

Military Glass Capacitors

MIL-PRF-11272/01, /02, /03, /04
CY10, 15, 20, 30



APPLICATIONS

These extremely stable glass capacitors, AVX style CY, meet or exceed all requirements of MIL-PRF-11272. With glass dielectric, fused monolithic construction, and true glass-to-metal seals at the leads, they have very low losses and are virtually immune to severe environmental stresses.

PERFORMANCE CHARACTERISTICS

Tolerance: Available tolerances for each value of capacitance are shown in the ordering information table. For codes, refer to the Part Numbers paragraph.

Temperature Coefficient: $+140 \pm 25$ ppm/ $^{\circ}\text{C}$ at 100 kHz. TC will track and retrace to within ± 5 ppm. Capacitance drift is less than 0.1% or 0.1 pF, whichever is greater.

Voltage Coefficient: Zero.

Losses: Extremely low, and remain relatively low at elevated temperatures. Dissipation factor is not more than 0.001 at 1.0 kHz and 25°C .

Life: After 2,000 hours at 125°C with 150% of rated voltage applied, capacitance change is less than 0.5% or 0.5 pF, whichever is greater.

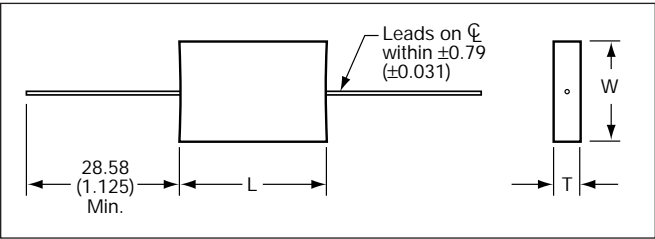
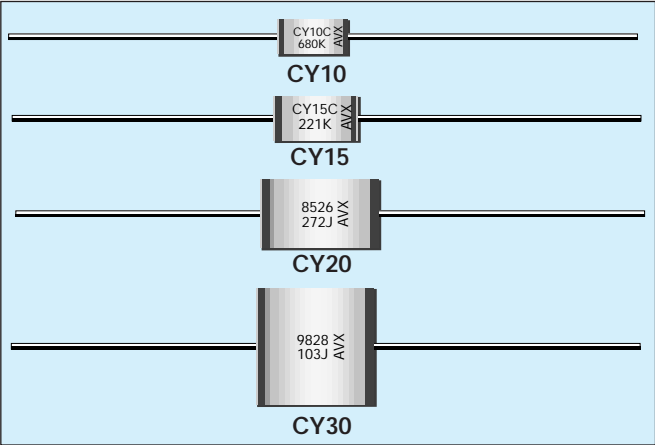
Insulation Resistance: Greater than 100,000 megohms at 25°C ; greater than 10,000 megohms at 125°C .

Voltage/Temperature Rating: Voltage ratings are shown in the ordering information table. The operating temperature range is -55°C to $+125^{\circ}\text{C}$ with no derating required.

Moisture Resistance: Meets or exceeds all requirements of MIL-PRF-11272 and MIL-STD-202, Method 106.

Radiation Resistance: The unique materials and construction techniques involved with glass capacitors make them ideal for use in radiation environments. After a total dose of nearly 10^8 rads (H_2O) glass capacitors exhibit only a minor change in capacitance ($\leq 5\%$) and an 8% change in dissipation factor. Furthermore, glass capacitors can operate in fast neutron flux environments of 10^{15} N $\text{cm}^{-2}\text{sec}^{-1}$ and experience little or no damage in component parameters.

Additional performance details are given in the AVX "Performance Characteristics of Multilayer Glass Dielectric Capacitors" technical paper.



