EIA RS-153-B

EIA STANDARD

Molded and Dipped Mica Capacitors (Wire Lead Styles)

RS-153-B
(Revision of RS-153-A)

March 1972

Engineering Department

ELECTRONIC INDUSTRIES ASSOCIATION

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MOLDED AND DIPPED MICA CAPACITORS (WIRE LEAD STYLES)

(From EIA Standard RS-153-A and Standards Proposal No. 1072-A, formulated under the cognizance of Working Group P-2.3 on Fixed Mica Dielectric Capacitors.)

FOREWORD

This standard is a revision of RS-153A, last dated April 1964, and includes specifications for Dipped and Molded Mica Capacitors.

Styles 45 through 61 are not included in this revision since they more properly belong with other transmitting capacitors, now in Specification TR-109.

TABLE OF CONTENTS

DRAWINGS AND TABLES

1. SCOPE

1.1 This standard outlines electrical, mechanical, and environmental requirements for commercial capacitors which have a natural mica dielectric and wire lead terminations.

1.2 It is a standard covering a variety of case sizes, capacitance values, capacitance tolerances, voltage ratings, operating temperature ranges, and temperature coefficient characteristics.

2. APPLICATION NOTES

2.1 The capacitors covered by this application are intended for circuit designs requiring high stability capacitors.

2.2 The sum of d-c and peak a-c voltages should not exceed the rated voltage of the capacitor and should generally be lower, depending upon corona and heating effects.

Styles Available and Standard Dimensions

Molded

See details in Figure 1.

Dipped

See details in Figure 2 and Tables I through VI.

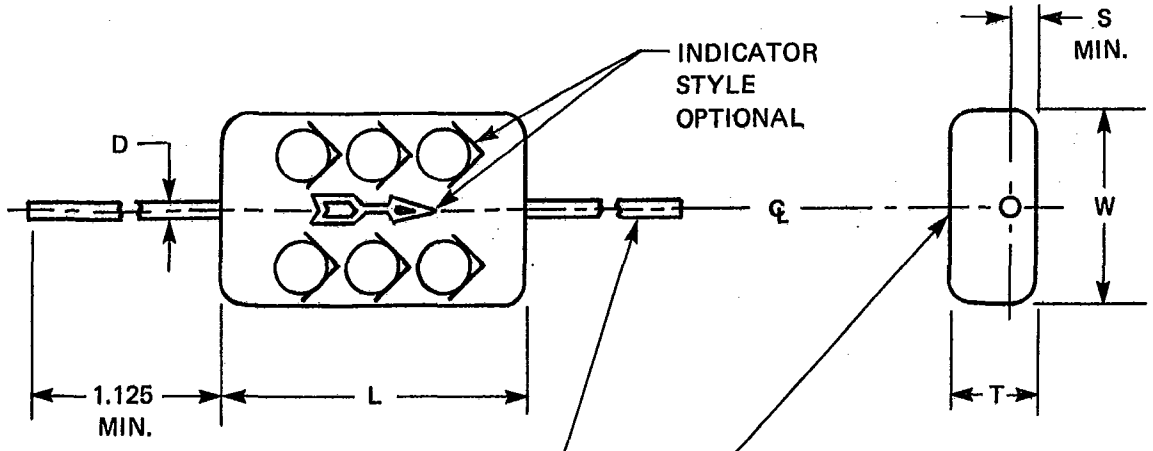
Note: Dimensions for 1000-WVDC ratings are not listed and are to be determined by agreement between manufacturer and user.

3. TYPE DESIGNATION

3.1 Molded Styles:

3.1.1 The type designation shall be in the following form:

RCM	15	F	391 (X)	J	5	N (X)
Style (See 3.1.2, 3.2.1)	Case Size (See 3.1.3, 3.2.2)	Characteristic (See 4.4)	Capacitance (See 3.1.5, 3.2.4, 4.3.1)	Capacitance Tolerance (See 3.1.6, 3.2.5)	DC Working Voltage (See 3.1.7, 3.2.6)	Operating Temperature Range (See 3.1.8, 3.2.7, 3.2.8)



LEADS TO BE LOCATED ON CENTERLINE WITHIN ± .03

A. STANDARD SIX DOT COLOR CODE ON THIS SURFACE.
B. LAST THREE DOTS OF NINE WILL BE ON OPPOSITE SIDE.
C. INK STAMPING MAY BE ON EITHER SIDE. SEE 5.1.

INCHES	MM
1.125	28.45
.03	.76

DIMENSIONS OF STANDARD MOLDED STYLES

Style	Unit of Meas.	D		L		W		T		S
		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
RCM 15	inch	.023	.027	.48	.55	.27	.31	14	.22	.06
	mm	.58	.69	12.19	13.97	6.86	7.87	3.56	5.59	1.52
RCM 20	inch	.030	.034	.67	.79	.41	.47	.16	.22	.06
	mm	.76	.86	17.02	20.07	10.41	11.94	4.06	5.59	1.52
RCM 30	inch	.038	.042	.77	.86	.77	.86	.23	.28	.08
	mm	.97	1.07	19.56	21.84	19.56	21.84	5.84	7.11	2.03
RCM 35	inch	.038	.042	.77	.86	.77	.86	.28	.36	.08
	mm	.97	1.07	19.56	21.84	19.56	21.84	7.11	9.14	2.03

FIGURE 1

3.1.2 Style: Standard EIA identification of molded wire lead mica capacitors with natural mica dielectric.

3.1.3 Case Size: The numbers refer to specific standard sizes, shown in Figure 1.

3.1.4 Characteristic: Classification of temperature-coefficient-of-capacitance-and capacitance drift requirements are more fully defined in 4.4 and Table VII.

3.1.5 Capacitance: The three digits define the nominal capacitance in picofarads (pf), where the first two digits are significant figures, and the third digit states the number of zeros to follow. See 4.1 and 4.3. Where decimal or three significant figure values are required, the three digits shall be increased to four, and the letter R shall be used to designate the decimal position.

3.1.6 Capacitance Tolerance: Symmetrical tolerances, in percent, are designated by letters. The letters are defined in 4.5.

3.1.7 DC Rated Voltage: Abbreviated in the type designation as 1/100 working voltage. See 3.1.1.

3.1.8 Operating Temperature Range: The maximum and minimum recommended operating temperatures, in degrees Centigrade. See 4.6.

3.2 Dipped Styles

3.2.1 The type designation shall be in the same form as in 3.1.1 above, except that the style letters shall be RDM. Crimped styles will be designated by the Letter C immediately following the operating temperature range designation. Example: RDM 10 C.

3.2.2 Case Size: See Figure 2 through Tables I and VI.

3.2.3 Characteristic: Same as 3.1.4. See 4.4 and Table VII.

3.2.4 Capacitance: Same as 3.1.5. See 4.2 and 4.3.

3.2.5 Capacitance Tolerance: Same as 3.1.6. See 4.5.

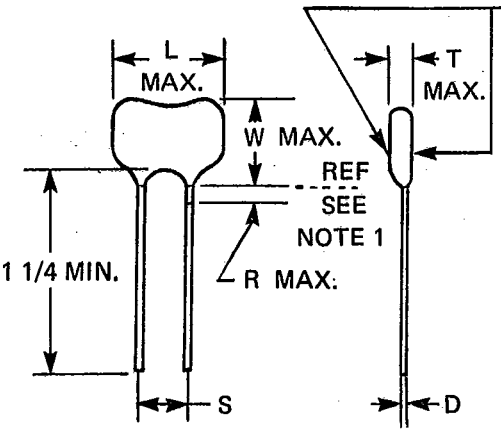
3.2.6 DC Working Voltage: Same as 3.1.7. See 4.2.

3.2.7 Operating Temperature Range: All dipped styles are rated as "0" Range (–55°C to +125°C). See 4.6.

3.2.8 Lead Configuration: Will be designated by the letter "S" for straight leads and the letter "C" for crimped leads.

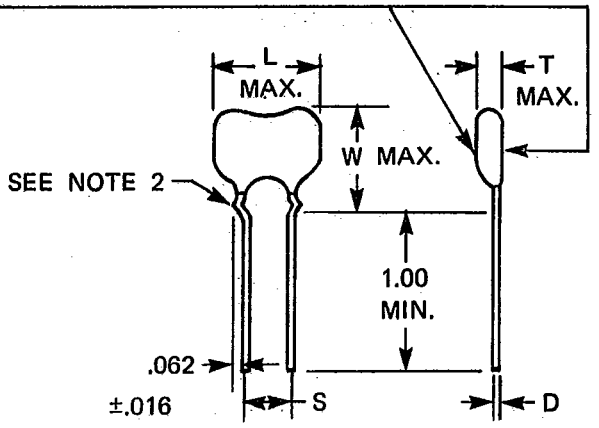
STANDARD DIPPED STYLES AND DIMENSIONS

STANDARD MARKING ON EITHER SURFACE



ALL DIMENSIONS IN INCHES.

RDM
STRAIGHT LEAD STYLE



ALL DIMENSIONS IN INCHES.

