



**SERIES 1613**

EFC Series 1613 are metallized polycarbonate capacitors. This series offers the advantage of miniature size, superior stability, self healing, high insulation resistance, low dissipation factor and high frequency operation. Suggested applications include: timing circuits, filters, high current applications. Packaging options include: wrap and fill (TF, TC), radial lead box (EFR), axial lead (EC, EF).

**SPECIFICATIONS**

**1. TEMPERATURE RANGE**

- 55 °C to +125 °C at rated voltage.

**2. CAPACITANCE**

Capacitors  $\leq$  1.0 MFD shall be measured at 1 KHz  $\pm$  20 HZ. Capacitors  $>$ 1.0 MFD shall be measured at 120 HZ. Measurements shall be taken at 25 °C.

**3. DIELECTRIC STRENGTH**

At 25 °C, 150% of rated voltage when applied terminal to terminal for one minute through a current limiting resistance.

**4. INSULATION RESISTANCE**

At 25 °C after 2 minutes charge time at rated voltage or 500 VDC, whichever is less, the minimum IR shall be 50,000 Megohm-Microfarad, but need not exceed 100,000 Megohms for voltages greater than 75 VDC, and 15,000 Megohm-Microfarads, but need not exceed 50,000 Megohms for 75 VDC or less.

**5. HUMIDITY RESISTANCE**

Series 1613 shall meet the requirements of MIL-STD. 202C, Method 103B.

**6. DISSIPATION FACTOR**

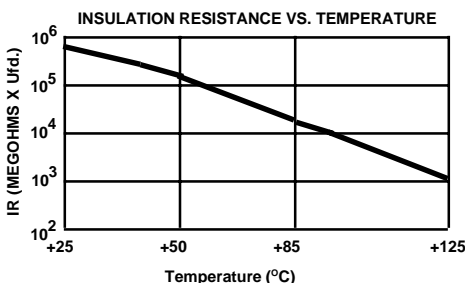
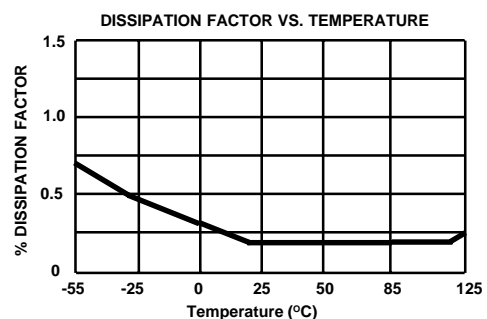
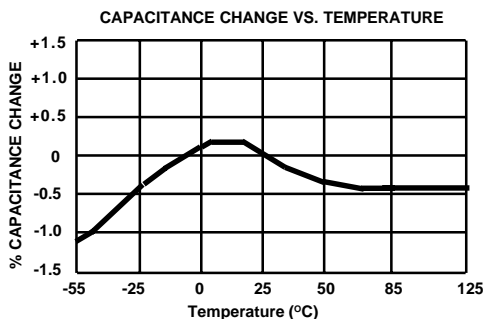
Shall be 0.3 % max. when measured as in Par. 2.

**7. LIFE TEST**

Will withstand the application of 140% rated voltage at +125 °C for 250 hours with not more than one failure in 12 permitted.

