

# capacitors

## high voltage metallized polyester capacitors

### type **4ME12**

#### wrap and fill tubular construction



Type 4ME12 is a versatile metallized polyester capacitor that is produced in a wrap and fill, tubular configuration with axial wire leads. Its compact sizes offer measurable size and weight savings, and self healing properties significantly reduce the possibility of catastrophic failure. Capacitance stability is excellent.

These capacitors are especially well suited for multiplier circuit applications, such as:

- Electrostatic copiers
- Oscilloscopes
- High voltage power supplies

#### DESIGN FEATURES

- Compact size/lightweight
- Excellent capacitance stability
- Self-healing construction
- Voltage range of 1,000VDC to 15,000VDC
- Capacitance range of .001mfd to 1.00mfd



NONSTANDARD VOLTAGE AND CAPACITANCE RATING AVAILABLE AS SPECIALS

electronic concepts, inc.



BULLETIN NO. L90-124 REV. 1

P/N 161011240

## CONSTRUCTION

Extended metallized polyester film.

## LIFE TEST

All capacitors will withstand a test potential of rated voltage at 40°C between terminals for a period of 2,000 hours, with not more than one failure in each group of 18 tested. Failure is defined as a permanent short or open circuit.

## HUMIDITY RESISTANCE

Exceeds requirements of MIL-STD-202, Method 103.

## PULL TEST

Capacitors are designed to withstand a steady pull of five pounds which is applied axially to leads for ten seconds.

## LEAD BENDING TEST

Leads will bend without breakage near the point of egress from the capacitors, first 90° in one direction, then back to the original position, and then 90° in the opposite direction.

## HIGH FREQUENCY VIBRATION

These capacitors meet the 2000 cycle vibration test in accordance with Method 204 of MIL-STD-202A condition B. Vibration is for a four hour period in each of two directions, parallel and perpendicular to the major axis.

Capacitors are rigidly mounted by an appropriate method, other than by the lead wires. It is recommended that these capacitors be encapsulated in epoxy blocks for this test procedure.

As a result of these tests, no mechanical damage should occur, and the measurement should show no evidence of intermittent contacts or open or short circuiting.

## LEAD MATERIAL

Copper-clad steel wire, solder coated.

Capacitors are tested 100% for:

- CAPACITANCE TOLERANCE
- DISSIPATION FACTOR
- DIELECTRIC WITHSTANDING VOLTAGE
- INSULATION RESISTANCE

Process and inspection data is maintained on file and is available on special request.

SEE PAGE 4 FOR ELECTRICAL CHARACTERISTICS

## MARKING

All capacitors are marked with the company initials EC and/or EC trademarks, type (4ME12), capacitance, tolerance, rated D.C. working voltage and date code.

## DATE CODE

The first two digits of the code represents the year, the second two digits the week, i.e., 9952 is the 52nd week of 1999, 0108 is the 8th week of 2001.

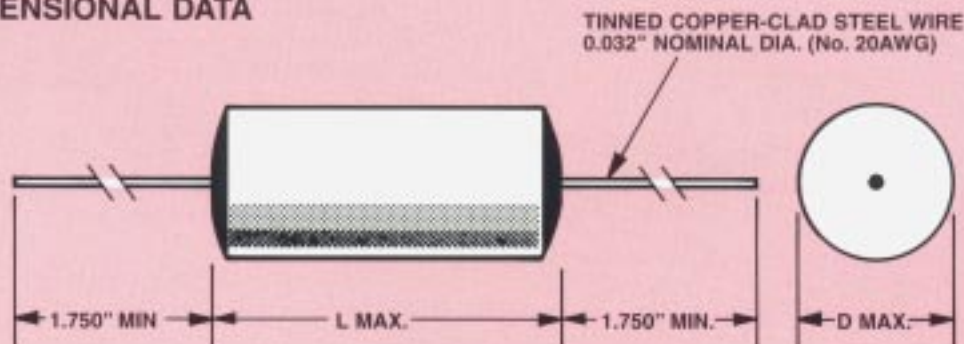
## QUALITY ASSURANCE

Emphasis is placed on quality assurance. The functions of raw material inspection, manufacturing process inspection and final product inspection are constantly being monitored by our Quality Control Department. Complete procedures are described in our quality control manual. Electronic Concepts, Inc. will continue to advance the state-of-the-art by utilizing leading edge technology, ultra-miniature capacitor designs and establish reliability procedures.

In the construction of the components described, the full intent of the specification will be met. Electronic Concepts, Inc., however, reserves the right to depart from detail specifications to allow for improvements in the design of its products. However, components made under military approvals will be done so in accordance with specification requirements.

This information is believed to be accurate and reliable. However, Electronic Concepts, Inc., assumes no responsibility for its use, nor for any infringements of patents or other rights of third parties which may result.

## DIMENSIONAL DATA





## OPERATING TEMPERATURE RANGE

Operating: - 40°C to + 85°C  
Storage : - 55°C to + 85°C

## INSULATION RESISTANCE

When measured at the applicable test temperature and 500VDC, the insulation resistance will equal or exceed the following values:

Temperature	25°C	85°C
Megohm X	25,000	2,500
Microfarad		

Except the insulation resistance in megohms need not exceed } 50,000 5,000

## DISSIPATION FACTOR

When measured at 1 KHz and 25°C the dissipation factor will not exceed 1.0 percent.