RDM
CRIMPED LEAD STYLE

INCHES	MM
.016	.41
.062	1.57
1.00	25.40

NOTES:

1. Maximum resinous coating measured from the point where the case material changes from a cone to a cylinder.
2. Magnitude of nicks, pinch or die marks appearing on the wire shall not exceed 1/5 of the wire diameter. No resinous coating will be permitted below crimp.
3. See Tables I through VI for "L", "W", and "T" maximum case dimensions.

Style	S	D		R Max.
	± .031 (.79)	Straight Lead ± .002 (.05)	Crimped Lead ± .002 (.05)	Straight Leads
RDM-10	.1406 (3.57)	.016 (.36)	.020 (.51)	.125 (3.10)
RDM-15	.2344 (5.95)	.025 (.64)	.032 (.81)*.025 (.64)	.125 (3.10)
RDM-19	.3437 (8.73)	.032 (.81)	.032 (.81)	.141 (3.58)
RDM-20	.4375 (11.11)	.032 (.81)	.032 (.81)	.141 (3.58)
RDM-30	.4375 (11.11)	.040 (1.02)	.040 (1.02)	.171 (4.34)
RDM-42	1.0620 (26.97)	.040 (1.02)	.040 (1.02)	.171 (4.34)

Dimensions are in inches, with millimeters in parentheses.
*Optional, by customer request.

FIGURE 2

TABLE I

BODY DIMENSIONS FOR STYLE RDM 10 AND 10C

Preferred Capacitance (pF)	L (Maximum)			W (Maximum)			T (Maximum)		
	100WVDC	300 WVDC	500 WVDC	100 WVDC	300 WVDC	500 WVDC	100 WVDC	300 WVDC	500 WVDC
1– 22			.360 (9.14)			.330 (8.38)			.190 (4.83)
24			.360 (9.14)			.330 (8.38)			
27			.370 (9.40)			.330 (8.38)			
30						.340 (8.64)			
33									
36									
39	.360 (9.14)	.370 (9.40)		.330 (8.38)	.340 (8.64)		.190 (4.83)	.190 (4.83)	
43	.370 (9.40)			.330 (8.38)					
47				.340 (8.64)					
51									
56									
62									
68			.370 (9.40)						.190 (4.83)
75						.340 (8.64)			.200 (5.08)
82					.340 (8.64)	.350 (8.89)		.190 (4.83)	
91					.350 (8.89)			.200 (5.08)	
100			.370 (9.40)						
110			.380 (9.65)				.190 (4.83)		
120		.370 (9.40)		.340 (8.64)		.350 (8.89)	.200 (5.08)		
130		.380 (9.65)		.350 (8.89)		.360 (9.14)			.200 (5.08)
150					.350 (8.89)	.360 (9.14)			.210 (5.33)
160	.370 (9.40)		.380 (9.65)		.360 (9.14)	.360 (9.14)		.200 (5.08)	.210 (5.33)
180	.380 (9.65)		.390 (9.91)		.360 (9.14)	.370 (9.40)		.210 (5.33)	.210 (5.33)
200		.380 (9.65)		.350 (8.89)	.360 (9.14)	.370 (9.40)	.200 (5.08)	.210 (5.33)	.220 (5.59)
220		.390 (9.91)		.360 (9.14)	.370 (9.40)	.370 (9.40)	.210 (5.33)	.210 (5.33)	.220 (5.59)
240				.360 (9.14)	.370 (9.40)	.380 (9.65)	.210 (5.33)	.220 (5.59)	.220 (5.59)
250			.390 (9.91)	.360 (9.14)	.370 (9.40)	.380 (9.65)	.210 (5.33)	.220 (5.59)	.220 (5.59)
270	.380 (9.65)		.390 (9.91)	.370 (9.40)	.380 (9.65)	.380 (9.65)	.210 (5.33)	.220 (5.59)	.220 (5.59)
300	.390 (9.91)	.390 (9.91)		.370 (9.40)	.380 (9.65)		.210 (5.33)	.220 (5.59)	
330		.390 (9.91)		.370 (9.40)	.380 (9.65)		.220 (5.59)	.220 (5.59)	
360		.390 (9.91)		.380 (9.65)	.390 (9.91)		.220 (5.59)	.230 (5.84)	
390				.380 (9.65)			.220 (5.59)		
400	.390 (9.91)			.380 (9.65)			.220 (5.59)		
430	.390 (9.91)			.380 (9.65)			.220 (5.59)		
470	.390 (9.91)			.380 (9.65)			.220 (5.59)		
510	.390 (9.91)			.390 (9.91)			.230 (5.84)		
750	.390 (9.91)			.390 (9.91)			.240 (6.12)		
1000	.390 (9.91)			.390 (9.91)			.250 (6.37)		

Dimensions are in inches, with millimeters in parentheses.

NOTE 1. Where dimensions are not given for a particular capacitance, use dimensions for next higher voltage rating or capacitance value.

NOTE 2. RDM-10C "W" dimensions are .500 inches (12.7 mm) for all voltage and capacitance values.

TABLE II

BODY DIMENSIONS FOR STYLE RDM 15 AND 15C

Preferred Capacitance (pF)	L (Maximum)			W (Maximum)			T (Maximum)		
	100 WVDC	300 WVDC	500 WVDC	100 WVDC	300 WVDC	500 WVDC	100 WVDC	300 WVDC	500 WVDC
1– 62			.450 (11.43)			.360 (9.14)			.170 (4.32)
68			↕			↕			.180 (4.57)
75			↕			↕			↕
82			.450 (11.43)			↕			↕
91			.460 (11.68)			↕			↕
100			↕			.360 (9.14)			↕
110			↕			.370 (9.40)			↕
120			↕			↕			↕
130			↕			↕			.180 (4.57)
150			↕			↕			.190 (4.83)
160			↕			↕			↕
180			↕			.370 (9.40)			↕
200			↕			.380 (9.65)			.190 (4.83)
220			↕			↕			.200 (5.08)
240			.460 (11.68)			.380 (9.65)			.200 (5.08)
270			.470 (11.94)			.390 (9.91)			.210 (5.33)
300			↕			↕			↕
330			↕			.390 (9.91)			.210 (5.33)
360			.470 (11.94)			.390 (9.91)			.210 (5.33)
390			.470 (11.94)			.390 (9.91)			.210 (5.33)
430		.460 (11.68)	.470 (11.94)		.380 (9.65)	.390 (9.91)		.200 (5.08)	.210 (5.33)
470		.460 (11.68)	.470 (11.94)		↕	.400 (10.16)		.200 (5.08)	.220 (5.59)
510		.460 (11.68)	.470 (11.94)		.380 (9.65)	.400 (10.16)		.200 (5.08)	.220 (5.59)
560		.460 (11.68)	.480 (12.20)		.380 (9.65)	.410 (10.41)		.200 (5.08)	.230 (5.84)
620		.460 (11.68)	.480 (12.20)		.380 (9.65)	.410 (10.41)		.200 (5.08)	.230 (5.84)
680		.470 (11.94)	.490 (12.48)		.390 (9.91)	.420 (10.67)		.210 (5.33)	.240 (6.10)
750		.470 (11.94)	.500 (12.70)		.390 (9.91)	.430 (10.92)		.210 (5.33)	.250 (6.35)
820	.470 (11.94)	.470 (11.94)		.390 (9.91)	.390 (9.91)		.210 (5.33)	.210 (5.33)	
910	.470 (11.94)	.470 (11.94)		.400 (10.16)	.400 (10.16)		.220 (5.59)	.220 (5.59)	
1000	.480 (12.20)	.480 (12.20)		.400 (10.16)	.400 (10.16)		.230 (5.84)	.230 (5.84)	
1100	.480 (12.20)	.490 (12.48)		.400 (10.16)	.420 (10.67)		.230 (5.84)	.240 (6.10)	
1200	.490 (12.48)	.500 (12.70)		.420 (10.67)	.430 (10.92)		.240 (6.10)	.250 (6.35)	
1300	.500 (12.70)			.430 (10.92)			.250 (6.35)		
1500	.500 (12.70)			.430 (10.92)			.250 (6.35)		

Dimensions are in inches, with millimeters in parentheses.

NOTE 1. Where dimensions are not given for a particular capacitance, use dimensions for next higher voltage rating or capacitance value.

NOTE 2. RDM-15C "W" dimensions are .500 inches (12.7 mm) for all voltage and capacitance values.