**TYPICAL TEMPERATURE CURVES**

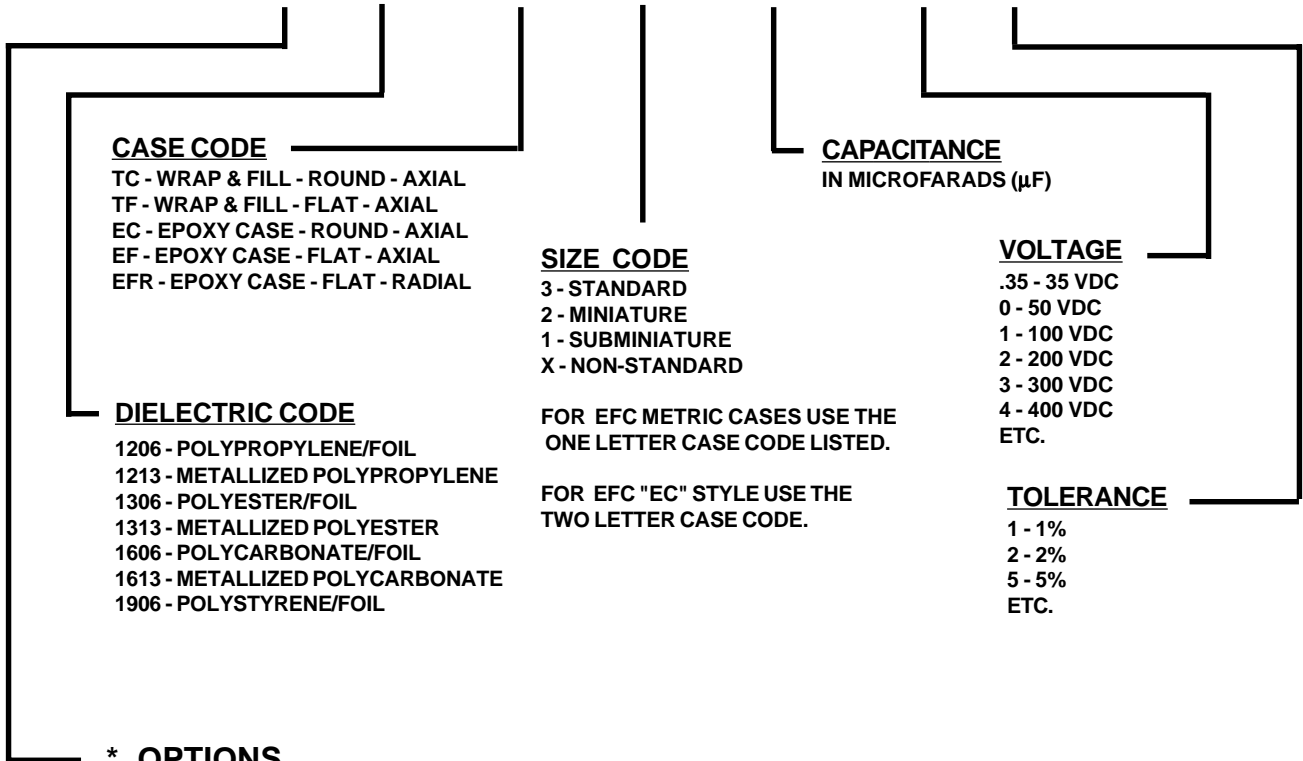
**METALLIZED POLYCARBONATE**





# CATALOG NOMENCLATURE

\* 1613 EFR - 3 - .1 - 1 - 5



THE FOLLOWING OPTIONS ARE AVAILABLE FROM EFC BY SPECIFYING THE APPROPRIATE PREFIX.

### TEMPERATURE COEFFICIENTS:

Different T.C.'s are available in both Polypropylene and Polystyrene dielectrics. T.C.'s and the appropriate prefixes are as follows:

- A1206 = -150 PPM/°C  $\pm$ 30 PPM
- I1206 = -270 PPM/°C  $\pm$ 30 PPM
- 01906 = ZERO PPM/°C  $\pm$ 50 PPM
- A1906 = -80 PPM/°C  $\pm$ 30 PPM
- I1906 = -120 PPM/°C  $\pm$ 30 PPM

### HIGH VOLTAGE:

EFC high voltage metallized polyester capacitors are designed for use in high voltage power supplies, rectifiers and other similar circuits. Voltage ratings to 15,000 DC are common-place at EFC. Specify with the prefix **HV**.

### AC CURRENT:

Specify metallized polyester and termination procedures to enable EFC to supply a small sized **AC** rated capacitor for general purpose use at 60 HZ. Specify with the prefix **AC**.

### HIGH AMPERAGE AND PULSE CURRENTS:

Dual metallized carriers allow these capacitors to handle high amperage and pulsing currents. Available in both polyester and polypropylene dielectrics. Specify with the prefix **MF**. Contact the factory for an **MF** spec. sheet.

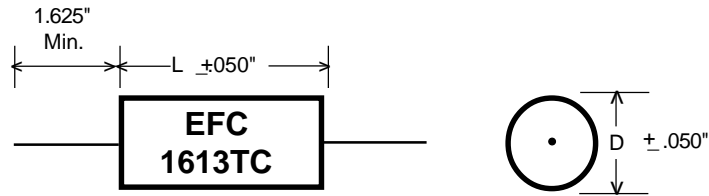
### SWITCH MODE POWER SUPPLY:

Polypropylene and polyester capacitors designed for SMPS have low ESR and high current rating should be specified with the **SP** prefix.

