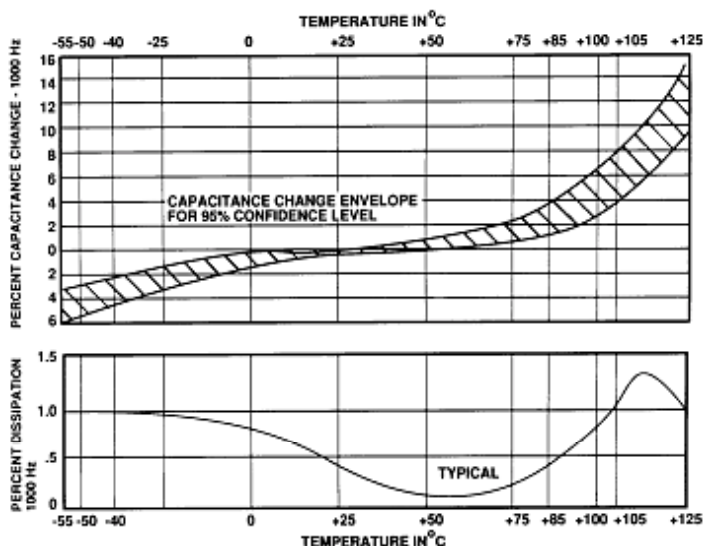
#### Dielectric Material/Construction:

The 460M series is manufactured using metallized polyester film as the dielectric. The capacitor element is non-inductively wound in a single section design.

Metallized polyester film utilizes a base film of polyester with a thin layer of aluminum vacuum deposited directly on the film as the electrode.

Metallized film exhibits a characteristic called “self-healing” or “self-clearing”, which is the ability to remove a fault or short circuit in the dielectric film by vaporizing (from high current density) the metallization near the defect. The metallization is so thin that negligible film damage occurs during the clearing process. The vaporized metal oxidizes over time, aiding in the isolation of a fault area.

#### Typical Temperature Characteristics:

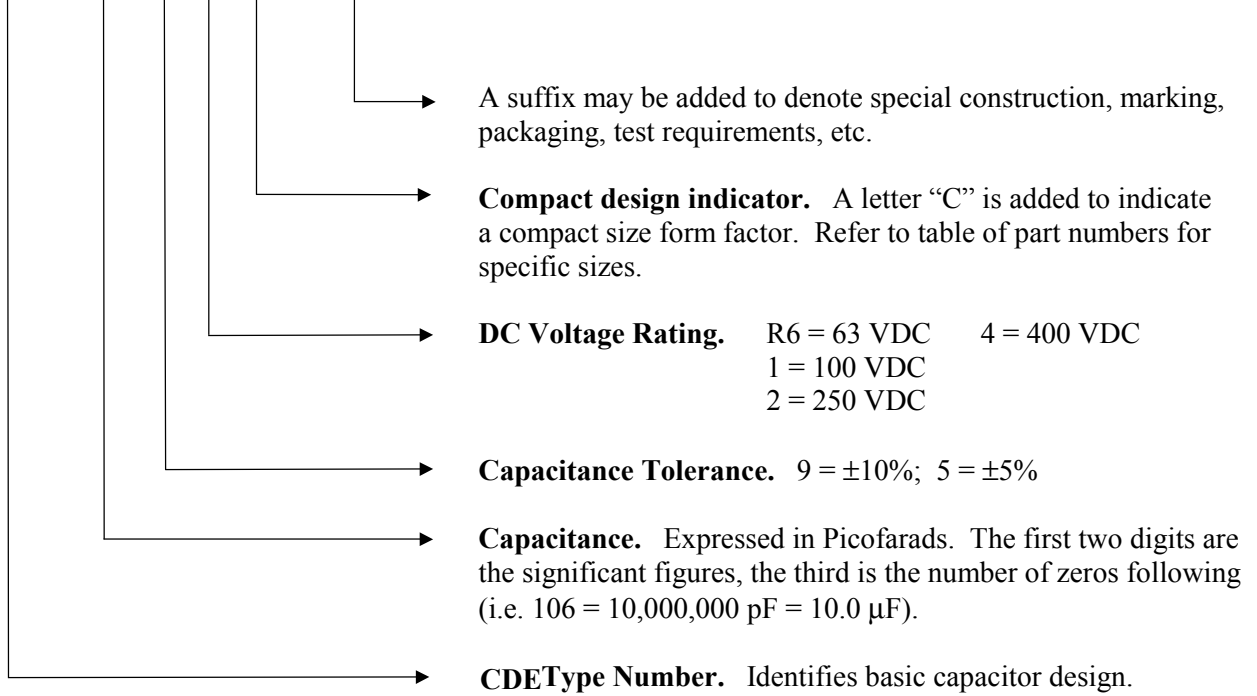


# Type 460M

## Metallized Polyester Film Capacitors

### Ordering/Part Number Information

460M 106 9 2 C - XXX



### Standard Marking Format

#### Sample Marking on unit

CDE460M[C]  
106K 250V  
0824

#### Description

CDE - CDE Identification  
460M - Type Number. 460MC indicates compact design.  
250V - DC Voltage Rating  
106K - Capacitance and Tolerance Code  
0824 - Weekly Date Code  
(i.e. 24th week of 2008)