TABLE III

BODY DIMENSIONS FOR STYLE RDM 19 AND 19C

Preferred Capacitance (pF)	L (Maximum)			W (Maximum)			T (Maximum)		
	100 WVDC	300 WVDC	500 WVDC	100 WVDC	300 WVDC	500 WVDC	100 WVDC	300 WVDC	500 WVDC
47- 330			.640 (16.26)			.500 (12.70)			.190 (4.83)
360			↕			.510 (12.95)			.200 (5.08)
390						↕			↕
430									
470			.640 (16.26)						
510			.650 (16.51)						
560			↕						.200 (5.08)
620									.210 (5.33)
680									↕
750									
820									
910						.510 (12.95)			.210 (5.33)
1000						.520 (13.21)			.220 (5.59)
1100			.650 (16.51)			↕			↕
1200			.660 (16.78)						
1300			.660 (16.78)						.220 (5.59)
1500			.660 (16.78)			.520 (13.21)			.230 (5.84)
1600			.660 (16.78)			.530 (13.46)			.230 (5.84)
1800			.670 (17.02)			↕			.240 (6.10)
2000			↕						.240 (6.10)
2200						.530 (13.46)			.250 (6.35)
2400			.670 (17.02)			.540 (13.72)			.260 (6.60)
2700			.680 (17.27)			.540 (13.72)			.270 (6.86)
3000			↕			.550 (13.97)			.280 (7.11)
3300		.670 (17.02)			.540 (13.72)	.550 (13.97)		.260 (6.60)	.290 (7.37)
3600		.680 (17.27)	.680 (17.27)		.540 (13.72)	.560 (14.22)		.270 (6.86)	.300 (7.62)
3900		↕	.690 (17.53)		.540 (13.72)	.560 (14.22)		.270 (6.86)	.310 (7.87)
4300			.690 (17.53)		.550 (13.97)	.570 (14.48)		.280 (7.11)	.330 (8.38)
4700			.700 (17.78)		.550 (13.97)	.580 (14.73)		.290 (7.37)	.350 (8.89)
5100			.710 (18.03)		.550 (13.97)	.590 (14.99)		.300 (7.62)	.370 (9.40)
5600		.680 (17.27)			.560 (14.22)			.310 (7.87)	
6200	.690 (17.53)	.690 (17.53)		.560 (14.22)	.560 (14.22)		.310 (7.87)	.320 (8.13)	
6800	.690 (17.53)	.690 (17.53)		.570 (14.48)	.570 (14.48)		.320 (8.13)	.330 (8.38)	
7500	.700 (17.78)			.570 (14.48)			.340 (8.64)		
8200	.700 (17.78)			.580 (14.73)			.350 (8.89)		

Dimensions are in inches. Millimeters are in parentheses.

NOTE 1. Where dimensions are not given for a particular capacitance, use dimensions for next higher voltage rating or capacitance value.

NOTE 2. RDM 19C "W" dimensions are .672 inches (17.07 mm) for all voltage and capacitance values.

TABLE IV

BODY DIMENSIONS FOR STYLE RDM 20 AND 20C

Preferred Capacitance (pF)	L (Maximum)			W (Maximum)			T (Maximum)		
	100 WVDC	300 WVDC	500 WVDC	100 WVDC	300 WVDC	500 WVDC	100 WVDC	300 WVDC	500 WVDC
47- 100			.750 (19.05)			.500 (12.70)			.180 (4.57)
200			↕			↕			.190 (4.83)
300			↕			↕			↕
430			↕			↕			↕
510			↕			↕			↕
620			↕			.500 (12.70)			.190 (4.83)
750			↕			.510 (12.95)			.200 (5.08)
820			↕			↕			↕
910			↕			↕			↕
1000			↕			↕			↕
1100			↕			↕			↕
1200			↕			↕			.200 (5.08)
1300			↕			↕			.210 (5.33)
1500			.750 (19.05)			↕			.210 (5.33)
1600			.760 (19.30)			.510 (12.95)			.210 (5.33)
1800			.760 (19.30)			.520 (13.21)			.220 (5.59)
2000			.760 (19.30)			.520 (13.21)			.220 (5.59)
2200			.760 (19.30)			.520 (13.21)			.220 (5.59)
2400			.770 (19.56)			.530 (13.46)			.250 (6.35)
2700			.770 (19.56)			.540 (13.72)			.260 (6.60)
3000			.770 (19.56)			.540 (13.72)			.270 (6.86)
3300			.780 (19.81)			.550 (13.97)			.280 (7.11)
3600			.780 (19.81)			.550 (13.97)			.290 (7.37)
3900			.780 (19.81)			.560 (14.22)			.300 (7.62)
4300		.770 (19.56)	.780 (19.81)		.540 (13.72)	.560 (14.22)		.270 (6.86)	.310 (7.87)
4700		.770 (19.56)	.790 (20.07)		.540 (13.72)	.560 (14.22)		.270 (6.86)	.320 (8.13)
5100		.780 (19.81)	.790 (20.07)		.550 (13.97)	.570 (14.48)		.280 (7.11)	.330 (8.38)
5600		.780 (19.81)	.790 (20.07)		.550 (13.97)	.570 (14.48)		.290 (7.37)	.340 (8.64)
6200	.780 (19.82)	.780 (19.81)	.790 (20.07)	.550 (13.97)	.560 (14.22)	.580 (14.73)	.290 (7.37)	.300 (7.62)	.350 (8.89)
6800	.780 (19.81)	.790 (20.07)	.800 (20.32)	.560 (14.22)	.560 (14.22)	.590 (14.99)	.300 (7.62)	.320 (8.13)	.370 (9.40)
7500	.780 (19.81)	.790 (20.07)	.800 (20.32)	.560 (14.22)	.570 (14.48)	.600 (15.24)	.300 (7.62)	.330 (8.38)	.390 (9.91)
8200	.780 (19.81)	.790 (20.07)	.810 (20.57)	.560 (14.22)	.570 (14.48)	.610 (15.49)	.310 (7.87)	.340 (8.64)	.410 (10.41)
9100	.790 (20.07)	.800 (20.32)	.810 (20.57)	.570 (14.48)	.580 (14.73)	.620 (15.74)	.330 (8.38)	.360 (9.14)	.430 (10.92)
10000	.790 (20.07)	.800 (20.32)	.820 (20.83)	.570 (14.48)	.590 (14.99)	.630 (15.99)	.340 (8.64)	.370 (9.40)	.450 (11.43)
11000	.790 (20.07)	.800 (20.32)		.580 (14.73)	.590 (14.99)		.350 (8.89)	.380 (9.65)	
12000	.800 (20.32)	.810 (20.57)		.580 (14.73)	.600 (15.24)		.360 (9.14)	.400 (9.91)	
13000	.800 (20.32)			.590 (14.99)			.380 (9.65)		
15000	.810 (20.57)			.600 (15.24)			.400 (9.91)		
16000	.810 (20.57)			.610 (15.49)			.410 (10.41)		
18000	.820 (20.83)			.620 (15.74)			.440 (11.18)		

Dimensions are in inches, and millimeters are in parentheses.

NOTE 1. Where dimensions are not given for a particular capacitance, use dimensions for next higher voltage rating or capacitance value.

NOTE 2. RDM 20C "W" dimensions are .687 inches (17.45 mm) for all voltage and capacitance values.

TABLE V

BODY DIMENSIONS FOR STYLE RDM 30 AND 30C

Preferred Capacitance (pF)	L (Maximum)			W (Maximum)			T (Maximum)		
	100 WVDC	300 WVDC	500 WVDC	100 WVDC	300 WVDC	500 WVDC	100 WVDC	300 WVDC	500 WVDC
470-1000			.760 (19.30)			.840 (21.33)			.230 (5.84)
1100-2000			.770 (19.56)			.850 (21.59)			.240 (6.10)
2200			↑			↕			.250 (6.35)
2400			↕			↕			.250 (6.35)
2700			↕			.850 (21.59)			.250 (6.35)
3000			↕			.860 (21.84)			.250 (6.35)
3300			↕			↕			.260 (6.60)
3600			↓			↕			.260 (6.60)
3900			.770 (19.56)			↕			.260 (6.60)
4300			.780 (19.81)			↕			.270 (6.86)
4700			↑			↕			.270 (6.86)
5100			↕			.860 (21.84)			.280 (7.11)
5600			↕			.870 (22.10)			.290 (7.37)
6200			↕			.870 (22.10)			.290 (7.37)
6800			.780 (19.81)			.870 (22.10)			.300 (7.62)
7500		.780 (19.81)	.790 (20.07)		.860 (21.84)	.880 (22.35)		.270 (6.86)	.310 (7.87)
8200		↕	.790 (20.07)		.860 (21.84)	.880 (22.35)		.280 (7.11)	.320 (8.18)
9100		↕	.790 (20.07)		.870 (22.10)	.880 (22.35)		.280 (7.11)	.330 (8.38)
10000		↓	.800 (20.32)		.870 (22.10)	.890 (22.61)		.290 (7.37)	.340 (8.64)
11000		.780 (19.81)	.800 (20.32)		.870 (22.10)	.890 (22.61)		.300 (7.62)	.350 (8.89)
12000		.790 (20.07)	.800 (20.32)		.880 (22.35)	.890 (22.61)		.310 (7.87)	.350 (9.14)
13000		.790 (20.07)	.810 (20.57)		.880 (22.35)	.890 (22.61)		.310 (7.87)	.370 (9.40)
15000		.790 (20.07)	.810 (20.57)		.880 (22.35)	.900 (22.86)		.330 (8.38)	.390 (9.91)
16000		.800 (20.32)	.820 (20.83)		.890 (22.61)	.900 (22.86)		.340 (8.64)	.410 (10.41)
18000		.800 (20.32)	.820 (20.83)		.890 (22.61)	.910 (23.11)		.360 (9.14)	.430 (10.92)
20000		.810 (20.57)	.830 (21.08)		.890 (22.61)	.920 (23.37)		.370 (9.40)	.450 (11.43)
22000	.810 (20.57)	.810 (20.57)	.840 (21.83)	.890 (22.61)	.900 (22.86)	.930 (23.62)	.370 (9.40)	.390 (9.91)	.480 (12.19)
24000	.810 (20.57)	.820 (20.83)		.900 (22.86)	.900 (22.86)		.380 (9.65)	.410 (10.41)	
27000	.810 (20.57)	.820 (20.83)		.900 (22.86)	.910 (23.11)		.400 (10.16)	.430 (10.92)	
30000	.820 (20.83)	.830 (21.08)		.910 (23.11)	.920 (23.37)		.420 (10.67)	.460 (11.68)	
33000	.830 (21.08)			.910 (23.11)			.440 (11.17)		
36000	.830 (21.08)			.920 (23.37)			.450 (11.43)		
39000	.830 (21.08)			.920 (23.37)			.470 (11.94)		
40000	.840 (21.33)			.920 (23.37)			.470 (11.94)		

Dimensions are in inches, and millimeters are in parentheses.