EFC will manufacture to any non-standard value and size. Please consult factory for special requirements.



**1613TC**



**Tubular  
Wrap and Fill**

**Metallized  
Polycarbonate  
Capacitors**

(All dimensions in inches)

**DIMENSIONS and RATINGS**

Cap. μF	1613TC-1 50 VDC		1613TC-2 75 VDC		1613TC-2 100 VDC		1613TC-3 150 VDC		1613TC-3 200 VDC		1613TC-3 400 VDC		1613TC-3 600 VDC	
	D	L	D	L	D	L	D	L	D	L	D	L	D	L
.001	.180	.406	.180	.406	.180	.406	.180	.406	.180	.406	.180	.406	.180	.531
.0012	.180	.406	.180	.406	.180	.406	.180	.406	.180	.406	.180	.406	.180	.531
.0015	.180	.406	.180	.406	.180	.406	.180	.406	.180	.406	.180	.406	.180	.531
.0022	.180	.406	.180	.406	.180	.406	.180	.406	.180	.406	.180	.406	.180	.531
.0027	.180	.406	.180	.406	.180	.406	.180	.406	.180	.406	.180	.406	.180	.531
.0039	.180	.406	.180	.406	.180	.406	.180	.406	.180	.406	.180	.406	.180	.531
.0047	.180	.406	.180	.406	.180	.406	.180	.406	.180	.406	.180	.406	.180	.531
.0056	.180	.406	.180	.406	.180	.406	.180	.406	.180	.406	.180	.406	.190	.531
.0068	.180	.406	.180	.406	.180	.406	.180	.406	.180	.406	.200	.406	.210	.531
.0082	.180	.406	.180	.406	.180	.406	.180	.406	.180	.406	.220	.406	.230	.531
.01	.180	.406	.180	.406	.180	.406	.180	.406	.180	.406	.240	.406	.250	.531
.012	.180	.406	.180	.406	.180	.406	.180	.406	.180	.406	.180	.531	.270	.531
.015	.180	.406	.180	.406	.180	.406	.180	.406	.180	.406	.200	.531	.300	.531
.018	.180	.406	.180	.406	.180	.406	.180	.406	.180	.406	.210	.531	.270	.656
.022	.180	.406	.180	.406	.180	.406	.190	.406	.220	.406	.230	.531	.290	.656
.027	.180	.406	.180	.406	.180	.406	.200	.406	.240	.406	.250	.531	.320	.656
.033	.180	.406	.180	.406	.180	.406	.220	.406	.180	.531	.280	.531	.350	.656
.039	.180	.406	.180	.406	.180	.406	.240	.406	.190	.531	.250	.656	.340	.781
.047	.180	.406	.180	.406	.190	.406	.180	.531	.210	.531	.270	.656	.370	.781
.056	.180	.406	.180	.406	.210	.406	.190	.531	.230	.531	.300	.656	.400	.781
.068	.180	.406	.200	.406	.230	.406	.210	.531	.250	.531	.320	.656	.440	.781
.082	.180	.406	.220	.406	.200	.468	.230	.531	.270	.531	.350	.656	.430	.906
.1	.180	.406	.240	.406	.220	.468	.250	.531	.300	.531	.340	.781	.470	.906
.12	.190	.406	.260	.406	.240	.468	.270	.531	.330	.531	.370	.781	.510	.906
.15	.200	.406	.230	.468	.220	.531	.250	.656	.290	.656	.410	.781	.490	1.190
.18	.220	.406	.250	.468	.240	.531	.270	.656	.320	.656	.400	.906	.530	1.190
.22	.240	.406	.270	.468	.270	.531	.290	.656	.350	.656	.440	.906	.580	1.190
.27	.210	.468	.300	.468	.240	.656	.330	.656	.390	.656	.490	.906	.650	1.190
.33	.230	.468	.330	.468	.260	.656	.360	.656	.370	.781	.540	.906	.630	1.440
.39	.250	.468	.300	.531	.280	.656	.340	.781	.400	.781	.490	1.190	.680	1.440
.47	.230	.531	.330	.531	.310	.656	.370	.781	.390	.906	.540	1.190	.740	1.440
.56	.250	.531	.360	.531	.340	.656	.400	.781	.430	.906	.580	1.190	.770	1.570
.68	.280	.531	.390	.531	.342	.781	.390	.906	.470	.906	.640	1.190	.850	1.570
.82	.300	.531	.350	.656	.350	.781	.430	.906	.440	1.190	.620	1.440	.890	1.690
1.0	.330	.531	.380	.656	.390	.781	.410	1.190	.480	1.190	.680	1.440	.900	1.940
1.25	.300	.656	.430	.656	.430	.781	.450	1.190	.540	1.190	.760	1.440	1.000	1.940
1.5	.330	.656	.470	.656	.420	.906	.490	1.190	.590	1.190	.790	1.570	1.020	2.250
2.0	.380	.656	.460	.781	.480	.906	.570	1.190	.590	1.440	.870	1.690	1.180	2.250
3.0	.400	.781	.560	.781	.50	1.190	.610	1.440	.720	1.440	.970	1.940		
4.0	.460	.781	.580	.906	.570	1.190	.700	1.406	.790	1.570	1.120	1.940		
5.0	.450	.906	.650	.906	.560	1.440	.740	1.570	.840	1.690	1.160	2.250		
6.0	.500	.906	.590	1.190	.610	1.440	.810	1.570	.880	1.820				
8.0	.490	1.190	.680	1.190	.710	1.440	.850	1.690	1.020	1.820				
10.0	.540	1.190	.680	1.440	.750	1.570	.950	1.820	1.090	1.940				
12.0	.590	1.190	.740	1.440	.820	1.570	1.000	1.820	1.110	2.250				
15.0	.580	1.440			.870	1.690	1.110	1.940	1.240	2.250				
20.0	.670	1.440			.920	1.940	1.280	1.940						