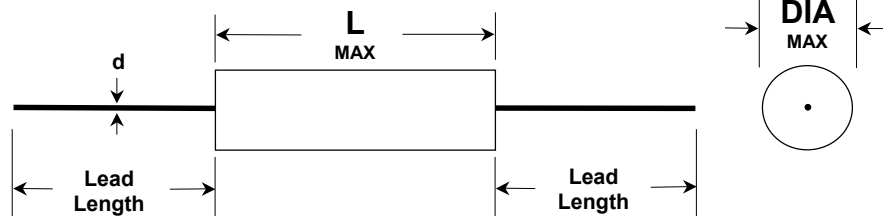
#### Tolerance codes per EIA standards

J    ±5%  
K    ±10%

# Type 460M

## Metallized Polyester Film Capacitors

### Dimension Outline



### Lead Length Table

L MAX dimension	Lead Length (Typical)
0.61 (15.5)	2.00 (50.8)
0.79 (20.1)	1.90 (48.3)
0.99 (25.1)	1.80 (45.7)
1.25 (31.8)	1.65 (41.9)
1.50 (38.1)	1.50 (38.1)
1.74 (44.2)	1.40 (35.6)
2.21 (56.1)	1.25 (31.8)

In all cases a MINIMUM lead length of 1.25 (31.8) will be met.

### Lead Wire Size and Additional Termination Options

Standard lead wire sizes used in manufacturing range from 0.020 (0.5) diameter (#24 AWG) to 0.040 (1.0) diameter (#18 AWG). We can also provide a variety of other wire sizes and material (i.e. heavier gauges, insulated wire, tinned copper in smaller gauges, etc.). If the wire size or material listed on our standard items doesn't meet your requirements please contact us. We can accommodate your needs. We can also provide lug/tab terminations upon request. Please contact us with your specific requirements.