NOTE 1. Where dimensions are not given for a particular capacitance, use dimensions for next higher voltage rating or capacitance value.

NOTE 2. RDM-30C "W" dimensions are 1.031 inches (26.19 mm) for all voltage and capacitance values.

TABLE VI

BODY DIMENSIONS FOR STYLE RDM 42 AND 42C

Preferred Capacitance (pF)	L (Maximum)			W (Maximum)			T (Maximum)		
	100 WVDC	300 WVDC	500 WVDC	100 WVDC	300 WVDC	500 WVDC	100 WVDC	300 WVDC	500 WVDC
3300			1.410 (35.81)			.870 (22.10)			.280 (7.11)
16000			1.410 (35.81)			.870 (22.10)			.280 (7.11)
18000			1.410 (35.81)			.870 (22.10)			.290 (7.37)
20000			1.420 (36.07)			.870 (22.10)			.300 (7.62)
22000		1.420 (36.07)	1.420 (36.07)		.870 (22.10)	.880 (22.35)		.290 (7.37)	.310 (7.87)
24000		1.420 (36.07)	1.430 (36.32)		.870 (22.10)	.880 (22.35)		.300 (7.62)	.320 (8.13)
27000	1.410 (35.81)	1.420 (36.07)	1.430 (36.32)	.870 (22.10)	.880 (22.35)	.880 (22.35)	.280 (7.11)	.310 (7.87)	.330 (8.38)
30000	1.420 (35.81)	1.430 (36.32)	1.440 (36.58)	.870 (22.10)	.880 (22.35)	.890 (22.61)	.290 (7.37)	.320 (8.13)	.350 (8.89)
33000	1.420 (36.07)	1.430 (36.32)	1.440 (36.58)	.870 (22.10)	.880 (22.35)	.890 (22.61)	.300 (7.62)	.340 (8.64)	.360 (9.14)
36000	1.420 (26.07)	1.440 (36.58)	1.450 (36.83)	.880 (22.35)	.890 (22.61)	.900 (22.86)	.310 (7.87)	.350 (8.89)	.380 (9.65)
39000	1.430 (36.32)	1.440 (36.58)	1.450 (36.83)	.880 (22.35)	.890 (22.61)	.900 (22.86)	.320 (8.13)	.360 (9.14)	.400 (10.16)
43000	1.430 (36.32)	1.450 (36.83)	1.460 (37.08)	.880 (22.35)	.900 (22.86)	.910 (23.11)	.330 (8.38)	.370 (9.40)	.420 (10.67)
47000	1.430 (36.32)	1.450 (36.83)	1.470 (37.34)	.890 (22.61)	.900 (22.86)	.910 (23.11)	.340 (8.64)	.390 (9.91)	.450 (11.43)
51000	1.440 (36.58)	1.460 (37.08)	1.480 (37.59)	.890 (22.61)	.900 (22.86)	.920 (23.37)	.360 (9.14)	.400 (10.16)	.470 (11.94)
56000	1.440 (36.58)	1.460 (37.08)		.900 (22.86)	.910 (23.11)		.370 (9.40)	.420 (10.67)	
62000	1.450 (36.83)	1.470 (37.34)		.900 (22.86)	.920 (23.37)		.390 (9.91)	.450 (11.43)	
68000	1.460 (37.08)	1.480 (37.59)		.900 (22.86)	.920 (23.37)		.410 (10.40)	.470 (11.94)	
75000	1.470 (37.34)			.910 (23.11)			.440 (11.18)		
82000	1.480 (37.59)			.920 (23.37)			.460 (11.68)		
91000	1.500 (38.10)			.940 (23.88)			.490 (12.35)		
100000	1.500 (38.10)			.940 (23.88)			.490 (12.35)		

Dimensions are in inches, and millimeters in parentheses.

NOTE 1. Where dimensions are not given for a particular capacitance, use dimensions for next higher voltage rating or capacitance value.

NOTE 2. RDM-42C "W" dimensions are 1.062 inches (26.97 mm) for all voltage and capacitance values.

4. STANDARD RATINGS

4.1 Molded Case Style and Capacitance Ranges

Case Style	DC Working Voltage	Capacitance Range, pf See Preferred Values, 4.3
RCM 15	100	1- 1000
	300	1- 820
	500	1- 510
RCM 20	100	47- 5100
	300	47- 4700
	500	47- 3300
	1000	1- 1500
RCM 30	100	470-15000
	300	470-12000
	500	470- 7500
	1000	470- 3000
RCM 35	100	3300-20000
	300	3300-16000
	500	3300-10000
	1000	2700- 5700

4.2 Dipped Case Style and Capacitance Ranges

Case Style	DC Working Voltage	Capacitance Range, pf See Preferred Values, 4.3
RDM 10 and 10 C	100	1- 1000
	300	1- 360
	500	1- 270
RDM 15 and 15 C	100	1- 1500
	300	1- 1200
	500	1- 750
RDM 19 and 19 C	100	47- 8200
	300	47- 6800
	500	47- 5100
	1000	1- 3000
RDM 20 and 20 C	100	47-18000
	300	47-12000
	500	47-10000
	1000	1- 5600

Case Style	DC Working Voltage	Capacitance Range, pf See Preferred Values, 4.3
RDM 30 and 30 C	100	470-40000
	300	470-30000
	500	470-22000
	1000	470-12000
RDM 42 and 42 C	100	3300-100000
	300	3300- 68000
	500	3300- 51000
	1000	3000- 32000

TABLE VII

AVAILABILITY OF CHARACTERISTICS FOR MOLDED & DIPPED STYLES

Case Size	Characteristics	Minimum Capacitance For Characteristics
RCM 15	B, C D, E F	All Values as Listed 27 pf 51 pf
RCM 20	B, C D, E F	All Values as Listed 110 pf 200 pf
RCM 30 RCM 35	D, C, D, E, F	All Values as Listed
RDM 10, 10 C RDM 15, 15 C	C D, E F	All Values as Listed 18 pf 91 pf
RDM 19, 19 C RDM 20, 20 C	C D, E F	All Values as Listed 180 pf 560 pf
RDM 30, 30 C	C, D, E, F	All Values as Listed
RDM 42, 42 C	C, D, E, F	All Values as Listed

4.3 Capacitance Values

Minimum and maximum and intermediate capacitance ranges for each style are available as outlined in Paragraph 4.1 and 4.2.

4.3.1 Where capacitance values make it necessary to specify decimal or three-significant-figure capacitance values, the type designation described in Paragraph 3.0 shall be modified as follows: The three digits representing capacitance shall be increased to four, and the letter "R" shall be used to designate the decimal position.

Example: 9.2 pf = 09R2
36.1 pf = 36R1
196.0 pf = 196R

These values cannot be color coded and the manufacturer and user shall agree on ink stamping of the type designation, color coding to the nearest standard value, or special, suitable marking.

4.4 Characteristics

Characteristic	Temperature Coefficient of Capacitance (ppm/°C)	Maximum Capacitance Drift
B	Not Specified	Not Specified
C	± 200	± (0.5% + 0.1 pf)
D	± 100	± (0.3% + 0.1 pf)
E	−20 to + 100	± (0.1% + 0.1 pf)
F	0 to + 70	± (0.05% + 0.1 pf)

4.5 Capacitance Tolerances

Letter Designation	Tolerance
E	± 1/2%
F	± 1
G	± 2
J	± 5
K	± 10
M	± 20

Note: No tolerance need be closer than ± 0.5 pf.

4.6 Operating Temperature Ranges

Letter Designation	Range
N	−55°C to + 85°C
O	−55°C to +125°C

5. MARKING

5.1 Molded Styles

5.1.1 For N temperature range, six dot color coding (See Figure 3) or inkstamping of the type designation (See 3.0) may be used. Since the six dot color system has no provision for specifying working voltage, all 500 WVDC units will not be marked, but all other voltages will be identified by stamping the full voltage, followed by the letters V or WV, in a suitable location on the body of the capacitor.

