

## M23269/01, 02, 03, 04 (QPL to MIL-C-23269) CYR10, 15, 20, 30 (ESTABLISHED RELIABILITY) FAILURE RATE LEVELS M AND S

### APPLICATIONS

These precision glass-dielectric capacitors are QPL to Established Reliability specification MIL-C-23269. Fused monolithic construction provides excellent electrical performance, environmental immunity, stability and retraceability. These capacitors have axial leads.

### PERFORMANCE CHARACTERISTICS

**Temperature Coefficient** —  $+140 \pm 25$  ppm/°C from  $-55^\circ\text{C}$  to  $+125^\circ\text{C}$ . TC of all units will track and retrace to within  $\pm 5$  ppm.

**Life** — At rated conditions (100% rated voltage,  $125^\circ\text{C}$ ), capacitance change is less than:

- $\pm 0.5\%$  after 2,000 hours
- $\pm 2.0\%$  after 30,000 hours

At accelerated conditions (150% rated voltage,  $125^\circ\text{C}$ ), capacitance change is less than:

- $\pm 0.5\%$  after 2,000 hours
- $\pm 2.0\%$  after 6,000 hours

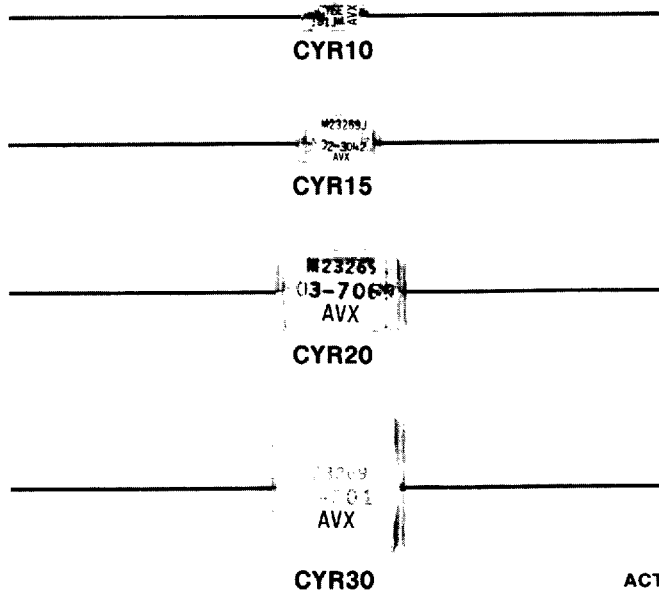
**Insulation Resistance** — A minimum of 100,000 megohms at  $25^\circ\text{C}$  and 10,000 megohms at  $125^\circ\text{C}$ .

**Voltage/Temperature Ratings** — Voltage ratings are shown in the part number tables. The operating temperature range is  $-55^\circ\text{C}$  to  $+125^\circ\text{C}$ .

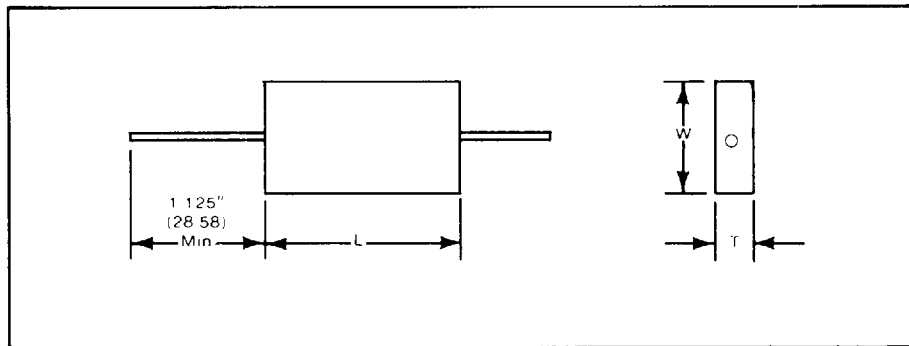
**Radiation Resistance** — The unique materials and construction techniques involved with glass capacitors make them ideal for use in radiation environments. After a total dose of nearly  $10^8$  rads ( $\text{H}_2\text{O}$ ) glass capacitors exhibit only a minor change in capacitance ( $\leq 5\%$ ) 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.

**Voltage Coefficient** — zero

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



ACTUAL SIZE



### Dimensions — Inches (Millimeters)

Case Size	L	W	T	Lead Dia. $+ .004 (+0.1)$ $- .001 (-0.03)$
CYR10	$.344 \pm .047$ (8.74 $\pm$ 1.19)	$.172 \pm .031$ (4.37 $\pm$ .79)	$.078 \pm .031$ (1.98 $\pm$ .79)	.020 (.51)
CYR15	$.469 \pm .047$ (11.91 $\pm$ 1.19)	$.266 \pm .031$ (6.76 $\pm$ .79)	$.109 \pm .047$ (2.77 $\pm$ 1.19)	.020 (.51)
CYR20	$.734 \pm .062$ (18.64 $\pm$ 1.57)	$.422 \pm .047$ (10.72 $\pm$ 1.19)	$.141 \pm .047$ (3.58 $\pm$ 1.19)	.025 (.63)
CYR30	$.766 \pm .062$ (19.46 $\pm$ 1.57)	$.750 \pm .078$ (19.05 $\pm$ 1.98)	$.141 \pm .047$ (3.58 $\pm$ 1.19)	.025 (.63)

NOTE: Standard leads are solder-coated Dumet.