# Type 460M

## Metallized Polyester Film Capacitors

### Type 460M Sizes and Ratings – 63 VDC/40 VAC

Cap $\mu$ F	Base Part #	Standard Dimensions			Compact Dimensions <sup>1</sup>		
		L MAX	DIA MAX	Wire (d)	L MAX	DIA MAX	Wire (d)
0.22	460M2249R6	0.61 (15.5)	0.21 (5.3)	0.020 (0.5)			
0.27	460M2749R6	0.61 (15.5)	0.23 (5.8)	0.020 (0.5)			
0.33	460M3349R6	0.61 (15.5)	0.24 (6.1)	0.020 (0.5)			
0.39	460M3949R6	0.61 (15.5)	0.26 (6.6)	0.025 (0.6)			
0.47	460M4749R6	0.79 (20.1)	0.23 (5.8)	0.020 (0.5)	0.61 (15.5)	0.28 (7.1)	0.025 (0.6)
0.5	460M5049R6	0.79 (20.1)	0.23 (5.8)	0.020 (0.5)	0.61 (15.5)	0.29 (7.4)	0.025 (0.6)
0.56	460M5649R6	0.79 (20.1)	0.24 (6.1)	0.020 (0.5)	0.61 (15.5)	0.30 (7.6)	0.025 (0.6)
0.6	460M6049R6	0.79 (20.1)	0.25 (6.4)	0.020 (0.5)	0.61 (15.5)	0.31 (7.9)	0.025 (0.6)
0.68	460M6849R6	0.79 (20.1)	0.26 (6.6)	0.025 (0.6)	0.61 (15.5)	0.33 (8.4)	0.025 (0.6)
0.75	460M7549R6	0.79 (20.1)	0.27 (6.9)	0.025 (0.6)	0.61 (15.5)	0.34 (8.6)	0.025 (0.6)
0.82	460M8249R6	0.99 (25.1)	0.24 (6.1)	0.020 (0.5)	0.79 (20.1)	0.29 (7.4)	0.025 (0.6)
0.9	460M9049R6	0.99 (25.1)	0.25 (6.4)	0.020 (0.5)	0.79 (20.1)	0.30 (7.6)	0.025 (0.6)
1.0	460M1059R6	0.99 (25.1)	0.26 (6.6)	0.025 (0.6)	0.79 (20.1)	0.31 (7.9)	0.025 (0.6)
1.2	460M1259R6	0.99 (25.1)	0.28 (7.1)	0.025 (0.6)	0.79 (20.1)	0.33 (8.4)	0.025 (0.6)
1.5	460M1559R6	0.99 (25.1)	0.31 (7.9)	0.025 (0.6)	0.79 (20.1)	0.37 (9.4)	0.025 (0.6)
1.8	460M1859R6	0.99 (25.1)	0.34 (8.6)	0.025 (0.6)	0.79 (20.1)	0.40 (10.2)	0.032 (0.8)
2.0	460M2059R6	0.99 (25.1)	0.36 (9.1)	0.025 (0.6)	0.79 (20.1)	0.42 (10.7)	0.032 (0.8)
2.2	460M2259R6	0.99 (25.1)	0.37 (9.4)	0.025 (0.6)	0.79 (20.1)	0.44 (11.2)	0.032 (0.8)
2.5	460M2559R6	0.99 (25.1)	0.39 (9.9)	0.032 (0.8)	0.79 (20.1)	0.47 (11.9)	0.032 (0.8)
2.7	460M2759R6	0.99 (25.1)	0.41 (10.4)	0.032 (0.8)	0.79 (20.1)	0.48 (12.2)	0.032 (0.8)
3.0	460M3059R6	1.25 (31.8)	0.37 (9.4)	0.025 (0.6)	0.99 (25.1)	0.43 (10.9)	0.032 (0.8)
3.3	460M3359R6	1.25 (31.8)	0.39 (9.9)	0.032 (0.8)	0.99 (25.1)	0.45 (11.4)	0.032 (0.8)
3.6	460M3659R6	1.25 (31.8)	0.41 (10.4)	0.032 (0.8)	0.99 (25.1)	0.47 (11.9)	0.032 (0.8)
3.9	460M3959R6	1.25 (31.8)	0.42 (10.7)	0.032 (0.8)	0.99 (25.1)	0.48 (12.2)	0.032 (0.8)
4.0	460M4059R6	1.50 (38.1)	0.39 (9.9)	0.032 (0.8)	0.99 (25.1)	0.49 (12.4)	0.032 (0.8)
4.7	460M4759R6	1.50 (38.1)	0.42 (10.7)	0.032 (0.8)	0.99 (25.1)	0.53 (13.5)	0.032 (0.8)
5.0	460M5059R6	1.50 (38.1)	0.43 (10.9)	0.032 (0.8)	0.99 (25.1)	0.54 (13.7)	0.032 (0.8)
5.6	460M5659R6	1.50 (38.1)	0.45 (11.4)	0.032 (0.8)	0.99 (25.1)	0.57 (14.5)	0.032 (0.8)
6.0	460M6059R6	1.50 (38.1)	0.47 (11.9)	0.032 (0.8)	0.99 (25.1)	0.59 (15.0)	0.032 (0.8)
6.8	460M6859R6	1.50 (38.1)	0.49 (12.4)	0.032 (0.8)	0.99 (25.1)	0.63 (16.0)	0.032 (0.8)
7.0	460M7059R6	1.50 (38.1)	0.50 (12.7)	0.032 (0.8)	0.99 (25.1)	0.64 (16.3)	0.032 (0.8)
7.5	460M7559R6	1.50 (38.1)	0.52 (13.2)	0.032 (0.8)	0.99 (25.1)	0.66 (16.8)	0.032 (0.8)
8.0	460M8059R6	1.50 (38.1)	0.53 (13.5)	0.032 (0.8)	1.25 (31.8)	0.59 (15.0)	0.032 (0.8)
9.0	460M9059R6	1.50 (38.1)	0.56 (14.2)	0.032 (0.8)	1.25 (31.8)	0.62 (15.7)	0.032 (0.8)
10.0	460M1069R6	1.50 (38.1)	0.59 (15.0)	0.032 (0.8)	1.25 (31.8)	0.66 (16.8)	0.032 (0.8)
12.0	460M1269R6	1.50 (38.1)	0.64 (16.3)	0.032 (0.8)	1.25 (31.8)	0.72 (18.3)	0.032 (0.8)
15.0	460M1569R6	1.50 (38.1)	0.71 (18.0)	0.032 (0.8)	1.25 (31.8)	0.80 (20.3)	0.040 (1.0)
20.0	460M2069R6	1.50 (38.1)	0.82 (20.8)	0.040 (1.0)			
25.0	460M2569R6	1.50 (38.1)	0.91 (23.1)	0.040 (1.0)			
30.0	460M3069R6	1.50 (38.1)	0.99 (25.1)	0.040 (1.0)			
35.0	460M3569R6	1.50 (38.1)	1.07 (27.2)	0.040 (1.0)			
40.0	460M4069R6	1.50 (38.1)	1.14 (29.0)	0.040 (1.0)			
45.0	460M4569R6	1.50 (38.1)	1.21 (30.7)	0.040 (1.0)			
50.0	460M5069R6	1.50 (38.1)	1.27 (32.3)	0.040 (1.0)			
55.0	460M5569R6	1.50 (38.1)	1.34 (34.0)	0.040 (1.0)			
60.0	460M6069R6	1.50 (38.1)	1.39 (35.3)	0.040 (1.0)			
65.0	460M6569R6	1.50 (38.1)	1.45 (36.8)	0.040 (1.0)			
70.0	460M7069R6	1.50 (38.1)	1.50 (38.1)	0.040 (1.0)			
75.0	460M7569R6	1.50 (38.1)	1.55 (39.4)	0.040 (1.0)			
80.0	460M8069R6	1.50 (38.1)	1.60 (40.6)	0.040 (1.0)			
85.0	460M8569R6	1.50 (38.1)	1.65 (41.9)	0.040 (1.0)			

<sup>1</sup> Please refer to Ordering/Part Number page for specific part numbering details.