5.1.2 Where space is limited, stamping of the RCM designation and the two case-size-identification digits, may be omitted.

5.1.3 The type designation, when stamped, may be divided into two lines if the division is made after the characteristic.

Example: RCM15F391J5N

RCM15F
391J5N

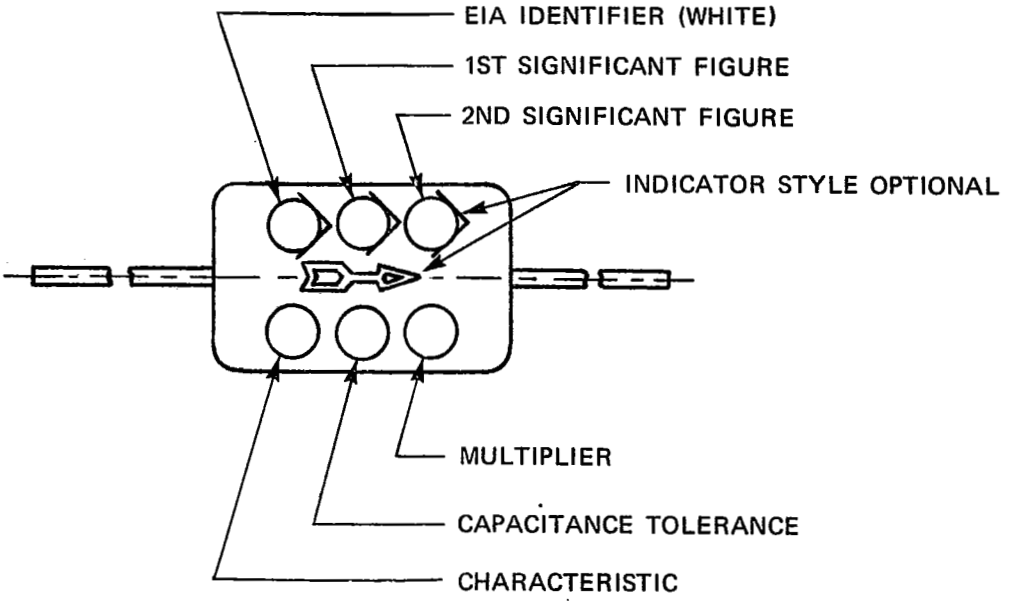
5.1.4 All 0 temperature range capacitors shall be marked either by ink stamping the type designation (See 3.0) or color coding (See Figure 4) with the nine dot system. Paragraphs 5.1.2 and 5.1.3 above also apply to marking of these capacitors.

5.2 Dipped Styles

All dipped styles shall be identified with legible and durable ink stamping.

5.2.1 The minimum marking shall consist of:
Manufacturer's name or symbol
Nominal capacitance in pF
Capacitance tolerance and percent symbol
(use of ± symbol or letter designation for the tolerance is optional.)
DC working voltage, followed by the letters V or WV, if other than 500 WVDC.

5.2.2 The manufacturer's name or symbol and DC working voltage may be stamped anywhere on the case, but the location of the capacitance and tolerance markings shall be as shown in Figure 2, and shall be arranged so that they will not be confused with other marking.



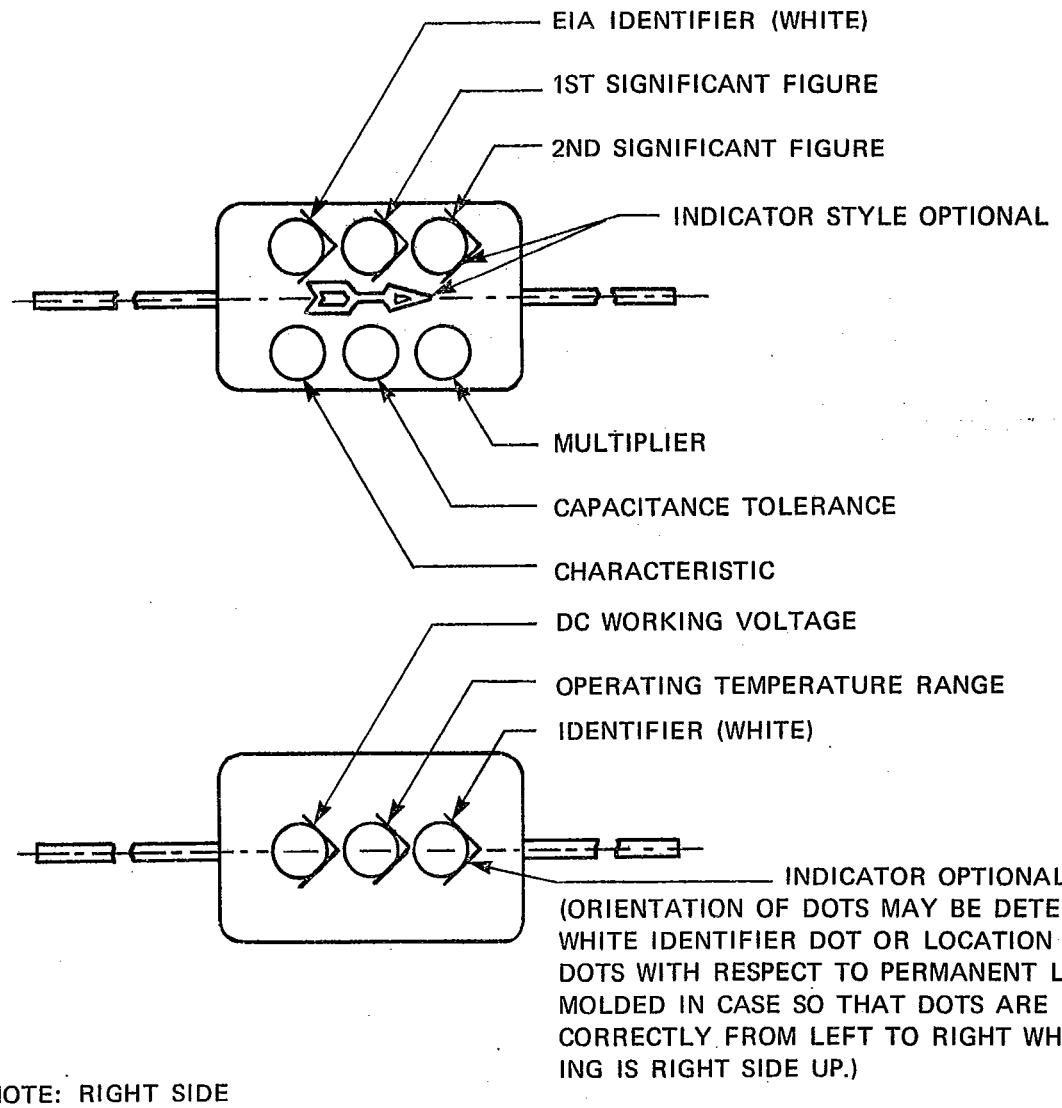
NOTE:

THE MULTIPLIER IS THE FACTOR BY WHICH THE TWO SIGNIFICANT FIGURES ARE MULTIPLIED TO YIELD THE NOMINAL CAPACITANCE.

Color	Characteristic	Capacitance		Capacitance Tolerance
		1st & 2nd Significant Figures	Multiplier (See Note 1)	
Black		0	1	± 20% (M)
Brown	B	1	10	± 1% (F)
Red	C	2	100	± 2% (G)
Orange	D	3	1000	
Yellow	E	4	10000	
Green	F	5		± 5% (J)
Blue		6		
Purple		7		
Gray		8		
White		9		
Gold			0.1	± 1/2% (E)
Silver			0.01	± 10% (K)

FIGURE 3

STANDARD SIX-DOT COLOR SYSTEM



NOTE: RIGHT SIDE

THE MULTIPLIER IS THE FACTOR BY WHICH THE TWO SIGNIFICANT FIGURES ARE MULTIPLIED TO YIELD THE NOMINAL CAPACITANCE.

Color	Characteristic	Capacitance		Capacitance Tolerance	Rated DC Voltage	Operating Temperature Range
		1st & 2nd Significant Figures	Multiplier (See Note)			
Black		0	1	±20% (M)		
Brown	B	1	10	±1% (F)	100	
Red	C	2	100	±2% (G)		(N) −55° to +85°C
Orange	D	3	1000		300	
Yellow	E	4	10000			(O) −55° to +125°C
Green	F	5		±5% (J)	500	
Blue		6				
Purple		7				
Gray		8				
White		9				
Gold			0.1	±1/2% (E)	1000	
Silver			0.01	±10% (K)		

FIGURE 4

STANDARD NINE-DOT COLOR SYSTEM

6. QUALITY LEVELS, ELECTRICAL, MECHANICAL, AND ENVIRONMENTAL REQUIREMENTS

6.1 Quality Levels

Table VIII shows the suggested order of tests to be performed on statistical samples selected from production lots as agreed between manufacturer and user, and the suggested applicable AQL values.

The statistical sample is to be divided into groups, as shown, after all the samples have been tested for the requirements in Group 1 and 2. The quantities to be submitted to the tests in Groups 3, 4, and 5 shall be determined by agreement between the manufacturer and user. The frequency of testing is to be negotiated between supplier and user.