DIMENSIONS:

millimeters (inches)

Case Size	L	W	T	Lead Dia. +0.1 (+0.004) -0.03 (-0.001)	Weight (Grams)
CY10	8.74 ± 1.19 (0.344 ± 0.047)	$4.37 \pm .79$ (0.172 ± 0.031)	$1.98 \pm .79$ (0.078 ± 0.031)	.51 (0.020)	25 – 50
CY15	11.91 ± 1.19 (0.469 ± 0.047)	$6.76 \pm .79$ (0.266 ± 0.031)	2.77 ± 1.19 (0.109 ± 0.047)	.51 (0.020)	75 – 1.25
CY20	18.64 ± 1.57 (0.734 ± 0.062)	10.72 ± 1.19 (0.422 ± 0.047)	3.58 ± 1.19 (0.141 ± 0.047)	.63 (0.025)	2.50 – 4.00
CY30	19.46 ± 1.57 (0.766 ± 0.062)	19.05 ± 1.98 (0.750 ± 0.078)	3.58 ± 1.19 (0.141 ± 0.047)	.63 (0.025)	5.00 – 7.00

Note: Standard leads are solder-coated Dumet.

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HOW TO ORDER

Military Type Designation: Styles CY10, CY15, CY20, CY30

Dash Number Option: MIL-PRF-11272/01, 02, 03, 04 (Add Appropriate Dash Number)

CY
Style
Glass Capacitor

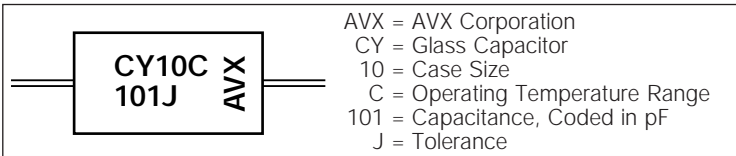
10
Case Size
10
15
20
30

C
Operating
Temperature Range
-55°C to +125°C

101
Capacitance Code
Capacitance Code is
expressed in picofarads (pF).
The first two digits represent
significant figures and the
third digit specifies the
number of zeros to follow;
i.e. 101 indicates 100 pF.
For values below 10 pF,
R = decimal point;
i.e. 1R5 indicates 1.5 pF.

J
Capacitance Tolerance
C = $\pm 25\%$ pF
D = $\pm 50\%$ pF
F = $\pm 1\%$
G = $\pm 2\%$
J = $\pm 5\%$
K = $\pm 10\%$
M = $\pm 20\%$

MARKING



MILITARY PART NUMBER IDENTIFICATION (Standard Values)

Military Type Designation	Cap. (pF)	Cap. Tol.	WVDC
CY10			
CY10C0R5_	0.5	C	500
CY10C1R0_	1.0	C, D	500
CY10C1R5_	1.5	C, D	500
CY10C2R2_	2.2	C, D	500
CY10C2R7_	2.7	C, D	500
CY10C3R0_	3.0	C, D	500
CY10C3R3_	3.3	C, D	500
CY10C3R6_	3.6	C, D	500
CY10C3R9_	3.9	C, D	500
CY10C4R3_	4.3	C, D	500
CY10C4R7_	4.7	C, K	500
CY10C5R1_	5.1	C, J, K	500
CY10C5R6_	5.6	C, J, K	500
CY10C6R2_	6.2	C, J, K	500
CY10C6R8_	6.8	C, J, K	500
CY10C7R5_	7.5	C, J, K	500
CY10C8R2_	8.2	C, J, K	500
CY10C9R1_	9.1	C, J, K	500
CY10C100_	10	C, J, K, M	500
CY10C110_	11	C, J, K, M	500
CY10C120_	12	C, J, K, M	500
CY10C130_	13	C, G, J, K, M	500
CY10C150_	15	C, G, J, K, M	500
CY10C160_	16	C, G, J, K, M	500
CY10C180_	18	C, G, J, K, M	500
CY10C200_	20	C, G, J, K, M	500
CY10C220_	22	C, G, J, K, M	500
CY10C240_	24	C, G, J, K, M	500
CY10C270_	27	F, G, J, K, M	500
CY10C300_	30	F, G, J, K, M	500
CY10C330_	33	F, G, J, K, M	500
CY10C360_	36	F, G, J, K, M	500
CY10C390_	39	F, G, J, K, M	500
CY10C430_	43	F, G, J, K, M	500
CY10C470_	47	F, G, J, K, M	500
CY10C510_	51	F, G, J, K, M	500
CY10C560_	56	F, G, J, K, M	500
CY10C620_	62	F, G, J, K, M	500
CY10C680_	68	F, G, J, K, M	500
CY10C750_	75	F, G, J, K, M	500
CY10C820_	82	F, G, J, K, M	500
CY10C910_	91	F, G, J, K, M	500
CY10C101_	100	F, G, J, K, M	500
CY10C111_	110	F, G, J, K, M	500
CY10C121_	120	F, G, J, K, M	500
CY10C131_	130	F, G, J, K, M	500
CY10C151_	150	F, G, J, K, M	500
CY10C161_	160	F, G, J, K, M	500
CY10C181_	180	F, G, J, K, M	500
CY10C201_	200	F, G, J, K, M	500
CY10C221_	220	F, G, J, K, M	300
CY10C241_	240	F, G, J, K, M	300
CY10C271_	270	F, G, J, K, M	300
CY10C301_	300	F, G, J, K, M	300