# Type 460M

## Metallized Polyester Film Capacitors

### Type 460M Sizes and Ratings - 100 VDC/63 VAC

Cap $\mu$ F	Base Part #	Standard Dimensions			Compact Dimensions <sup>1</sup>		
		L MAX	DIA MAX	Wire (d)	L MAX	DIA MAX	Wire (d)
0.15	460M15491	0.61 (15.5)	0.20 (5.1)	0.020 (0.5)			
0.18	460M18491	0.61 (15.5)	0.21 (5.3)	0.020 (0.5)			
0.22	460M22491	0.61 (15.5)	0.23 (5.8)	0.020 (0.5)			
0.27	460M27491	0.79 (20.1)	0.20 (5.1)	0.020 (0.5)	0.61 (15.5)	0.25 (6.4)	0.020 (0.5)
0.33	460M33491	0.79 (20.1)	0.22 (5.6)	0.020 (0.5)	0.61 (15.5)	0.27 (6.9)	0.025 (0.6)
0.39	460M39491	0.79 (20.1)	0.23 (5.8)	0.020 (0.5)	0.61 (15.5)	0.29 (7.4)	0.025 (0.6)
0.47	460M47491	0.99 (25.1)	0.22 (5.6)	0.020 (0.5)	0.61 (15.5)	0.31 (7.9)	0.025 (0.6)
0.5	460M50491	0.99 (25.1)	0.22 (5.6)	0.020 (0.5)	0.61 (15.5)	0.32 (8.1)	0.025 (0.6)
0.56	460M56491	0.99 (25.1)	0.23 (5.8)	0.020 (0.5)	0.61 (15.5)	0.34 (8.6)	0.025 (0.6)
0.6	460M60491	0.99 (25.1)	0.24 (6.1)	0.020 (0.5)	0.79 (20.1)	0.28 (7.1)	0.025 (0.6)
0.68	460M68491	0.99 (25.1)	0.25 (6.4)	0.020 (0.5)	0.79 (20.1)	0.29 (7.4)	0.025 (0.6)
0.75	460M75491	0.99 (25.1)	0.26 (6.6)	0.025 (0.6)	0.79 (20.1)	0.31 (7.9)	0.025 (0.6)
0.82	460M82491	0.99 (25.1)	0.27 (6.9)	0.025 (0.6)	0.79 (20.1)	0.32 (8.1)	0.025 (0.6)
0.9	460M90491	0.99 (25.1)	0.28 (7.1)	0.025 (0.6)	0.79 (20.1)	0.33 (8.4)	0.025 (0.6)
1.0	460M10591	1.25 (31.8)	0.26 (6.6)	0.025 (0.6)	0.79 (20.1)	0.35 (8.9)	0.025 (0.6)
1.2	460M12591	1.25 (31.8)	0.28 (7.1)	0.025 (0.6)	0.79 (20.1)	0.38 (9.7)	0.025 (0.6)
1.5	460M15591	1.25 (31.8)	0.31 (7.9)	0.025 (0.6)	0.79 (20.1)	0.42 (10.7)	0.032 (0.8)
1.8	460M18591	1.25 (31.8)	0.33 (8.4)	0.025 (0.6)	0.79 (20.1)	0.45 (11.4)	0.032 (0.8)
2.0	460M20591	1.25 (31.8)	0.35 (8.9)	0.025 (0.6)	0.79 (20.1)	0.47 (11.9)	0.032 (0.8)
2.2	460M22591	1.25 (31.8)	0.36 (9.1)	0.025 (0.6)	0.99 (25.1)	0.42 (10.7)	0.032 (0.8)
2.5	460M25591	1.25 (31.8)	0.39 (9.9)	0.032 (0.8)	0.99 (25.1)	0.44 (11.2)	0.032 (0.8)
2.7	460M27591	1.25 (31.8)	0.40 (10.2)	0.032 (0.8)	0.99 (25.1)	0.46 (11.7)	0.032 (0.8)
3.0	460M30591	1.25 (31.8)	0.42 (10.7)	0.032 (0.8)	0.99 (25.1)	0.48 (12.2)	0.032 (0.8)
3.3	460M33591	1.25 (31.8)	0.44 (11.2)	0.032 (0.8)	0.99 (25.1)	0.50 (12.7)	0.032 (0.8)
3.6	460M36591	1.25 (31.8)	0.46 (11.7)	0.032 (0.8)	0.99 (25.1)	0.52 (13.2)	0.032 (0.8)