All sampling should be in accordance with MIL-STD-105.

Sampling of production shall be carried out on a suitable rotational basis so as to include all values of capacitance, case, size, and voltage ratings purchased over a reasonable period of time.

TABLE VIII – ORDER OF TESTS AND AQL VALUE OF FIGURE

Test and Requirement Paragraph	Test	AQL (Acceptable Quality Level)	Group
6.3	Visual and Mechanical Examination	1.5%	1
6.6	Capacitance	.65%	2
6.7	Dissipation Factor		
6.5	Insulation Resistance at Room Temperature		
6.4	Dielectric Withstanding Voltage		
6.13	Insulation Resistance at Applicable High Temperature	2.5%	3
6.8	Temperature Coefficient and Capacitance Drift		
6.14	Life Test		
6.15	Temperature and Immersion Cycling	2.5%	4
6.12	Solderability	2.5%	5
6.16	Shock (Medium-Impact)		
6.9	Terminal Strength		
6.10	Moisture Resistance		

6.2 Standard Test Conditions

Unless otherwise specified, parameter measurements shall be made under the following conditions:

Temperature ..... 25°C +10°C, –5°C
Relative Humidity ..... 80%, maximum
Barometric Pressure ..... 28 to 32 inches of mercury

6.3 Visual and Mechanical Examination

Inspection shall be made for the following:

6.3.1 Conformance to dimensional details as shown on applicable drawings.

6.3.2 Legibility and correctness of marking.

6.3.3 Cracks, voids, or surface defects affecting seal of capacitors.

6.3.4 Pinched wire leads.

NOTE: Defects may be classified as major or minor, by user, as related to end use.

6.4 Dielectric Withstanding Voltage

6.4.1 Test: Under standard conditions, a DC potential equal to 200% of the rated DC working voltage shall be applied for 1-5 seconds, with the surge current limited to 5 milliamperes.

6.4.2 Requirement: The capacitors shall show no evidence of arcing, breakdown, or physical damage.

6.5 Insulation Resistance

6.5.1 Test: Under standard conditions, each capacitor shall be electrified for not more than 60 seconds with a DC voltage between 85 volts and the rated DC voltage, before reading the insulation resistance.

6.5.2 Requirement: Insulation Resistance

Initial room temperature readings (25°C ± 5°C) per MIL-C-5D.
0-20,000 pf ..... 50 k megohms
20,000 pf & greater ..... 1,000 Ohm-Farads

6.6 Capacitance

6.6.1 Test: Capacitance shall be measured at a frequency of 1 MHz ± 10% when the capacitance is 1,000 pf and less, and at a frequency of 1 kHz ± 10% when the capacitance is greater

than 1,000 pf. Capacitance measurements shall be made at standard test conditions and need not be more accurate than ± (0.2% + 0.5 pf).

6.6.2 Requirements: Capacitance values shall be within the tolerance specified.

NOTE 1 – Where disagreement between user and manufacturer exists due to equipment accuracy or measurement technique, suitable standards may be exchanged or allowance made for borderline readings according to an agreed formula.

6.7 Dissipation Factor

6.7.1 Test: Standard test conditions will prevail during the test. Dissipation factor shall be measured at a frequency of 1 MHz ± 1,000 Hz when the nominal capacitance is 1,000 pf or less, and 1 kHz ± 100 Hz when the nominal capacitance is greater than 1,000 pf. Measurement accuracy shall be within ± 2.0% of the dial reading or ± .0005 dissipation factor, whichever is greater. Frequency accuracy shall be ± 1.0%.

6.7.2 Requirement: Dissipation factor shall not exceed the applicable value shown on Figure 5.

6.8 Temperature Coefficient and Capacitance Drift

6.8.1 Test: Capacitance measurements shall be taken in accordance with 6.6.1. A frequency of 100 kHz ± 1% may be used as an alternate measurement frequency for all capacitance values. Capacitor measurements shall be taken at the following temperatures and in the order listed. The measurement at each temperature shall be recorded when two successive readings taken at five-minute intervals indicates no change in capacitance. An accuracy of (.025% of nominal capacitance + .05 pf) shall be maintained.

6.8.2 Qualification Testing

Temperature °C	Temperature °C	Maximum High Temperature Limit
25 ± 2	$85 \pm \begin{smallmatrix}2\\0\end{smallmatrix}$	For capacitors with "N" Temperature Range
$-55 \pm \begin{smallmatrix}0\\2\end{smallmatrix}$	$125 \pm \begin{smallmatrix}2\\0\end{smallmatrix}$	For capacitors with "O" Temperature Range
−40 ± 2		
−10 ± 2		
25 ± 2	25 ± 2	
45 ± 2		
65 ± 2		
$70 \pm \begin{smallmatrix}3\\0\end{smallmatrix}$		

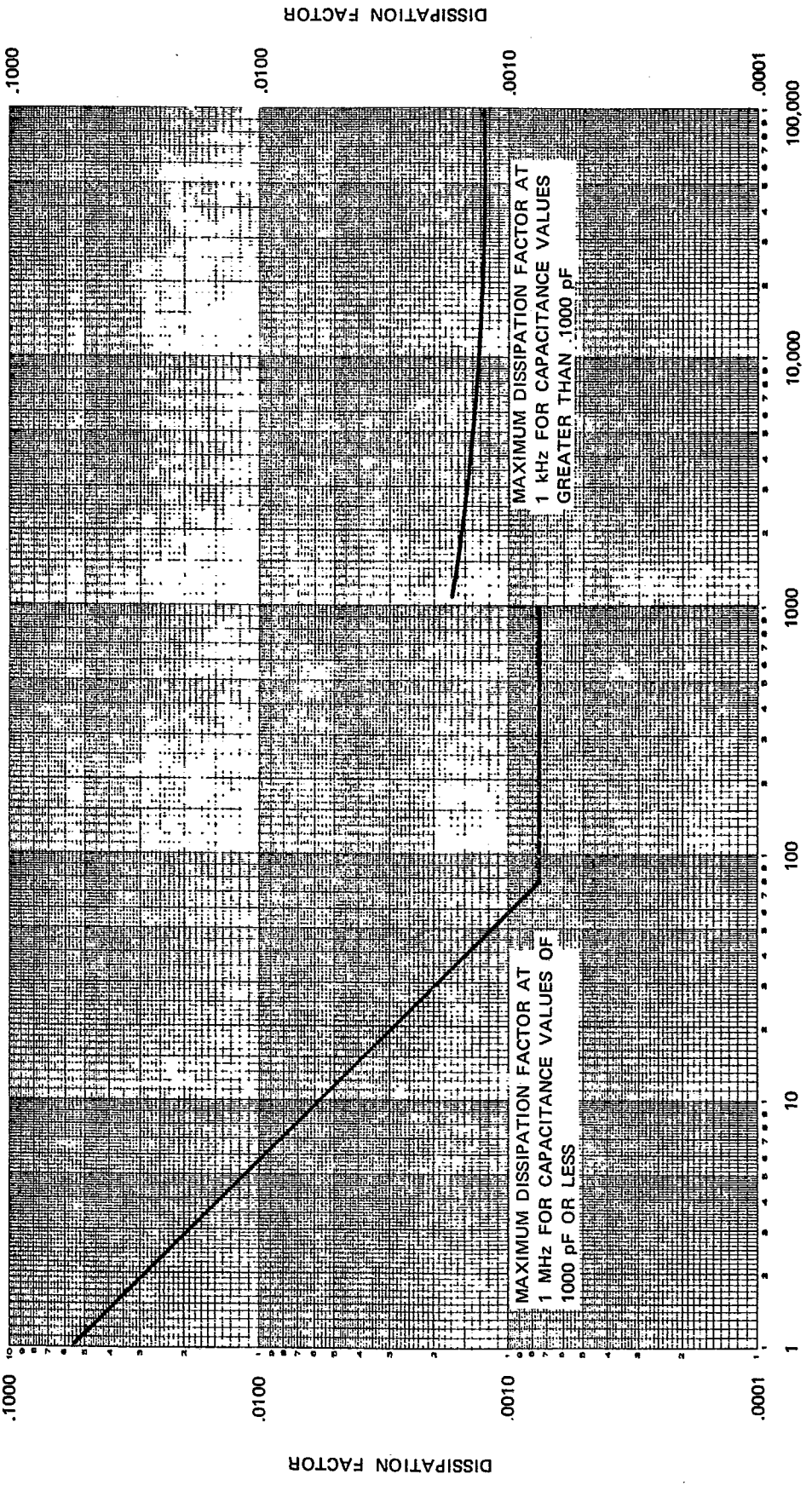


FIGURE 5 – DISSIPATION FACTOR

Lot Acceptance or Production Testing

Temperature °C	Temperature °C
+25 ± 2	$+85 \pm \frac{2}{0}$ or $\pm 125 \pm \frac{2}{0}$ (Applicable High Temperature)
$-55 \pm \frac{0}{2}$	+25 ± 2
+25 ± 2	

6.8.3 Computations

6.8.3.1 Temperature coefficient shall be computed as follows:

$$TC = \frac{(C_2 - C_1)\, 10^6}{(T_2 - T_1)\, C_1}$$

Where: TC = Temperature coefficient in parts per million per degree Celsius.
C_1 = Capacitance at the middle 25°C (reference) temperature in pf.
C_2 = Capacitance at applicable test temperature.
T_1 = 25°C.
T_2 = Test temperature in degrees Celsius.

