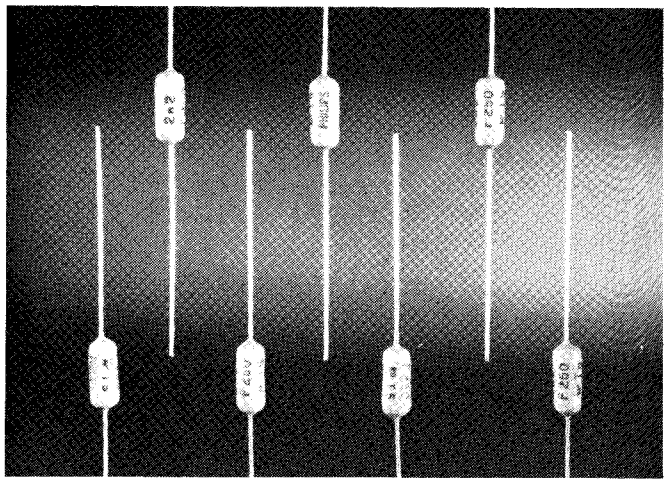
SERIES 703E1 (TYPE KP)

Polypropylene Film & Foil Conformal Coated Capacitors (12NC2222-460 Thru 462)

DESCRIPTION

Polypropylene and foil capacitors consist of low inductive wound cells of metal foil and a polypropylene film. The cell is protected by a hard, water repellant solvent resistant blue epoxy coating. The long axial leads of solder-coated wire make the capacitors suitable for vertical or horizontal mounting on printed-wiring boards.



APPLICATION

For use in circuits where precision, reliability and low losses are of prime importance, i.e., Tuned Circuits, Filter Networks, Timing Networks, etc.

FEATURES

Electrical

- Climatic category 40/100/56.
- Related specification IEC 384-13.
- Dielectric Withstanding—200% x Rated (VDC) terminals to terminals.
  200% x rated VDC between interconnected terminals and case, min. 400V.
- Dissipation Factor

capacitance	tangent of loss angle		
	at 1KHz	at 100KHz	at 1MHz
$C_R \leq$ 1000 pF	$\leq 5 \times 10^{-4}$		$\leq 10 \times 10^{-4}$
1000 pF $< C_R \leq$ 5000 pF	$\leq 5 \times 10^{-4}$	$\leq 10 \times 10^{-4}$	
5000 pF $< C_R \leq$ 20000 pF	$\leq 5 \times 10^{-4}$	$\leq 15 \times 10^{-4}$	
20000 pF $< C_R \leq$ 47000 pF	$\leq 5 \times 10^{-4}$	$\leq 25 \times 10^{-4}$	
$C_R >$ 47000 pF	$\leq 5 \times 10^{-4}$	$\leq 40 \times 10^{-4}$	

- Insulation Resistance
  The insulation resistance is measured after a voltage has been applied for 1 min ± 5 s, the voltage being 10 ± 1V for the 63V version, 100 ± 15V for the 160V and 250V versions.
  R between terminations >100000 MΩ
  R between interconnected terminations and case >100000 MΩ
- Temperature coefficient
  between −40 and +20°C
  for 400V-630V −(125±125) 10^{-6}/K
  for 63V-160V-250V −(125±60) 10^{-6}/K
  between +20 and +100°C −(250±120) 10^{-6}/K
- Standard Voltage Ratings
  63, 160, 250, 400, & 630 VDC @ +85°C
- Capacitance Range (Available) 47 to 62,000 pf
  ±5%+E24 DECADE
  ±2%−E24 & E48 DECADE
- Tolerance On Rated Capacitance:
  ±5%, ±2% or 2 pF whichever is greater.

Mechanical

- Low series resistance
- Low self inductance
- Very small size
- Precision ±2% tolerance
- Precisely centered lead making them compatible with automatic lead cutting and bending machines.
- Suitable for both point to point wiring and PC board insertion.
- Lead solderability—Tested in accordance with MIL-STD-202, Method 208.
- Resistance to soldering heat with pre-heating: capacitors mounted on a 1.6 mm board with non-plated holes.
  Body Temp.: 80°C
  Bath Temp.: 260°C
  Dwell Time: 5 s

HOW TO SPECIFY

Mepco/Centralab Series 703E1 Capacitors can be completely specified using the following designation:

703E1	FE	103P	G	161	A	X
M/C Series	Case Size	Capacitance in (pF) First two digits represent significant figures and last digit indicates the number of zeros to follow.	Tolerance J = ±5% G = ±2%	Voltage at 85°C 630= 63V 161=160V 251=250V	Specification A = Standard T = Tape & Reel S = Single-ended (Radial) Tape & Reel	X = Axial Lead

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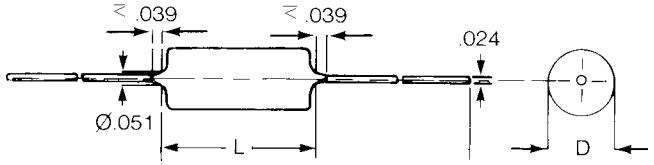
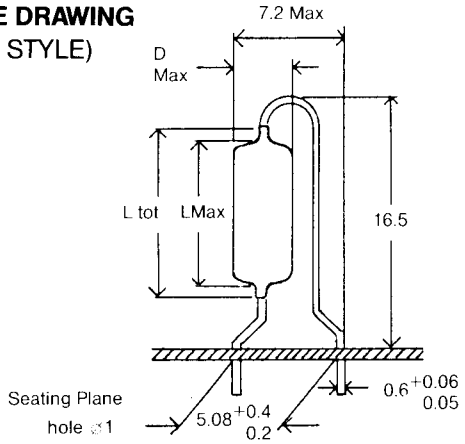
OUTLINE DRAWING
(AXIAL STYLE)



Lead Length: 1.10 Min. Both Sides

OUTLINE DRAWING
(RADIAL STYLE)



Dimensions in mm

CASE SIZE TABLE

CASE SIZE CODE	DIMENSIONS IN INCHES (MM) MAXIMUM			
	"L" LENGTH*		"D" DIAMETER	
	INCHES	MM	INCHES	MM
AD	.433	11.0	.197	5.0
FE	.591	15.0	.217	5.5
FF	.591	15.0	.236	6.0
FG	.591	15.0	.256	6.5
FH	.591	15.0	.276	7.0
FJ	.591	15.0	.296	7.5
FK	.591	15.0	.315	8.0

*For clean lead to clean lead due to conformal coating
Case A is .512" max and Case F is .670" max

TYPICAL MARKING EXAMPLE	
Nominal Capacitance (NF or PF)	10n
Tolerance Code & Rated D.C. Voltage (without symbol)	G 160
Dielectric Code & Date Code	KP 9
Name of Manufacturer	Philips

CAP VALUE UF	63VDC (40VAC) MEPCO/CENTRALAB PART NUMBER	160VDC (63VAC) MEPCO/CENTRALAB PART NUMBER	250VDC (125VAC) MEPCO/CENTRALAB PART NUMBER	400VDC (160VAC) MEPCO/CENTRALAB PART NUMBER	630VDC (200VAC) MEPCO/CENTRALAB PART NUMBER
47PF					703E1AD470P*631AX
56PF					AD560
68PF					AD680
82PF					AD820
100PF	FOR THESE RATINGS, USE THE CORRESPONDING HIGHER VOLTAGE LEVEL		FOR THESE RATINGS USE THE CORRESPONDING HIGHER VOLTAGE LEVEL		AD101
120PF					AD121
150PF				703E1AD151P*401AX	
180PF				AD181	
220PF				AD221	
270PF				AD271	
330PF				AD331	
390PF				AD391	
470PF				AD471	
560PF				AD561	
680PF				AD681	
820PF				AD821	
.0010				AD102	
.0012			703E1AD122P*251AX		
.0015			AD152		
.0018			AD182		
.0022			AD222		
.0027			AD272		
.0033			AD332		
.0039		703E1AD392P*161AX	FE392		
.0047		AD472	FE472		
.0056		AD562	FE562		
.0068	703E1AD682P*630AX	FE682	FE682		
.0082	AD822	FE822	FE822		
.010	FE103	FE103	FF103		
.012	FE123	FE123	FG123		
.015	FE153	FE153	FH153		
.018	FE183	FF183	FJ183		
.022	FE223	FG223	FK223		
.027	FF273	FH273			
.033	FG333	FJ333			
.039	FH393	FK393			
.047	FJ473				
.056	FK563				
.062	FK623				

CAPACITANCE TOLERANCE J=±5%
G=±2%

NOTICE: Misapplication such as exceeding design limits may result in destruction or explosion of capacitors.

STRAIGHT AXIAL LEADS AVAILABLE BULK OR ON TAPE & REEL. RADIAL LEADS TAPE & REEL ONLY.
SEE PAGE 469 FOR TAPE & REEL SPECIFICATIONS.