3.9	460M39591	1.25 (31.8)	0.47 (11.9)	0.032 (0.8)	0.99 (25.1)	0.54 (13.7)	0.032 (0.8)
4.0	460M40591	1.50 (38.1)	0.44 (11.2)	0.032 (0.8)	0.99 (25.1)	0.55 (14.0)	0.032 (0.8)
4.7	460M47591	1.50 (38.1)	0.47 (11.9)	0.032 (0.8)	0.99 (25.1)	0.59 (15.0)	0.032 (0.8)
5.0	460M50591	1.50 (38.1)	0.48 (12.2)	0.032 (0.8)	0.99 (25.1)	0.61 (15.5)	0.032 (0.8)
5.6	460M56591	1.50 (38.1)	0.51 (13.0)	0.032 (0.8)	0.99 (25.1)	0.65 (16.5)	0.032 (0.8)
6.0	460M60591	1.50 (38.1)	0.52 (13.2)	0.032 (0.8)	1.25 (31.8)	0.58 (14.7)	0.032 (0.8)
6.8	460M68591	1.50 (38.1)	0.55 (14.0)	0.032 (0.8)	1.25 (31.8)	0.62 (15.7)	0.032 (0.8)
7.0	460M70591	1.50 (38.1)	0.56 (14.2)	0.032 (0.8)	1.25 (31.8)	0.62 (15.7)	0.032 (0.8)
7.5	460M75591	1.50 (38.1)	0.58 (14.7)	0.032 (0.8)	1.25 (31.8)	0.64 (16.3)	0.032 (0.8)
8.0	460M80591	1.50 (38.1)	0.60 (15.2)	0.032 (0.8)	1.25 (31.8)	0.66 (16.8)	0.032 (0.8)
9.0	460M90591	1.50 (38.1)	0.63 (16.0)	0.032 (0.8)	1.25 (31.8)	0.70 (17.8)	0.032 (0.8)
10.0	460M10691	1.74 (44.2)	0.60 (15.2)	0.032 (0.8)	1.50 (38.1)	0.66 (16.8)	0.032 (0.8)
12.0	460M12691	1.74 (44.2)	0.66 (16.8)	0.032 (0.8)	1.50 (38.1)	0.72 (18.3)	0.032 (0.8)
15.0	460M15691	1.74 (44.2)	0.73 (18.5)	0.032 (0.8)	1.50 (38.1)	0.80 (20.3)	0.040 (1.0)
20.0	460M20691	2.21 (56.1)	0.72 (18.3)	0.032 (0.8)	1.74 (44.2)	0.84 (21.3)	0.040 (1.0)
25.0	460M25691	2.21 (56.1)	0.81 (20.6)	0.040 (1.0)	1.74 (44.2)	0.93 (23.6)	0.040 (1.0)
30.0	460M30691	2.21 (56.1)	0.88 (22.4)	0.040 (1.0)	1.74 (44.2)	1.02 (25.9)	0.040 (1.0)
35.0	460M35691	2.21 (56.1)	0.95 (24.1)	0.040 (1.0)	1.74 (44.2)	1.10 (27.9)	0.040 (1.0)
40.0	460M40691	2.21 (56.1)	1.01 (25.7)	0.040 (1.0)	1.74 (44.2)	1.17 (29.7)	0.040 (1.0)
45.0	460M45691	2.21 (56.1)	1.07 (27.2)	0.040 (1.0)	1.74 (44.2)	1.24 (31.5)	0.040 (1.0)
50.0	460M50691	2.21 (56.1)	1.13 (28.7)	0.040 (1.0)			
55.0	460M55691	2.21 (56.1)	1.18 (30.0)	0.040 (1.0)			
60.0	460M60691	2.21 (56.1)	1.23 (31.2)	0.040 (1.0)			
65.0	460M65691	2.21 (56.1)	1.28 (32.5)	0.040 (1.0)			
70.0	460M70691	2.21 (56.1)	1.33 (33.8)	0.040 (1.0)			
75.0	460M75691	2.21 (56.1)	1.37 (34.8)	0.040 (1.0)			
80.0	460M80691	2.21 (56.1)	1.42 (36.1)	0.040 (1.0)			
85.0	460M85691	2.21 (56.1)	1.46 (37.1)	0.040 (1.0)			
90.0	460M90691	2.21 (56.1)	1.50 (38.1)	0.040 (1.0)			
95.0	460M95691	2.21 (56.1)	1.54 (39.1)	0.040 (1.0)			
100.0	460M10791	2.21 (56.1)	1.58 (40.1)	0.040 (1.0)			