6.8.3.2 Capacitance drift shall be computed by dividing the greatest single difference between any two of the three values recorded at 25°C by the second value recorded at 25°C.

6.8.4 Requirements: Temperature coefficient and capacitance drift shall meet the requirements outlined in Table VII for characteristics. See 4.4.

6.9 Terminal Strength

6.9.1 Capacitors shall be held by one terminal and a load of five pounds gradually applied to the other terminal. (The capacitor shall not be supported by the body.) The load shall be applied for a minimum time of five seconds. The capacitor shall be examined for looseness of terminals and ruptures on the body of the capacitor.

NOTE: Slight cracking in the immediate area of the lead wire body juncture on dipped wire leads will not constitute a failure so long as the cracking or fractures do not cause failures on the moisture resistance test.

6.9.2 All terminals shall be bent through 90° at a point 1/4 inch from the body of the capacitor, with the radius of the bend approximately 1/32 of an inch. The terminals shall be clamped at 3/64 ± 1/64 of an inch from the bend extending toward the end of the lead wire. The body of the capacitor shall then be rotated about the original axis of the terminal through

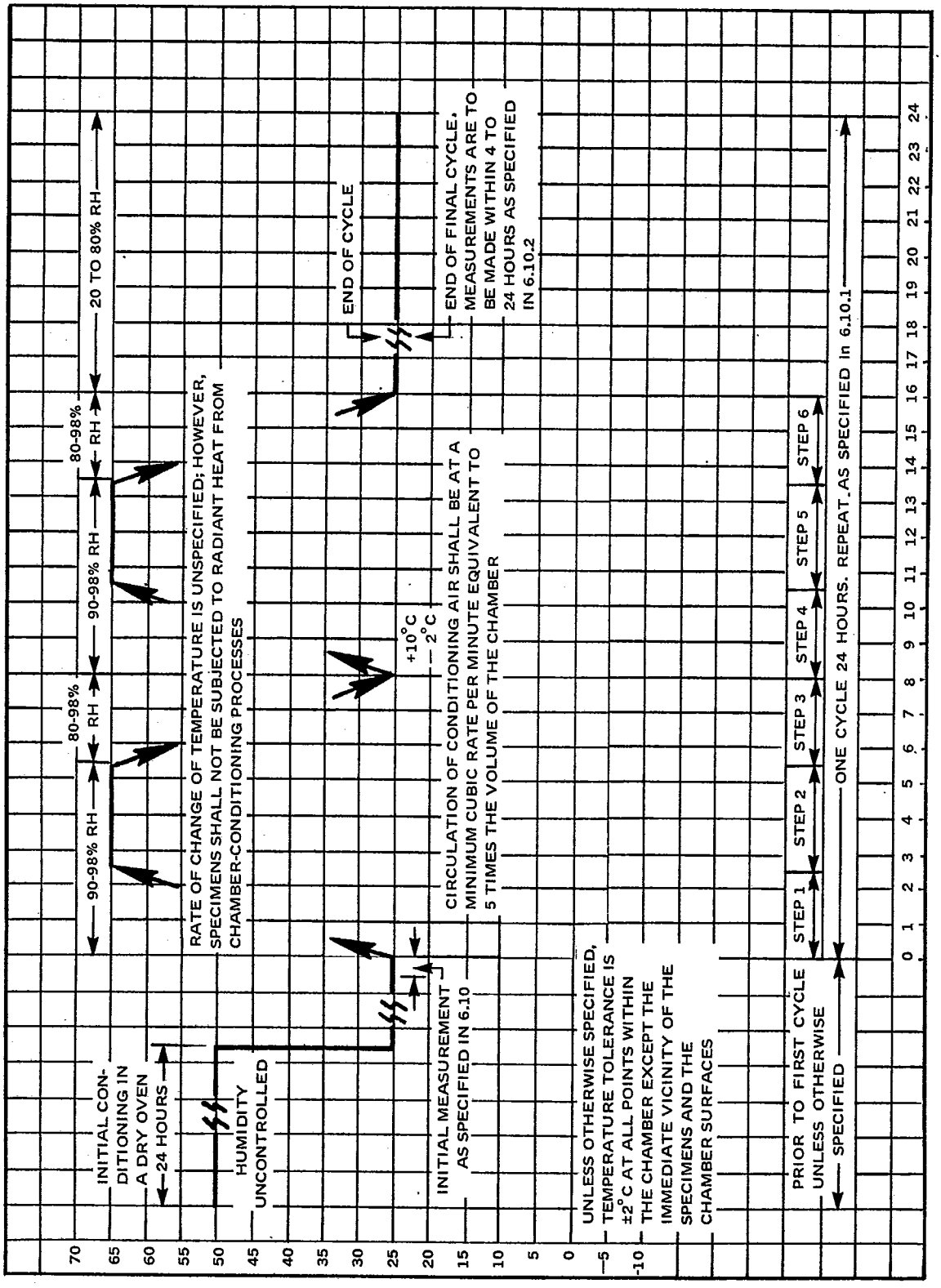


FIGURE 6

GRAPHICAL REPRESENTATION OF MOISTURE RESISTANCE TEST

360 degrees in alternating directions for five 360 degree rotations at the rate of five seconds minimum per rotation.

6.10 Moisture Resistance

6.10.1 Test capacitors to be tested shall be given ten continuous cycles as shown in Figure 6. Initial measurements prior to Step 1 will be made as outlined in 6.4, 6.5, 6.6, and 6.7.

6.10.2 Requirements, after completing the tenth cycle:

6.10.2.1 The insulation resistance, when measured as outlined in 6.5, shall meet or exceed 30% of the initial requirements.

6.10.2.2 Dielectric withstanding voltage shall meet initial requirements as outlined in 6.4.

6.10.2.3 Capacitance, when measured as outlined in 6.6, shall not have changed by more than 1% or 1 pf, whichever is greater

6.10.2.4 Dissipation factor, measured as outlined in 6.7, shall not exceed 150% of the initial requirements.

NOTE: Measurements are to be made within 4 to 24 hours following Step 6, Figure 6.

6.11 Vibration

When required, one of the following tests shall be used to determine the suitability of the capacitors covered by this specification for applications where vibration is encountered.

6.11.1 High-Frequency Test (10-2000 Hz)

The capacitors shall be rigidly mounted by the bodies on an apparatus free from resonances over the test frequency range. The specimens shall be subjected to a harmonic motion having an amplitude of either 0.06 inch double amplitude or 20 G, whichever is less. The tolerance vibration amplitude shall be ± 10%. The vibration frequency shall be varied logarithmically between the approximate limits of 10 and 2000 Hz except that the procedure of 6.11.2 may be applied during the 10 to 55 Hz band of the vibration frequency range. The entire frequency range of 10 to 2000 Hz and return shall be traversed in 20 minutes. This cycle shall be performed 12 times in each of three mutually perpendicular directions.

During the last cycle in each direction, the capacitors shall be monitored electrically to determine whether there are intermittent contacts, or open- or short-circuiting.

6.11.2 Low Frequency Test (10-55 Hz)

The capacitors shall be mounted by their normal means on an apparatus free from resonances over the test-frequency range. Capacitors having a nominal weight of 10 grams or more may

have the body of the capacitor clamped to the vibrating platform in such a manner that the body receives substantially all the acceleration specified. They shall be subjected to a simple harmonic motion having an amplitude of 0.03 inches, the frequency being varied uniformly between the approximate limits of 10 and 55 hertz (Hz). The entire frequency range, from 10 to 55 Hz and return, shall be traversed in approximately one minute. This motion shall be applied for a period of 90 minutes, in each of three mutually perpendicular directions.

During the last three minutes of vibration in each direction, the capacitors shall be monitored electrically to determine whether there are intermittent contacts, or open- or short-circuiting.

6.11.2.1 Requirements: There shall be no intermittent contacts of .5 ms duration or greater, or open- or short-circuits.

6.11.2.2 There shall be no evidence of mechanical damage.

Reference: Method 7 of EIA Standard RS-186, latest issue.

6.12 Solderability

When required, Test Condition 1 of EIA Standard RS-178, latest issue shall be used (dip test). The lead wires on all RCM styles shall be immersed as specified. Lead wires on RDM styles shall be immersed in flux and solder to the R dimension, or beyond, except that only the portion of lead wires from the end of the R dimension to the end of the wires shall be visually examined for solderability.