—Add letter for tolerance code above lines.

Military Type Designation	Cap. (pF)	Cap. Tol.	WVDC
CY15			
CY15C221_	220	F, G, J, K, M	500
CY15C241_	240	F, G, J, K, M	500
CY15C271_	270	F, G, J, K, M	500
CY15C301_	300	F, G, J, K, M	500
CY15C331_	330	F, G, J, K, M	500
CY15C361_	360	F, G, J, K, M	500
CY15C391_	390	F, G, J, K, M	500
CY15C431_	430	F, G, J, K, M	500
CY15C471_	470	F, G, J, K, M	500
CY15C511_	510	F, G, J, K, M	500
CY15C561_	560	F, G, J, K, M	300
CY15C621_	620	F, G, J, K, M	300
CY15C681_	680	F, G, J, K, M	300
CY15C751_	750	F, G, J, K, M	300
CY15C821_	820	F, G, J, K, M	300
CY15C911_	910	F, G, J, K, M	300
CY15C102_	1,000	F, G, J, K, M	300
CY15C112_	1,100	F, G, J, K, M	300
CY15C122_	1,200	F, G, J, K, M	300
CY20			
CY20C561_	560	F, G, J, K, M	500
CY20C621_	620	F, G, J, K, M	500
CY20C681_	680	F, G, J, K, M	500
CY20C751_	750	F, G, J, K, M	500
CY20C821_	820	F, G, J, K, M	500
CY20C911_	910	F, G, J, K, M	500
CY20C102_	1,000	F, G, J, K, M	500
CY20C112_	1,100	F, G, J, K, M	500
CY20C122_	1,200	F, G, J, K, M	500
CY20C132_	1,300	F, G, J, K, M	500
CY20C152_	1,500	F, G, J, K, M	500
CY20C162_	1,600	F, G, J, K, M	500
CY20C182_	1,800	F, G, J, K, M	500
CY20C202_	2,000	F, G, J, K, M	500
CY20C222_	2,200	F, G, J, K, M	500
CY20C242_	2,400	F, G, J, K, M	500
CY20C272_	2,700	F, G, J, K, M	500
CY20C302_	3,000	F, G, J, K, M	500
CY20C332_	3,300	F, G, J, K, M	500
CY20C362_	3,600	F, G, J, K, M	300
CY20C392_	3,900	F, G, J, K, M	300
CY20C432_	4,300	F, G, J, K, M	300
CY20C472_	4,700	F, G, J, K, M	300
CY20C512_	5,100	F, G, J, K, M	300

—Add letter for tolerance code above lines.

Military Type Designation	Cap. (pF)	Cap. Tol.	WVDC
CY30			
CY30C362_	3,600	F, G, J, K, M	500
CY30C392_	3,900	F, G, J, K, M	500
CY30C432_	4,300	F, G, J, K, M	500
CY30C472_	4,700	F, G, J, K, M	500
CY30C512_	5,100	F, G, J, K, M	500
CY30C562_	5,600	F, G, J, K, M	500
CY30C622_	6,200	F, G, J, K, M	500
CY30C682_	6,800	F, G, J, K, M	300
CY30C752_	7,500	F, G, J, K, M	300
CY30C822_	8,200	F, G, J, K, M	300
CY30C912_	9,100	F, G, J, K, M	300
CY30C103_	10,000	F, G, J, K, M	300

—Add letter for tolerance code above lines.