<sup>1</sup> Please refer to Ordering/Part Number page for specific part numbering details.

# Type 460M

## Metallized Polyester Film Capacitors

### Type 460M Sizes and Ratings - 250 VDC/160 VAC

Cap $\mu$ F	Base Part #	Standard Dimensions			Compact Dimensions <sup>1</sup>		
		L MAX	DIA MAX	Wire (d)	L MAX	DIA MAX	Wire (d)
0.068	460M68392	0.61 (15.5)	0.19 (4.8)	0.020 (0.5)			
0.075	460M75392	0.61 (15.5)	0.20 (5.1)	0.020 (0.5)			
0.082	460M82392	0.61 (15.5)	0.20 (5.1)	0.020 (0.5)			
0.1	460M10492	0.61 (15.5)	0.22 (5.6)	0.020 (0.5)			
0.12	460M12492	0.61 (15.5)	0.24 (6.1)	0.020 (0.5)			
0.15	460M15492	0.79 (20.1)	0.21 (5.3)	0.020 (0.5)	0.61 (15.5)	0.26 (6.6)	0.025 (0.6)
0.18	460M18492	0.79 (20.1)	0.22 (5.6)	0.020 (0.5)	0.61 (15.5)	0.28 (7.1)	0.025 (0.6)
0.22	460M22492	0.79 (20.1)	0.24 (6.1)	0.020 (0.5)	0.61 (15.5)	0.30 (7.6)	0.025 (0.6)
0.27	460M27492	0.79 (20.1)	0.26 (6.6)	0.025 (0.6)	0.61 (15.5)	0.33 (8.4)	0.025 (0.6)
0.33	460M33492	0.99 (25.1)	0.25 (6.4)	0.020 (0.5)	0.79 (20.1)	0.29 (7.4)	0.025 (0.6)
0.39	460M39492	0.99 (25.1)	0.26 (6.6)	0.025 (0.6)	0.79 (20.1)	0.31 (7.9)	0.025 (0.6)
0.47	460M47492	0.99 (25.1)	0.28 (7.1)	0.025 (0.6)	0.79 (20.1)	0.33 (8.4)	0.025 (0.6)
0.5	460M50492	0.99 (25.1)	0.29 (7.4)	0.025 (0.6)	0.79 (20.1)	0.34 (8.6)	0.025 (0.6)
0.56	460M56492	0.99 (25.1)	0.31 (7.9)	0.025 (0.6)	0.79 (20.1)	0.36 (9.1)	0.025 (0.6)
0.6	460M60492	0.99 (25.1)	0.32 (8.1)	0.025 (0.6)	0.79 (20.1)	0.37 (9.4)	0.025 (0.6)
0.68	460M68492	0.99 (25.1)	0.33 (8.4)	0.025 (0.6)	0.79 (20.1)	0.39 (9.9)	0.032 (0.8)
0.75	460M75492	0.99 (25.1)	0.35 (8.9)	0.025 (0.6)	0.79 (20.1)	0.41 (10.4)	0.032 (0.8)
0.82	460M82492	0.99 (25.1)	0.36 (9.1)	0.025 (0.6)	0.79 (20.1)	0.43 (10.9)	0.032 (0.8)
0.9	460M90492	0.99 (25.1)	0.38 (9.7)	0.025 (0.6)	0.79 (20.1)	0.45 (11.4)	0.032 (0.8)
1.0	460M10592	1.25 (31.8)	0.35 (8.9)	0.025 (0.6)	0.99 (25.1)	0.40 (10.2)	0.032 (0.8)
1.2	460M12592	1.25 (31.8)	0.38 (9.7)	0.025 (0.6)	0.99 (25.1)	0.43 (10.9)	0.032 (0.8)
1.5	460M15592	1.25 (31.8)	0.42 (10.7)	0.032 (0.8)	0.99 (25.1)	0.48 (12.2)	0.032 (0.8)
1.8	460M18592	1.25 (31.8)	0.45 (11.4)	0.032 (0.8)	0.99 (25.1)	0.52 (13.2)	0.032 (0.8)
2.0	460M20592	1.50 (38.1)	0.43 (10.9)	0.032 (0.8)	0.99 (25.1)	0.55 (14.0)	0.032 (0.8)
2.2	460M22592	1.50 (38.1)	0.45 (11.4)	0.032 (0.8)	0.99 (25.1)	0.57 (14.5)	0.032 (0.8)
2.5	460M25592	1.50 (38.1)	0.48 (12.2)	0.032 (0.8)	0.99 (25.1)	0.61 (15.5)	0.032 (0.8)
2.7	460M27592	1.50 (38.1)	0.50 (12.7)	0.032 (0.8)	0.99 (25.1)	0.63 (16.0)	0.032 (0.8)
3.0	460M30592	1.50 (38.1)	0.52 (13.2)	0.032 (0.8)	1.25 (31.8)	0.58 (14.7)	0.032 (0.8)
3.3	460M33592	1.50 (38.1)	0.54 (13.7)	0.032 (0.8)	1.25 (31.8)	0.60 (15.2)	0.032 (0.8)
3.6	460M36592	1.50 (38.1)	0.57 (14.5)	0.032 (0.8)	1.25 (31.8)	0.63 (16.0)	0.032 (0.8)
3.9	460M39592	1.50 (38.1)	0.59 (15.0)	0.032 (0.8)	1.25 (31.8)	0.65 (16.5)	0.032 (0.8)
4.0	460M40592	1.74 (44.2)	0.54 (13.7)	0.032 (0.8)	1.25 (31.8)	0.66 (16.8)	0.032 (0.8)
4.7	460M47592	1.74 (44.2)	0.58 (14.7)	0.032 (0.8)	1.25 (31.8)	0.71 (18.0)	0.032 (0.8)
5.0	460M50592	1.74 (44.2)	0.60 (15.2)	0.032 (0.8)	1.25 (31.8)	0.74 (18.8)	0.032 (0.8)
5.6	460M56592	1.74 (44.2)	0.63 (16.0)	0.032 (0.8)	1.25 (31.8)	0.78 (19.8)	0.040 (1.0)
6.0	460M60592	1.74 (44.2)	0.65 (16.5)	0.032 (0.8)	1.25 (31.8)	0.81 (20.6)	0.040 (1.0)
6.8	460M68592	1.74 (44.2)	0.69 (17.5)	0.032 (0.8)	1.50 (38.1)	0.76 (19.3)	0.040 (1.0)
7.0	460M70592	1.74 (44.2)	0.70 (17.8)	0.032 (0.8)	1.50 (38.1)	0.77 (19.6)	0.040 (1.0)
7.5	460M75592	1.74 (44.2)	0.73 (18.5)	0.032 (0.8)	1.50 (38.1)	0.80 (20.3)	0.040 (1.0)
8.0	460M80592	1.74 (44.2)	0.75 (19.1)	0.032 (0.8)	1.50 (38.1)	0.82 (20.8)	0.040 (1.0)
9.0	460M90592	1.74 (44.2)	0.79 (20.1)	0.040 (1.0)	1.50 (38.1)	0.87 (22.1)	0.040 (1.0)
10.0	460M10692	1.74 (44.2)	0.83 (21.1)	0.040 (1.0)	1.50 (38.1)	0.92 (23.4)	0.040 (1.0)
12.0	460M12692	2.21 (56.1)	0.79 (20.1)	0.040 (1.0)	1.74 (44.2)	0.91 (23.1)	0.040 (1.0)
15.0	460M15692	2.21 (56.1)	0.87 (22.1)	0.040 (1.0)	1.74 (44.2)	1.01 (25.7)	0.040 (1.0)
20.0	460M20692	2.21 (56.1)	1.00 (25.4)	0.040 (1.0)	1.74 (44.2)	1.17 (29.7)	0.040 (1.0)
25.0	460M25692	2.21 (56.1)	1.12 (28.4)	0.040 (1.0)			
30.0	460M30692	2.21 (56.1)	1.22 (31.0)	0.040 (1.0)			
35.0	460M35692	2.21 (56.1)	1.32 (33.5)	0.040 (1.0)			
40.0	460M40692	2.21 (56.1)	1.41 (35.8)	0.040 (1.0)			
45.0	460M45692	2.21 (56.1)	1.49 (37.8)	0.040 (1.0)			
50.0	460M50692	2.21 (56.1)	1.57 (39.9)	0.040 (1.0)			
55.0	460M55692	2.21 (56.1)	1.65 (41.9)	0.040 (1.0)			

<sup>1</sup> Please refer to Ordering/Part Number page for specific part numbering details.