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# Glass Capacitors



## Part Numbers and Ordering Information (Axial Leads)

Value (pF)	Part Number* Capacitance Tolerance	Value (pF)	Part Number* Capacitance Tolerance	Value (pF)	Part Number* Capacitance Tolerance
<b>STYLE CYR10 M23269/01-</b>		<b>STYLE CYR10 M23269/01- (cont'd.)</b>		<b>STYLE CYR20 M23269/03-</b>	
500 Volts	±.25pF ±.5pF ±5%	500 Volts	±1% ±2% ±5%	500 Volts	±1% ±2% ±5%
.5	*.001 -- --	68	*.079 *.080 *.081	560	*.001 *.002 *.003
1.0	---002 -- --	75	---082 ---083 ---084	620	---004 ---005 ---006
1.5	---003 -- --	82	---085 ---086 ---087	680	---007 ---008 ---009
2.2	---004 *.005 -- --	91	---088 ---089 ---090	750	---010 ---011 ---012
2.7	---006 -- --	100	---091 ---092 ---093	820	---013 ---014 ---015
3.0	---007 ---008 -- --	110	---094 ---095 ---096	910	---016 ---017 ---018
3.3	---009 -- --	120	---097 ---098 ---099	1000	---019 ---020 ---021
3.6	---010 ---011 -- --	130	---100 ---101 ---102	1100	---022 ---023 ---024
3.9	---012 -- --	150	---103 ---104 ---105	1200	---025 ---026 ---027
4.3	---013 ---014 -- --	160	---106 ---107 ---108	1300	---028 ---029 ---030
4.7	---015 -- --	180	---109 ---110 ---111	1500	---031 ---032 ---033
5.1	---016 -- --	200	---112 ---113 ---114	1600	---034 ---035 ---036
5.6	---017 -- *	<b>300 Volts</b>		1800	---037 ---038 ---039
6.2	---019 -- ---020	220	---115 ---116 ---117	2000	---040 ---041 ---042
6.8	---021 -- ---022	240	---118 ---119 ---120	2200	---043 ---044 ---045
7.5	---023 -- ---024	270	---121 ---122 ---123	2400	---046 ---047 ---048
8.2	---025 -- ---026	300	---124 ---125 ---126	2700	---049 ---050 ---051
9.1	---027 -- ---028			3000	---052 ---053 ---054
10	---029 -- ---030			3300	---055 ---056 ---057
11	---031 -- ---032			<b>300 Volts</b>	
12	---033 -- ---034			3600	3058 3059 3060
	±1% ±2% ±5%			3900	3061 3062 3063
13	-- * .035 * .036	220	*.001 *.002 *.003	4300	3064 3065 3066
15	-- ---037 ---038	240	---004 ---005 ---006	4700	3067 3068 3069
16	-- ---039 ---040	270	---007 ---008 ---009	5100	3070 3071 3072
18	-- ---041 ---042	300	---010 ---011 ---012		
20	-- ---043 ---044	330	---013 ---014 ---015		
22	-- ---045 ---046	360	---016 ---017 ---018		
24	-- ---047 ---048	390	---019 ---020 ---021		
27	*.049 ---050 ---051	430	---022 ---023 ---024		
30	---052 ---053 ---054	470	---025 ---026 ---027		
33	---055 ---056 ---057	510	---028 ---029 ---030		
36	---058 ---059 ---060	<b>300 Volts</b>			
39	---061 ---062 ---063	560	---031 ---032 ---033		
43	---064 ---065 ---066	620	---034 ---035 ---036		
47	---067 ---068 ---069	680	---037 ---038 ---039		
51	---070 ---071 ---072	750	---040 ---041 ---042		
56	---073 ---074 ---075	820	---043 ---044 ---045		
62	---076 ---077 ---078	910	---046 ---047 ---048		
		1000	---049 ---050 ---051		
		1100	---052 ---053 ---054		
		1200	---055 ---056 ---057		

\*Add first digit to indicate failure rate

### PART NUMBER EXPLANATION FOR CYR10-30

M23269 / 01 - 3 001

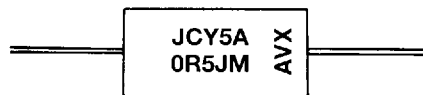
Military specification established reliability glass capacitor

Case size  
01 - CYR10  
02 - CYR15  
03 - CYR20  
04 - CYR30

Capacitance value coded in accordance with MIL-C-23269 - (see Part Number section)

Failure rate  
3 = M level 1%/1000 hrs.  
7 = S level .001%/1000 hrs. (100 volt rating only)

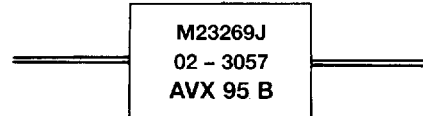
### PART MARKING - CYR10



J - JAN Trademark  
C - Capacitor  
Y - Glass Dielectric  
5 - Last digit of year  
A - 4 week lot code

OR5 - Capacitance code - OR5 = 0.5pF  
J - Capacitance tolerance - J = ±5%  
G = ±2%  
F = ±1%  
M - Failure level  
AVX - AVX Corporation

### PART MARKING - CYR15-30



M23269 - Military specification established reliability glass capacitor  
J - JAN Trademark  
02 - Case size (CYR15)  
3 - Failure rate (M level)  
057 - Dash Number (capacitance in pF and capacitance tolerance)  
AVX - AVX Corporation  
95 - Year  
B - Lot Code