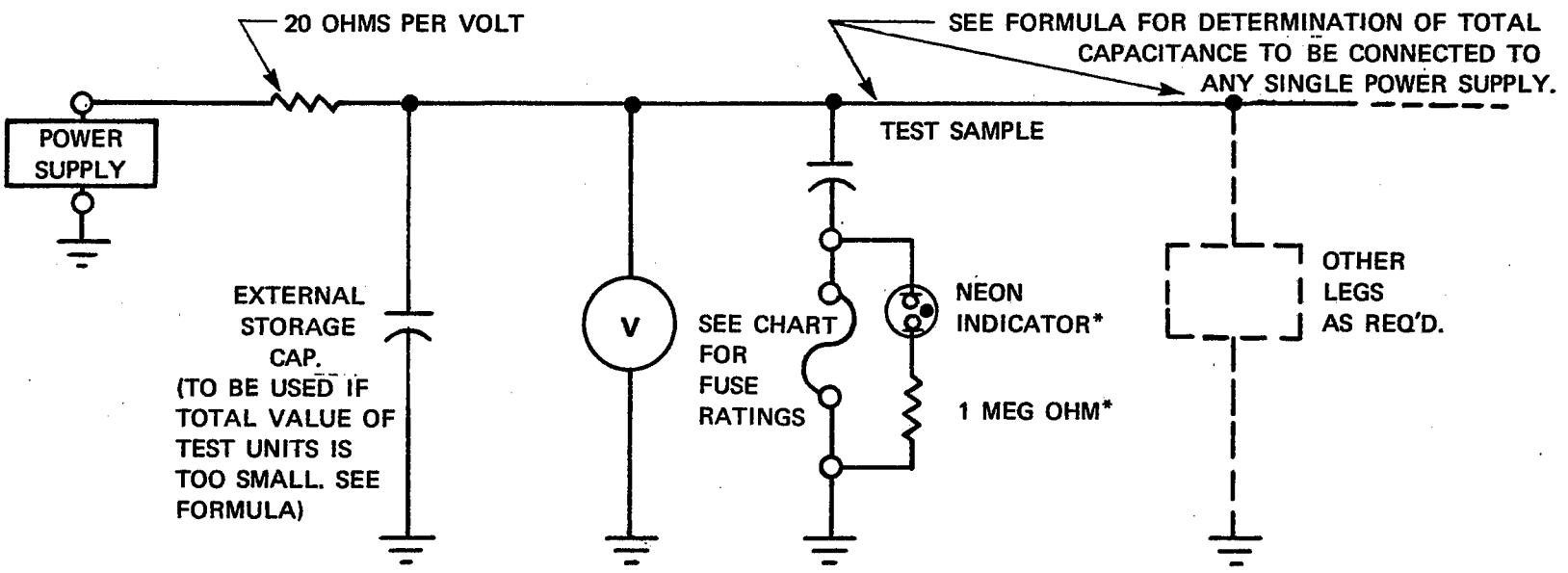
6.13 Insulation Resistance at Elevated Temperature

6.13.1 Test: Insulation resistance shall be measured as required in 6.5 at the maximum rated temperature of the capacitor, ±3°C, where the leakage resistance of the leads and connections shall be reduced to a negligible value.

6.13.2 Requirements: For capacitors rated at 85°C, the insulation resistance shall exceed 15 gigaohms for capacitance values through 5,000 pf. For higher values, the insulation resistance shall exceed 75 megohm-microfarads. For capacitors rated at 125°C, the insulation resistance shall exceed 10 gigaohms for capacitance values through 3,300 pf. For higher values, the insulation resistance shall exceed 30 megohm-microfarads.

6.14 Life

6.14.1 Test: The capacitors shall be subjected to 150% (±2%) of their rated DC voltage for a period of 250 hours +5 −0 hours. The ambient temperature shall be maintained within ± 3°C of the maximum rated temperature of the capacitors. A circuit recommended for this test is shown in Figure 7. (Use of this circuit is optional.)



*NEON INDICATOR AND RESISTOR OPTIONAL

Recommended Fuse Ratings

Fuse Rating Amperes	Blowing Point, Joules	Working Range, Joules	
		Minimum	Maximum
1/16	0.002	0.001	0.0015
1/8	0.016	0.008	0.012
1/4	0.060	0.030	0.045
3/8	0.125	0.063	0.094
1/2	0.187	0.094	0.141

NOTE: TOTAL ENERGY CONTENT OF ALL CAPACITORS CONNECTED TO ANY SINGLE POWER SUPPLY SHALL BE BETWEEN 0.8 AND 0.5 JOULES. THE TOTAL CAPACITANCE MAY BE CALCULATED FROM THE RELATIONSHIP:

$$C = \frac{2W}{E^2}$$

WHERE: C = TOTAL CAPACITANCE IN CIRCUIT IN μF.
W = TOTAL ENERGY CONTENT OF CONNECTED CAPACITORS IN JOULES
E = TEST VOLTAGE IN KILOVOLTS, D.C. (kV)

FIGURE 7
LIFE TEST

6.14.2 Requirements:

6.14.2.1 Any capacitor which opens or short circuits (or blows a fast blow fuse if the optical circuit of Figure 7 is used) shall be considered a failure.

6.14.2.2 Dielectric withstanding voltage as outlined in 6.4.

6.14.2.3 Insulation resistance, when measured as outlined in 6.5, shall meet initial requirements.

6.14.2.4 Capacitance, when measured as shown in 6.6, shall not have changed by more than ± 1% or ± 1 pf, whichever is greater for Characteristics C, D, E, and F, and ± 2% or ± 1 pf, whichever is greater for "B" Characteristic.

6.14.2.5 The dissipation factor measured as in 6.7 shall not exceed 150% of the initial requirements.

NOTE: Samples may be selected on a rotational basis, dependent upon the quantity and "mix" of production, so as to cover all case sizes and ratings within a reasonable period of time.

6.15 Temperature and Immersion Cycling

6.15.1 Test: Separate chambers are to be used for the temperature extremes. Equipment shall be capable of reaching ambient specified extreme temperatures within two minutes after capacitors have been placed in the chambers.

Capacitors shall be placed in such a position with respect to the air stream that there is substantially no obstruction to the flow of air across and around the capacitors. The capacitors shall be subjected to a total of five cycles performed continuously and according to the following table.

	Temperature °C	Time in Minutes
	$-55 \pm {}^{0}_{3}$	30
	$25 \pm {}^{10}_{5}$	10-15
(As applicable)	$85 \text{ or } 125 \pm {}^{3}_{0}$	30
	$25 \pm {}^{10}_{5}$	10-15

6.15.2 Immersion Cycling

6.15.2.1 Test: Capacitors are to be placed in hot tap water 65 +5 −0°C for 15 minutes followed immediately by immersion in tap water at 25 +10 −5°C for 15 minutes. Two such cycles will be required for this test.

Capacitors must be measured within 30 minutes of the last immersion cycle. A clean cloth or an air blast may be used to remove water.

6.15.2.2 Requirements: Capacitors are to meet the following requirements when measured as outlined in 6.4, 6.5, 6.6, 6.7.

Dielectric Withstanding Voltage – 200% of rated voltage for 1-5 seconds with current surge limited to five milliamps.

Insulation Resistance – Shall exceed 30% of initial requirements.

Capacitance Change – Shall not exceed ± 1% or 1 pf, whichever is greater.

Dissipation Factor – Shall not exceed 150% of the initial requirements.

6.16 Shock

6.16.1 Test: Shock test is to be performed per MIL-STD 202C, Method 205C, under Test Condition C, equivalent to 50 G.

Mounting of capacitors shall be by a body-mounting device. During the last rotation in each direction, an electrical measurement shall be made to determine intermittent contacts, opens, or short-circuiting.

6.16.2 Requirements: There shall be no evidence of intermittent contacts, opens, or short-circuiting during the last rotation in each direction.

RELATED EIA STANDARDS

In addition to this Standard, the following EIA Recommended Standards are available on capacitors:

TR-109	Potted Fixed Mica Dielectric Capacitors	$1.60
RS-164-A	Fixed Paper and Fixed Paper Polyester Film Dielectric Capacitors in Non-Metallic Cases for DC Application	$5.80
RS-165-A	Ceramic Dielectric Capacitors, Classes 1 and 2, 1000 through 7500 Volt Rating	$2.70
RS-171	High Voltage Ceramic Dielectric Capacitors, Class 2	$1.00
RS-198-B	Ceramic Dielectric Capacitors, Classes 1, 2 and 3	$8.00
RS-218-A	Metal Encased Fixed Paper Dielectric Capacitors for D.C. Application	$6.20
RS-228-A	Fixed Electrolytic Tantalum Capacitors	$5.80
RS-335	Fixed Composition Capacitors	$3.80
RS-361	Feed-Through Radio Interference Capacitors – Paper, Film and Paper/Film Dielectric	$4.20
RS-376	Fixed Film Dielectric Capacitors in Metallic and Non-Metallic Cases for DC Application	$4.80
RS-377	Metallized Dielectric Capacitors in Metallic and Non-Metallic Cases for Direct Current Application	$4.20
RS-392	Fixed Paper Dielectric Capacitors for Alternating Current Applications	$6.50
RS-395	Polarized Aluminum Electrolytic Capacitors for Long Life (Type 1) and for General Purpose Applications (Type 2)	$5.50

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