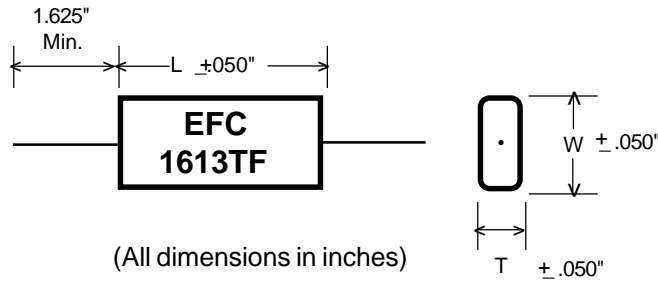
**ELECTRONIC FILM CAPACITORS, INC.**

Reidville Industrial Park \* 41 Interstate Lane \* WATERBURY, CONNECTICUT 06705  
Phone (203) 755-5629 FAX (203) 755-0659

EFC will manufacture to any non-standard value and size. Please consult factory for special requirements.



# Metallized Polycarbonate Capacitors



# 1613TF

**Oval  
Wrap and Fill**

Lead Specs.  
Tinned Copperweld  
Under .190T = 24 AWG  
.190 - .380T = 22 AWG  
Above .380T = 20 AWG

## DIMENSIONS and RATINGS

Cap. μF	1613TF-1 50 VDC			1613TF-2 75 VDC			1613TF-2 100 VDC			1613TF-3 150 VDC			1613TF-3 200 VDC			1613TF-3 400 VDC			1613TF-3 600 VDC		
	T	W	L	T	W	L	T	W	L	T	W	L	T	W	L	T	W	L	T	W	L
.001	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.531
.0012	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.531
.0015	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.531
.0022	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.531
.0027	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.531
.0039	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.531
.0047	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.531
.0056	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.220	.406	.130	.230	.531
.0068	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.140	.230	.406	.150	.240	.531
.0082	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.160	.250	.406	.170	.260	.531
.01	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.180	.270	.406	.190	.280	.531
.012	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.531	.210	.310	.531
.015	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.140	.230	.531	.240	.340	.531
.018	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.140	.230	.406	.150	.250	.531	.210	.300	.656
.022	.120	.210	.406	.120	.210	.406	.120	.210	.406	.120	.210	.406	.160	.250	.406	.170	.270	.531	.230	.330	.656
.027	.120	.210	.406	.120	.210	.406	.120	.210	.406	.140	.240	.406	.180	.270	.406	.190	.290	.531	.260	.360	.656
.033	.120	.210	.406	.120	.210	.406	.120	.210	.406	.160	.260	.406	.120	.210	.531	.220	.310	.531	.290	.390	.656
.039	.120	.210	.406	.120	.210	.406	.120	.210	.406	.180	.270	.406	.130	.230	.531	.190	.280	.656	.260	.380	.781
.047	.120	.210	.406	.120	.210	.406	.130	.230	.406	.120	.210	.531	.150	.240	.531	.190	.320	.656	.290	.410	.781
.056	.120	.210	.406	.120	.220	.406	.150	.240	.406	.130	.230	.531	.170	.260	.531	.220	.340	.656	.320	.440	.781
.068	.120	.210	.406	.140	.230	.406	.170	.260	.406	.150	.240	.531	.190	.280	.531	.240	.370	.656	.360	.480	.781
.082	.120	.210	.406	.160	.250	.406	.140	.230	.468	.170	.260	.531	.210	.310	.531	.270	.400	.656	.350	.470	.906