# Type 460M

## Metallized Polyester Film Capacitors

### Type 460M Sizes and Ratings - 400 VDC/200 VAC

Cap $\mu$ F	Base Part #	Standard Dimensions			Compact Dimensions <sup>1</sup>		
		L MAX	DIA MAX	Wire (d)	L MAX	DIA MAX	Wire (d)
0.022	460M22394	0.61 (15.5)	0.19 (4.8)	0.020 (0.5)			
0.027	460M27394	0.61 (15.5)	0.20 (5.1)	0.020 (0.5)			
0.033	460M33394	0.61 (15.5)	0.22 (5.6)	0.020 (0.5)			
0.039	460M39394	0.61 (15.5)	0.23 (5.8)	0.020 (0.5)			
0.047	460M47394	0.61 (15.5)	0.25 (6.4)	0.020 (0.5)			
0.05	460M50394	0.61 (15.5)	0.26 (6.6)	0.025 (0.6)			
0.056	460M56394	0.61 (15.5)	0.27 (6.9)	0.025 (0.6)			
0.062	460M62394	0.79 (20.1)	0.22 (5.6)	0.020 (0.5)	0.61 (15.5)	0.28 (7.1)	0.025 (0.6)
0.068	460M68394	0.79 (20.1)	0.23 (5.8)	0.020 (0.5)	0.61 (15.5)	0.29 (7.4)	0.025 (0.6)
0.075	460M75394	0.79 (20.1)	0.24 (6.1)	0.020 (0.5)	0.61 (15.5)	0.31 (7.9)	0.025 (0.6)
0.082	460M82394	0.79 (20.1)	0.25 (6.4)	0.020 (0.5)	0.61 (15.5)	0.32 (8.1)	0.025 (0.6)
0.1	460M10494	0.79 (20.1)	0.27 (6.9)	0.025 (0.6)	0.61 (15.5)	0.35 (8.9)	0.025 (0.6)
0.12	460M12494	0.99 (25.1)	0.25 (6.4)	0.020 (0.5)	0.79 (20.1)	0.29 (7.4)	0.025 (0.6)
0.15	460M15494	0.99 (25.1)	0.27 (6.9)	0.025 (0.6)	0.79 (20.1)	0.32 (8.1)	0.025 (0.6)
0.18	460M18494	0.99 (25.1)	0.29 (7.4)	0.025 (0.6)	0.79 (20.1)	0.35 (8.9)	0.025 (0.6)
0.22	460M22494	0.99 (25.1)	0.32 (8.1)	0.025 (0.6)	0.79 (20.1)	0.38 (9.7)	0.025 (0.6)
0.27	460M27494	0.99 (25.1)	0.35 (8.9)	0.025 (0.6)	0.79 (20.1)	0.42 (10.7)	0.032 (0.8)
0.33	460M33494	1.25 (31.8)	0.33 (8.4)	0.025 (0.6)	0.99 (25.1)	0.38 (9.7)	0.025 (0.6)
0.39	460M39494	1.25 (31.8)	0.36 (9.1)	0.025 (0.6)	0.99 (25.1)	0.41 (10.4)	0.032 (0.8)
0.47	460M47494	1.50 (38.1)	0.36 (9.1)	0.025 (0.6)	0.99 (25.1)	0.45 (11.4)	0.032 (0.8)
0.5	460M50494	1.50 (38.1)	0.37 (9.4)	0.025 (0.6)	0.99 (25.1)	0.46 (11.7)	0.032 (0.8)
0.56	460M56494	1.50 (38.1)	0.38 (9.7)	0.032 (0.8)	0.99 (25.1)	0.48 (12.2)	0.032 (0.8)
0.6	460M60494	1.50 (38.1)	0.39 (9.9)	0.032 (0.8)	0.99 (25.1)	0.50 (12.7)	0.032 (0.8)
0.68	460M68494	1.74 (44.2)	0.38 (9.7)	0.032 (0.8)	0.99 (25.1)	0.53 (13.5)	0.032 (0.8)
0.75	460M75494	1.74 (44.2)	0.40 (10.2)	0.032 (0.8)	0.99 (25.1)	0.55 (14.0)	0.032 (0.8)
0.82	460M82494	1.74 (44.2)	0.41 (10.4)	0.032 (0.8)	0.99 (25.1)	0.58 (14.7)	0.032 (0.8)
0.9	460M90494	1.74 (44.2)	0.43 (10.9)	0.032 (0.8)	0.99 (25.1)	0.60 (15.2)	0.032 (0.8)
1.0	460M10594	1.74 (44.2)	0.45 (11.4)	0.032 (0.8)	0.99 (25.1)	0.63 (16.0)	0.032 (0.8)
1.2	460M12594	1.74 (44.2)	0.49 (12.4)	0.032 (0.8)	1.25 (31.8)	0.60 (15.2)	0.032 (0.8)
1.5	460M15594	1.74 (44.2)	0.54 (13.7)	0.032 (0.8)	1.25 (31.8)	0.66 (16.8)	0.032 (0.8)
1.8	460M18594	1.74 (44.2)	0.59 (15.0)	0.032 (0.8)	1.25 (31.8)	0.72 (18.3)	0.032 (0.8)
2.0	460M20594	1.74 (44.2)	0.62 (15.7)	0.032 (0.8)	1.25 (31.8)	0.77 (19.6)	0.040 (1.0)
2.2	460M22594	1.74 (44.2)	0.64 (16.3)	0.032 (0.8)	1.25 (31.8)	0.80 (20.3)	0.040 (1.0)
2.5	460M25594	1.74 (44.2)	0.68 (17.3)	0.032 (0.8)	1.50 (38.1)	0.75 (19.1)	0.032 (0.8)
2.7	460M27594	1.74 (44.2)	0.71 (18.0)	0.032 (0.8)	1.50 (38.1)	0.78 (19.8)	0.040 (1.0)
3.0	460M30594	1.74 (44.2)	0.75 (19.1)	0.032 (0.8)	1.50 (38.1)	0.82 (20.8)	0.040 (1.0)
3.3	460M33594	1.74 (44.2)	0.78 (19.8)	0.040 (1.0)	1.50 (38.1)	0.86 (21.8)	0.040 (1.0)
3.6	460M36594	2.21 (56.1)	0.70 (17.8)	0.032 (0.8)	1.50 (38.1)	0.90 (22.9)	0.040 (1.0)
3.9	460M39594	2.21 (56.1)	0.73 (18.5)	0.032 (0.8)	1.50 (38.1)	0.93 (23.6)	0.040 (1.0)
4.0	460M40594	2.21 (56.1)	0.74 (18.8)	0.032 (0.8)	1.50 (38.1)	0.94 (23.9)	0.040 (1.0)
4.7	460M47594	2.21 (56.1)	0.80 (20.3)	0.040 (1.0)	1.50 (38.1)	1.02 (25.9)	0.040 (1.0)
5.0	460M50594	2.21 (56.1)	0.82 (20.8)	0.040 (1.0)	1.74 (44.2)	0.95 (24.1)	0.040 (1.0)
5.6	460M56594	2.21 (56.1)	0.87 (22.1)	0.040 (1.0)	1.74 (44.2)	1.01 (25.7)	0.040 (1.0)
6.0	460M60594	2.21 (56.1)	0.89 (22.6)	0.040 (1.0)	1.74 (44.2)	1.04 (26.4)	0.040 (1.0)
6.8	460M68594	2.21 (56.1)	0.95 (24.1)	0.040 (1.0)	1.74 (44.2)	1.11 (28.2)	0.040 (1.0)
7.0	460M70594	2.21 (56.1)	0.96 (24.4)	0.040 (1.0)	1.74 (44.2)	1.12 (28.4)	0.040 (1.0)
7.5	460M75594	2.21 (56.1)	1.00 (25.4)	0.040 (1.0)	1.74 (44.2)	1.16 (29.5)	0.040 (1.0)
8.0	460M80594	2.21 (56.1)	1.03 (26.2)	0.040 (1.0)	1.74 (44.2)	1.20 (30.5)	0.040 (1.0)
9.0	460M90594	2.21 (56.1)	1.09 (27.7)	0.040 (1.0)			
10.0	460M10694	2.21 (56.1)	1.14 (29.0)	0.040 (1.0)			
12.0	460M12694	2.21 (56.1)	1.25 (31.8)	0.040 (1.0)			
15.0	460M15694	2.21 (56.1)	1.40 (35.6)	0.040 (1.0)			
18.0	460M18694	2.21 (56.1)	1.53 (38.9)	0.040 (1.0)			
20.0	460M20694	2.21 (56.1)	1.61 (40.9)	0.040 (1.0)			

