INCH POUND

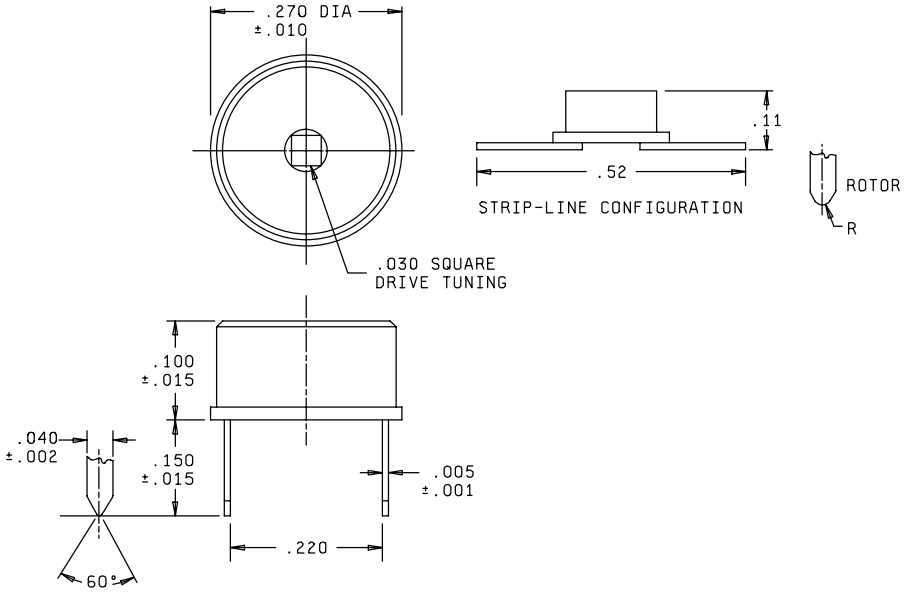
MIL-PRF-81/10C
25 May 1999
SUPERSEDING
MIL-C-81/10B
27 December 1989

PERFORMANCE SPECIFICATION SHEET

CAPACITORS, VARIABLE, CERAMIC DIELECTRIC,
STYLE CV99

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification and MIL-PRF-81.



Inches	mm	Inches	mm
.001	0.03	.100	2.54
.002	0.05	.110	2.79
.005	0.13	.150	3.81
.010	0.25	.220	5.59
.015	0.38	.270	6.86
.030	0.76	.520	13.21
.040	1.02		

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is ±.005 (0.13 mm).

FIGURE 1. Dimensions and configurations.

REQUIREMENTS:

Dimensions and configuration: See figure 1.

Capacitance value: See table I.

DC rated voltage: 250 V dc.

Operating temperature and storage range: -55°C to +125°C.

Characteristics: See table I.

Dielectric withstanding voltage: Method 301 of MIL-STD-202. A dc potential of 500 V dc applied between terminals for 3 seconds ±2 seconds.

Barometric pressure (reduced): Method 105 of MIL-STD-202, condition D (100,000 feet).

Test potential: 100 percent of dc rated voltage.

Insulation resistance: Method 302 of MIL-STD-202, condition A, 100 V dc applied: 10,000 megohms, minimum.

Capacitance: Method 305 of MIL-STD-202.

DF: At 1 MHz ±100 kHz, at maximum and minimum capacitance: Shall be not more than 0.2 percent.

TABLE I. Style CV99.

Type designation 1/	Capacitance		DC rated voltage	Symbol	Characteristic	Minimum Q at 100 MHz
	Min (pF)	Max (pF)			Temperature Coefficient	
CV99L4R5--	1.0	4.5	250	L	+50 ±150	1,000
CV99M100--	2.5	10.0	250	M	-100 ±500	1,000
CV99N180--	4.0	18.0	250	N	-300 ±800	700
CV99P250--	5.0	25.0	250	P	-400 ±500	200
CV99Q350--	6.0	35.0	250	Q	-1,500 ±900	200
CV99Q400--	7.0	40.0	250	Q	-1,500 ±900	200
CV99Q500--	8.0	50.0	250	Q	-1,500 ±900	200

1/ For strip-line configuration parts, the complete type designation shall include additional symbols SL.

Temperature coefficient: Within the limits specified for the applicable characteristics.

Capacitance drift: Within 0.75 percent of initial step 1 measurement or 0.50 picofarad (pF), whichever is greater.

Terminal strength:

Pull test: Capacitor held by body and 2-pound load applied to each terminal for at least 10 seconds.

Torque: Not less than 0.2 ounce-inch nor more than 2.0 ounce-inches.

Shock (specified pulse): Method 213 of MIL-STD-202, condition I (100 g's).

Vibration, high frequency: Method 204 of MIL-STD-202, condition B (15 g's).

Capacitance change: Shall not exceed ±2 percent or 0.5 pF, whichever is greater.

DF: Shall be not more than 0.2 percent.

Dielectric withstanding voltage: 500 V dc, applied for 3 seconds ±2 seconds.

Insulation resistance: Shall be 10,000 megohms, minimum.

Fatigue:

ΔC: Shall not exceed 12 percent or 0.75 pF, whichever is greater.

Torque: Initial requirement.

Life:

Qualification test: 1,000 hours at +85°C, 150 percent of rated V dc applied.

Insulation resistance: Initial requirement.

Capacitance change: Shall not exceed ±8 percent of initial value or 0.5 pF, whichever is greater.

Group C life: Conditions and requirements are the same as that for qualification except that capacitance change shall not exceed ±5 percent of initial value or 0.5 pF, whichever is greater.

Moisture resistance: Method 106 of MIL-STD-202.

Insulation resistance: Shall be 10,000 megohms minimum.

Capacitance change: Shall not exceed ±5 percent of nominal value or 0.5 pF, whichever is greater.

DF: Shall be not more than 0.5 percent.

Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Custodians:
Army - CR
Navy - EC
Air Force - 11
DLA - CC

Review activities:
Air Force - 19, 99

Preparing activity:
DLA - CC

(Project 5910-2010-07)