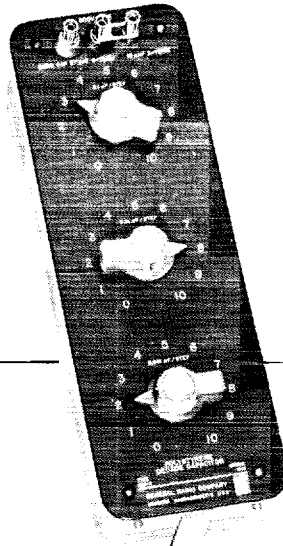




standard capacitors

DECADE CAPACITORS

Type 1419



- 100 pF to 1.1 μ F
- choice of models
- two- or three terminal connection

Type 1419 Decade Capacitors are offered in four models using three different dielectric materials to satisfy a variety of needs.

Types 1419-A and -B (Polystyrene)

Capacitance and dissipation factor constant with frequency, essentially noninductive, very low dielectric absorption. The dielectric is specially prepared of purified high-molecular-weight polystyrene, having very high resistance and freedom from interfacial polarization. Moisture sealing with Teflon* feed-through insulators assures high performance under adverse humidity conditions.

Type 1419-K (Silvered Mica)

Higher accuracy, low dissipation factor, and $+35 \pm 10$ ppm/ $^{\circ}$ C temperature coefficient (10-50 $^{\circ}$ C) for use in higher ambient temperatures.

Type 1419-M (Molded Silvered Mica and Paper)

For economy and excellent performance characteristics, sealed foil-and-paper capacitors are used in the highest-value decade and EIA Characteristic-C molded silvered micas in the smaller two.

* Registered trademark of E. I. duPont de Nemours and Company.

specifications

| TYPE NUMBER | 1419-A | 1419-B | 1419-K | 1419-M |
|---|---|---|---|---|
| Dielectric | Polystyrene | Polystyrene | Silvered Mica | Paper and Silvered Mica (Molded) |
| Maximum Capacitance of Box (μ F) | 1.110 | 1.1110 | 1.110 | 1.110 |
| In Steps of (μ F) | 0.001 | 0.0001 | 0.001 | 0.001 |
| Dials | 3 | 4 | 3 | 3 |
| Zero Capacitance, typical | | | | |
| 2-terminal connection | 37 pF | 50 pF | 41 pF | 35 pF |
| 3-terminal connection | 15 pF | 20 pF | 13 pF | 16 pF |
| Accuracy | | | | |
| 2-terminal connection ² | $\pm 1\%$ | $\pm(1\% + 2 \text{ pF})$ | $\pm 0.5\%$ | $\pm 1.5\%$ on highest decade $\pm 1\%$ on others |
| 3-terminal connection | $\pm 1\%$ except $\pm 1.5\%$ on smallest decade | $+1\%$ or $-(2\% + 4 \text{ pF})$ | $\pm 0.5\%$ except $\pm 1\%$ on smallest decade | $\pm 1.5\%$ on highest decade $\pm 1\%$ on others |
| Dissipation Factor at 1 kHz | <0.0002 | | <0.0003 | <0.005 |
| Insulation Resistance at 100 V, 25 $^{\circ}$ C, 50% RH, (ohms), typical | > 10^{12} | | > 5×10^9 | > 10^9 |
| Max Voltage ³ (dc or peak) | 500 V up to 35 kHz | | 500 V up to 10 kHz | 500 V up to 1 kHz |
| Max Operating Temperature (C) | 65 | | 75 | 90 |
| Voltage Recovery ⁴ | <0.1% | | <3% | <5% on highest decade |
| Resonant Frequencies (typical) | 1 μ F—400 kHz; 0.1 μ F—1MHz; 0.01 μ F—2.7 MHz; 0.001 μ F—7.8 MHz; 0.0001 μ F—23 MHz | | | |
| Dc Cap/1-kHz Cap | <1.001 | | Typically 1.03 | |
| Cabinet | Lab-bench | | | |
| Over-all Dimensions — in. (mm) | 13 x 4 $\frac{3}{8}$ x 5 (330 x 110 x 130) | 16 $\frac{1}{8}$ x 4 $\frac{3}{8}$ x 5 (415 x 110 x 130) | 14 $\frac{1}{8}$ x 5 $\frac{1}{2}$ x 6 (359 x 140 x 153) | 14 $\frac{1}{8}$ x 5 $\frac{1}{2}$ x 6 (359 x 140 x 153) |
| Net Weight — lb (kg) | 8 $\frac{3}{8}$ (3.8) | 10 $\frac{1}{2}$ (4.8) | 11 $\frac{1}{4}$ (5.5) | 6 $\frac{1}{4}$ (2.9) |
| Shipping Weight — lb (kg) | 10 (4.6) | 11 (5) | 18 (8.5) | 8 (3.7) |
| Catalog Number | 1419-9701 | 1419-9702 | 1419-9711 | 1419-9713 |

¹ Capacitance increments from zero position are within this percentage of the indicated value for any setting at 1 kHz.

² Units are checked with switch mechanism high, electrically, and the common lead and case grounded.

³ At frequencies above the indicated max, the allowable voltage decreases and is (approx) inversely proportional to frequency. These limits correspond to a temperature of 40 $^{\circ}$ C at max setting of each decade in box.

⁴ Final % of original charging voltage after a charging period of one hour and a 10-second discharge through a resistance equal to one ohm per volt of charging.