.1	.120	.210	.406	.180	.270	.406	.160	.250	.468	.190	.290	.531	.240	.330	.531	.260	.380	.781	.390	.510	.906
.12	.130	.220	.406	.200	.290	.406	.180	.270	.468	.210	.310	.531	.270	.360	.531	.290	.410	.781	.430	.560	.906
.15	.140	.240	.406	.170	.260	.468	.160	.260	.531	.190	.280	.656	.230	.330	.656	.310	.410	.781	.380	.550	1.190
.18	.160	.260	.406	.190	.280	.468	.180	.280	.531	.210	.300	.656	.260	.350	.656	.300	.460	.906	.430	.590	1.190
.22	.180	.280	.406	.210	.300	.468	.210	.300	.531	.230	.330	.656	.290	.390	.656	.340	.500	.906	.480	.650	1.190
.27	.130	.250	.468	.240	.330	.468	.180	.270	.656	.270	.360	.656	.330	.420	.656	.380	.550	.906	.540	.710	1.190
.33	.170	.270	.468	.270	.360	.468	.200	.290	.656	.300	.390	.656	.290	.420	.781	.430	.600	.906	.520	.690	1.440
.39	.190	.290	.468	.240	.340	.531	.220	.320	.656	.260	.380	.781	.320	.450	.781	.380	.550	1.190	.570	.740	1.440
.47	.170	.270	.531	.270	.360	.531	.250	.340	.656	.290	.420	.781	.310	.440	.906	.430	.600	1.190	.640	.810	1.440
.56	.190	.290	.531	.300	.390	.531	.280	.370	.656	.320	.450	.781	.350	.470	.906	.480	.640	1.190	.660	.830	1.570
.68	.220	.310	.531	.330	.430	.531	.240	.370	.781	.310	.440	.906	.390	.520	.906	.530	.700	1.190	.740	.910	1.570
.82	.240	.340	.531	.290	.380	.656	.270	.400	.781	.350	.480	.906	.330	.500	1.190	.500	.690	1.440	.760	.960	1.690
1.0	.270	.370	.531	.320	.420	.656	.310	.430	.781	.300	.470	1.190	.380	.540	1.190	.560	.760	1.440	.770	.970	1.940
1.25	.240	.330	.656	.370	.460	.656	.350	.470	.781	.350	.510	1.190	.430	.600	1.190	.640	.830	1.440	.880	1.070	1.940
1.5	.270	.360	.656	.410	.500	.656	.340	.460	.906	.390	.550	1.190	.480	.650	1.190	.660	.860	1.570	.900	1.080	2.250
2.0	.320	.410	.656	.380	.510	.781	.400	.530	.906	.460	.630	1.190	.490	.650	1.440	.740	.940	1.690	1.050	1.250	2.250
3.0	.320	.440	.781	.480	.610	.781	.390	.560	1.190	.500	.670	1.440	.620	.780	1.440	.850	1.040	1.940			
4.0	.380	.500	.781	.500	.620	.906	.470	.630	1.190	.590	.760	1.440	.680	.850	1.570	.890	1.190	1.940			
5.0	.370	.500	.906	.570	.690	.906	.460	.620	1.440	.630	.800	1.570	.720	.910	1.690	1.040	1.230	2.250			
6.0	.420	.540	.906	.510	.640	1.190	.510	.670	1.440	.700	.870	1.570	.760	.950	1.820						
8.0	.380	.550	1.190	.600	.730	1.190	.600	.770	1.440	.720	.920	1.690	.890	1.090	1.920						
10.0	.440	.600	1.190	.570	.740	1.440	.620	.820	1.570	.820	1.020	1.820	.960	1.160	1.940						
12.0	.480	.650	1.190	.630	.800	1.440	.690	.840	1.570	.870	1.070	1.820	.980	1.180	2.250						
15.0	.470	.640	1.440				.750	.890	1.690	.990	1.180	1.940	1.100	1.310	2.250						
20.0	.560	.730	1.440				.800	.990	1.940	1.160	1.350	1.940									

