

## Model 2947B-2 Calibration capacitor

### Features

- Allows simulation of a piezoelectric transducer charge output
- Precision 1000 pF shielded capacitor
- Used for charge amplifier calibration
- Converts voltage to charge
- Easy to use



### Description

The Endevco® model 2947B-2 is a stable, precision, 1000 pF shielded capacitor designed specifically for calibrating charge sensing amplifiers. The voltage output from a signal generator is readily converted to a charge signal by connecting a capacitor in series between the generator and charge amplifier.

The transfer function is:  $Q = EC$

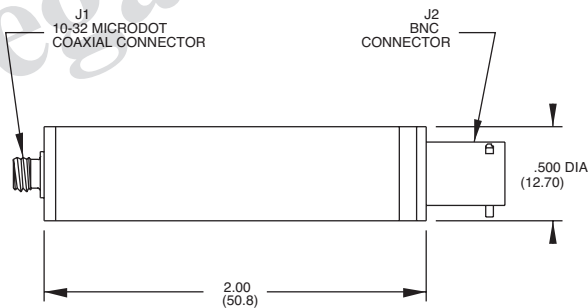
Where:

Q = Charge, in picocoulombs (pC)

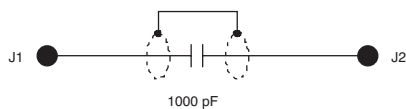
E = Voltage, in volts (V)

C = Capacitance, in picofarads (pF)

Since the capacitor is exactly 1000 pF, the transfer function simplifies to  $Q \text{ (pC)} = E \text{ (mV)}$ . The charge must be expressed in units of pC pk if the voltage is expressed in peak units. Similarly, voltage rms converts to pC rms.



STANDARD TOLERANCE  
INCHES (MILLIMETERS)  
.XX = +/- .03 (X = +/- .8)  
.XXX = +/- .010 (XX = +/- .25)



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Endevco

## Specifications

### Inputs

Type Input is a signal from a voltage source

### Outputs

Type Output is a charge signal designed to go to a charge sensing amplifier

### Electrical

#### Capacitance

Typical 1000 pF  $\pm 1\%$

Marked Actual capacitance measured at 75°F (24°C)

#### Voltage

100 VDC, or VAC pk, maximum

### Environmental

Temperature range 32°F to 122°F (0°C to 50°C)

Temperature coefficient  $\pm 0.003\%/^{\circ}\text{C}$ , typical

Humidity Epoxy sealed, 95% R.H. maximum

### Physical

Dimensions 1/2" d x 2" l (13 mm x 51 mm)

#### Connector

J1 Coaxial receptacle, 10-32 NF-2A threads, mates with  
Endevco model 3090C cable assembly

J2 BNC type coaxial receptacle

### Calibration data supplied

Capacitance, in pF, measured at 75°F (24°C) is marked on each unit. Estimated uncertainty of the measurement is  $\pm 1$  pF

### Notes:

1. Maintain high levels of precision and accuracy using Endevco's factory calibration services. Call Endevco's inside sales force at 800-982-6732 for recommended intervals, pricing and turn-around time for these services as well as for quotations on our standard products.



Continued product improvement necessitates that Endevco reserve the right to modify these specifications without notice. Endevco maintains a program of constant surveillance over all products to ensure a high level of reliability. This program includes attention to reliability factors during product design, the support of stringent Quality Control requirements, and compulsory corrective action procedures. These measures, together with conservative specifications have made the name Endevco synonymous with reliability.

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