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, ±0.5% or ±3 pF, whichever is the larger.

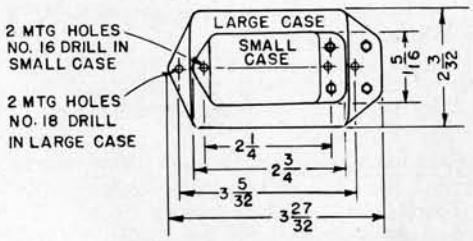
Temperature Coefficient: Approximately +35 ppm per degree between 10° and 50°C. Calibration is made at 23°C, at a frequency of 1 kc/s.

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 μH for units in small case and 0.085 μH 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.

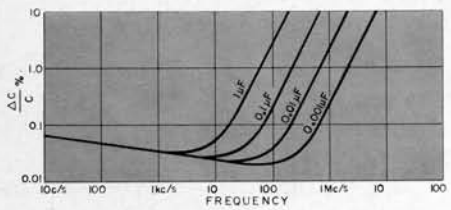
Leakage Resistance: Greater than 100 GΩ when measured at 500 V except for the TYPES 505-T, 505-U, and 505-X, for which it is greater than 50, 25, and 10 GΩ, respectively.

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.

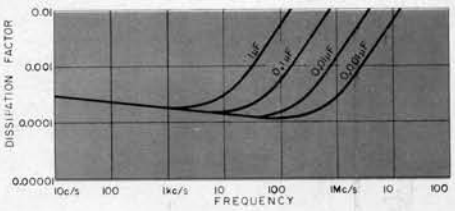


Terminals: Two screw terminals spaced ¾ inch apart, with two removable plug bottoms, TYPE 274-P. High terminal (inside foil) is marked H.

Dimensions: See sketch; dimensions shown are in inches. Over-all height, 1⅝ 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.		*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 μF	500	2.3 Mc/s	4 oz (115 g)	8 oz (230 g)	
0505-9707	**Type 505-G**	0.002 μF	500	1.3 Mc/s	5 oz (145 g)	8 oz (230 g)	
0505-9711	**Type 505-K**	0.005 μF	500	630 kc/s	5 oz (145 g)	8 oz (230 g)	
0505-9712	**Type 505-L**	0.01 μF	500	360 kc/s	5 oz (145 g)	8 oz (230 g)	
0505-9713	**Type 505-M**	0.02 μF	500	210 kc/s	6 oz (170 g)	8 oz (230 g)	
0505-9718	**Type *505-R**	0.05 μF	500	100 kc/s	11 oz (315 g)	1 lb (0.5 kg)	
0505-9720	**Type *505-T**	0.1 μF	500	50 kc/s	12 oz (340 g)	1 lb (0.5 kg)	
0505-9721	**Type *505-U**	0.2 μF	500	20 kc/s	13 oz (370 g)	1 lb (0.5 kg)	
0505-9724	**Type *505-X**	0.5 μF	500	10 kc/s	15 oz (425 g)	1¼ lb (0.6 kg)	

*Mounted in large case.

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