## CAPACITANCE RANGE

From .001 to 1.0 microfarad, capacitance is measured at 25°C, at or referenced to a frequency of 1KHz.

## CAPACITANCE CHANGE

The capacitance change versus temperature for these capacitors will not exceed the following:

Temperature	- 40°C	+ 85°C
Percent Change	- 6	+6

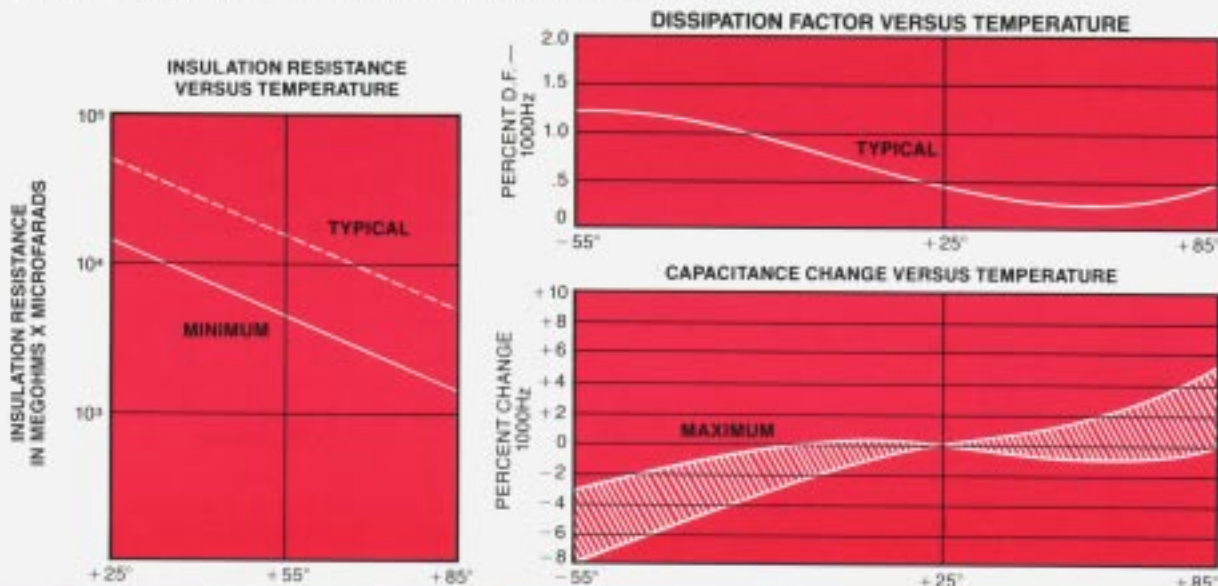
## DIELECTRIC STRENGTH

Capacitors will withstand a DC potential of 120% rated voltage, applied between the terminals for five (5) minutes without permanent breakdown. Test voltage is applied and discharged through a resistance of 50,000 ohms minimum.

## VOLTAGE RATING

DC working voltage ratings at ±85°C are: 1000VDC, 2000VDC, 4000VDC, 6000VDC, 10,000VDC and 15,000VDC.

## ELECTRICAL CHARACTERISTICS VS. TEMPERATURE TEMPERATURE IN DEGREE CENTIGRADE



## SAFETY PRECAUTIONS

Type 4ME12 High Voltage Metallized Polyester Capacitors have high insulation resistance and will retain a charge for several days unless an external discharge path is provided. In addition, discharged capacitors may build up a residual charge due to dielectric absorption.

Care must be taken to assure that capacitors are properly discharged, and equipment should be designed to prevent contact with charged

capacitors to avoid the possibility of serious shock.

After voltage is applied to the capacitors, the terminals should be short circuited for a period of three (3) hours before handling.

## APPLICATION NOTE

Please contact Electronic Concepts for instructions before using the 4ME12 capacitor, in applications where high peak currents and/or reverse voltage are involved.

### United States

**Eastern**  
New Jersey  
732-542-7880  
**Central**  
Illinois  
630-668-8747  
**Western**  
California  
805-582-9501

### Europe

**Ireland**  
Electronic Concepts, Ltd.  
I.D.A. Estate  
Oughterard,  
Co. Galway, Ireland  
Tel: (91)-552432, 552385  
Fax: (91)-552387  
E-MAIL: ecicaps@iol.ie

### Middle East

**Israel**  
Elind, Ltd.  
P.O. Box 1615  
Even-Yehuda 40500, Israel  
Tel: 972-9899-1838  
Fax: 972-9899-1822

### US National Distribution Center

**Elcon Sales**  
470 Clifton Ave.  
Clifton, New Jersey 07011  
Tel: 973-546-5022  
Fax: 973-546-5523

### Headquarters

**Electronic Concepts, Inc.**  
P.O. Box 1278  
Eatontown, New Jersey  
07724  
Tel: 732-542-7880  
Fax: 732-542-0524  
sales@eci-capacitors.com  
http://www.eci-capacitors.com

FOR ADDITIONAL INFORMATION, PLEASE CONTACT ONE OF OUR REGIONAL OFFICES

# electronic concepts, inc.

526 Industrial Way West, Eatontown, New Jersey 07724 • TEL (732) 542-7880 • FAX (732) 542-0524  
e-mail: sales@eci-capacitors.com <http://www.eci-capacitors.com>