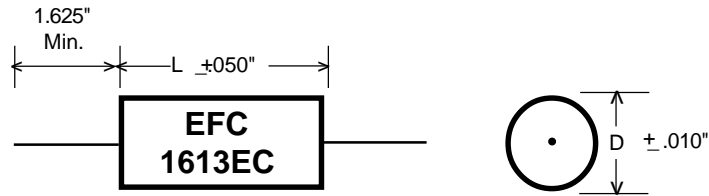
### ELECTRONIC FILM CAPACITORS, INC.

Reidville Industrial Park \* 41 Interstate Lane \* WATERBURY, CONNECTICUT 06705  
Phone (203) 755-5629 FAX (203) 755-0659

EFC will manufacture to any non-standard value and size. Please consult factory for special requirements.



**1613EC**



**Metallized  
Polycarbonate  
Capacitors**

**Epoxy Case  
(Axial Leads)**

(All dimensions in inches)

Lead Specs.  
Tinned Copperweld  
Under .250D = 24 AWG  
.250 - .440D = 22 AWG  
Above .440D = 20 AWG

**DIMENSIONS and RATINGS**

Cap. μF	1613EC 50 VDC		1613EC 75 VDC		1613EC 100 VDC		1613EC 150 VDC		1613EC 200 VDC		1613EC 400 VDC		1613EC 600 VDC	
	D	L	D	L	D	L	D	L	D	L	D	L	D	L
.001	1	A	1	A	1	A	1	A	1	A	1	A	1	B
.0012	1	A	1	A	1	A	1	A	1	A	1	A	1	B
.0015	1	A	1	A	1	A	1	A	1	A	1	A	1	B
.0022	1	A	1	A	1	A	1	A	1	A	1	A	1	B
.0027	1	A	1	A	1	A	1	A	1	A	1	A	1	B
.0039	1	A	1	A	1	A	1	A	1	A	2	A	2	B
.0047	1	A	1	A	1	A	1	A	1	A	2	A	2	B
.0056	1	A	1	A	1	A	1	A	1	A	2	A	2	B
.0068	1	A	1	A	1	A	1	A	1	A	1	B	2	C
.0082	1	A	1	A	1	A	1	A	1	A	2	B	2	C
.01	1	A	1	A	1	A	1	A	2	A	2	B	3	C
.012	1	A	1	A	1	A	1	A	2	A	2	B	4	C
.015	1	A	2	A	1	A	2	A	2	A	3	B	4	C
.018	1	A	2	A	1	A	2	A	1	B	3	B	4	C
.022	1	A	2	A	1	A	2	A	2	B	3	C	4	D
.027	1	A	2	A	1	A	2	B	2	B	3	C	4	D
.033	1	A	3	A	2	A	2	B	2	B	4	C	5	D
.039	1	A	3	A	2	A	2	B	2	B	4	C	5	E
.047	1	A	2	A	2	A	2	B	3	B	4	C	5	E
.056	1	A	2	A	2	A	2	B	3	C	4	D	6	E
.068	1	A	2	A	2	B	3	B	3	C	4	D	7	E
.082	1	A	2	A	2	B	2	C	4	C	5	D	7	E
.1	2	A	3	A	2	B	3	C	4	C	5	E		
.12	2	A	2	B	2	B	3	C	4	C	5	E		
.15	2	A	2	B	3	B	4	C	4	D	6	E		
.18	3	A	2	B	2	C	4	C	4	D	7	E		
.22	3	A	3	B	3	C	4	D	5	D	7	E		
.27	1	B	3	B	4	C	4	E	5	D	7	F		
.33	2	B	3	C	4	C	5	D	5	E	7	F		
.39	3	B	4	C	4	C	5	D	6	E				
.47	3	C	4	C	4	D	5	E	6	E				
.56	4	C	4	D	5	D	6	E	7	E				
.68	4	C	5	D	5	D	6	E	7	F				
.82	4	C	5	D	5	E	7	E	7	F				
1.0	4	C	5	D	6	E	7	E						
1.25	4	D	5	E	6	E	7	F						
1.5	4	D	6	E	7	E								
2.0	5	D	6	E	7	F								
3.0	5	E	7	F										
4.0	6	F												
5.0	7	F												