<sup>1</sup> Please refer to Ordering/Part Number page for specific part numbering details.



# Type 460M

## Metallized Polyester Film Capacitors

### Maximum dV/dt Ratings (Volts/ $\mu$ sec)

Refer to the tabulated data below for the maximum allowable pulse rise time (dV/dt) based on voltage rating and length/diameter dimensions. In addition, further detailed notes regarding pulse applications may be found on page 13.

#### 63 VDC

##### L MAX Dimension

Diameter Range	0.61	0.79	0.99	1.25	1.50	1.74	2.21
< 0.28	7	6	5				
0.28-0.39	15	9	6	5	4		
0.40-0.49		13	8	6	5		
0.50-0.75			9	7	6		
> 0.75				7	6		

#### 100 VDC

##### L MAX Dimension

Diameter Range	0.61	0.79	0.99	1.25	1.50	1.74	2.21
< 0.28	7	6	5	4			
0.28-0.39	17	11	7	5			
0.40-0.49		13	9	7	6		
0.50-0.75			12	8	6	5	4
> 0.75					6	5	4

#### 250 VDC

##### L MAX Dimension

Diameter Range	0.61	0.79	0.99	1.25	1.50	1.74	2.21
< 0.28	15	9	8	8			
0.28-0.39	23	14	9	9			
0.40-0.49		19	13	10	8		
0.50-0.75			14	11	8	7	
> 0.75				11	8	7	5

#### 400 VDC

##### L MAX Dimension

Diameter Range	0.61	0.79	0.99	1.25	1.50	1.74	2.21
< 0.28	28	16	13				
0.28-0.39	43	25	16	14	11	9	
0.40-0.49		34	22	18		10	
0.50-0.75			23	18	14		8
> 0.75				18	14	11	8