

Type 505 CAPACITOR

FEATURES: Small, convenient, stable, and accurate.
 Low-loss phenolic case to minimize dielectric loss and leakage conductance.
 Low temperature coefficient of capacitance.

USES: The TYPE 505 Capacitors are stable, low-loss mica capacitors for use as high-quality circuit elements and as secondary standards where the higher accuracy, complete shielding, and lower loss of the TYPE 1409 Standard Capacitors are not required.

DESCRIPTION: The TYPE 505 unit uses the same silvered-mica and foil pile used in the TYPE 1409 and has almost equally high stability. Each unit is sealed with wax in a low-loss phenolic case. Silica gel is included for continuous desiccation, and granulated polyethylene is provided to absorb shock.

SPECIFICATIONS

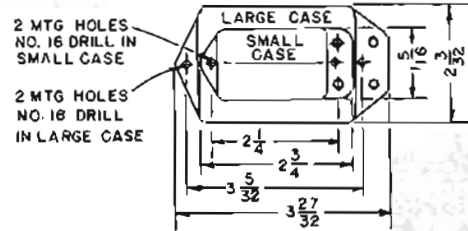
Accuracy: At 1 kc/s, $\pm 0.5\%$ or ± 3 pF, whichever is the larger.
Temperature Coefficient: Approximately +35 ppm per degree between 10° and 50°C. Calibration is made at 23°C, at a frequency of 1 kc/s.

Dissipation Factor: 0.0003 for 1000 pF and higher; 500 pF, 0.00035; 200 pF, 0.0004; 100 pF, 0.0006.

Frequency Characteristics: Similar to those for TYPE 1409. Series inductance is approximately 0.055 μ H for units in small case and 0.085 μ H for large case. Series resistance at 1 Mc/s is approximately 0.03 Ω for small case and 0.05 Ω for large case, varying as square root of frequency above 100 kc/s.

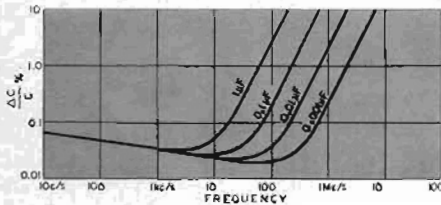
Leakage Resistance: Greater than 100 G Ω when measured at 500 V except for the TYPES 505-T, 505-U, and 505-X, for which it is greater than 50, 25, and 10 G Ω , respectively.

Maximum Voltage: See table. At higher frequencies, the allowable voltage decreases and is inversely proportional to the square root of the frequency. These limits correspond to a temperature rise of 40°C for a power dissipation of 1 W for the small case and 2.5 W for the large case.

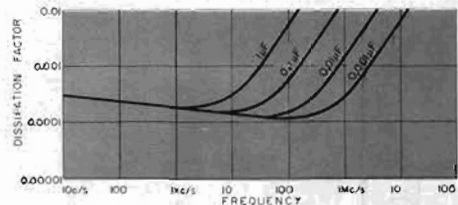


Terminals: Two screw terminals spaced $\frac{3}{4}$ inch apart, with two removable plug bottoms, TYPE 274-P. High terminal (inside foil) is marked H.

Dimensions: See sketch; dimensions shown are in inches. Over-all height, $1\frac{1}{2}$ inches for large case, 1 inch for small case, exclusive of plugs. To convert inches to mm, multiply by 25.4.

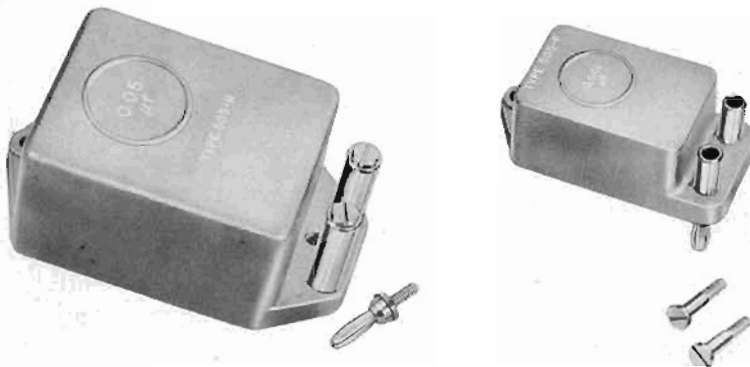


(Left) Change in capacitance as a function of frequency for typical Type 1409 and Type 505 capacitors. The 1-kc value on the plot should be used as a basis of reference in estimating frequency errors. (Right) Dissipation factor as a function of frequency.



Catalog No.	Type	Capacitance	Maximum Peak Volts	Frequency Limit For Max Volts	Net Weight	Shipping Weight	Price
0505-9701	Type 505-A	100 pF	700	10 Mc/s	4 oz (115 g)	8 oz (230 g)	
0505-9702	Type 505-B	200 pF	700	6 Mc/s	4 oz (115 g)	8 oz (230 g)	
0505-9705	Type 505-E	500 pF	500	4 Mc/s	4 oz (115 g)	8 oz (230 g)	
0505-9706	Type 505-F	0.001 μ F	500	2.3 Mc/s	4 oz (115 g)	8 oz (230 g)	
0505-9707	Type 505-G	0.002 μ F	500	1.3 Mc/s	5 oz (145 g)	8 oz (230 g)	
0505-9711	Type 505-K	0.005 μ F	500	630 kc/s	5 oz (145 g)	8 oz (230 g)	
0505-9712	Type 505-L	0.01 μ F	500	360 kc/s	5 oz (145 g)	8 oz (230 g)	
0505-9713	Type 505-M	0.02 μ F	500	210 kc/s	6 oz (170 g)	8 oz (230 g)	
0505-9718	Type *505-R	0.05 μ F	500	100 kc/s	11 oz (315 g)	1 lb (0.5 kg)	
0505-9720	Type *505-T	0.1 μ F	500	50 kc/s	12 oz (340 g)	1 lb (0.5 kg)	
0505-9721	Type *505-U	0.2 μ F	500	20 kc/s	13 oz (370 g)	1 lb (0.5 kg)	
0505-9724	Type *505-X	0.5 μ F	500	10 kc/s	15 oz (425 g)	1 1/4 lb (0.6 kg)	

*Mounted in large case.



IET LABS, INC.

634 Main Street, Westbury, NY 11590
 Tel (516) 334-5959 (800) 899-8438

Fax (516) 334-5988 <http://www.letlabs.com>