**DIAMETER**

- 1 = .187
- 2 = .225
- 3 = .250
- 4 = .312
- 5 = .375
- 6 = .437
- 7 = .500

**LENGTH**

- A = .375
- B = .500
- C = .625
- D = .750
- E = .875
- F = 1.187

**SIZE CODE**

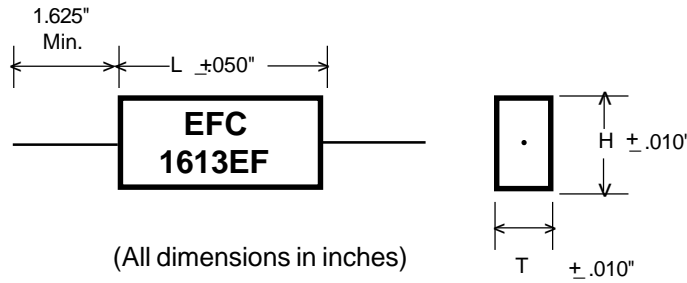
**ELECTRONIC FILM CAPACITORS, INC.**

Reidville Industrial Park \* 41 Interstate Lane \* WATERBURY, CONNECTICUT 06705  
Phone (203) 755-5629 FAX (203) 755-0659

EFC will manufacture to any non-standard value and size. Please consult factory for special requirements.



**Metallized  
Polycarbonate  
Capacitors**



**1613EF**

**Epoxy Case  
(Axial Leads)**

Lead Specs.  
Tinned Copperweld  
Under .190T = 24 AWG  
.190 - .380T = 22 AWG  
Above .380T = 20 AWG

**DIMENSIONS and RATINGS**

Cap. μF	1613EF-1 50 VDC			1613EF-2 75 VDC			1613EF-2 100 VDC			1613EF-3 150 VDC			1613EF-3 200 VDC			1613EF-3 400 VDC			1613EF-3 600 VDC		
	T	H	L	T	H	L	T	H	L	T	H	L	T	H	L	T	H	L	T	H	L
.001	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.570
.0012	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.570
.0015	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.570
.0022	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.570
.0027	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.570
.0039	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.570	.230	.360	.550
.0047	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.570	.230	.360	.550
.0056	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.570	.230	.360	.550
.0068	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.570	.230	.360	.550
.0082	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.570	.230	.360	.550
.01	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.420	.230	.360	.550	.290	.420	.570
.012	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.570	.230	.360	.550	.290	.420	.550
.015	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.570	.170	.290	.570	.230	.360	.550	.290	.420	.550
.018	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.570	.230	.360	.550	.290	.420	.670
.022	.170	.290	.420	.170	.290	.420	.170	.290	.420	.170	.290	.420	.230	.360	.550	.230	.360	.550	.290	.420	.670
.027	.170	.290	.420	.170	.290	.420	.170	.290	.420	.230	.360	.550	.230	.360	.570	.290	.420	.570	.290	.420	.820
.033	.170	.290	.420	.170	.290	.420	.170	.290	.570	.230	.360	.570	.230	.360	.550	.290	.420	.570	.290	.420	.820
.039	.170	.290	.420	.170	.290	.420	.170	.290	.570	.230	.360	.550	.230	.360	.550	.290	.420	.670	.390	.540	.820
.047	.170	.290	.420	.230	.360	.550	.170	.290	.570	.230	.360	.550	.230	.360	.550	.290	.420	.670	.390	.540	.820
.056	.170	.290	.420	.230	.360	.550	.170	.290	.570	.230	.360	.550	.230	.360	.550	.290	.420	.820	.390	.540	.820
.068	.170	.290	.420	.230	.360	.550	.230	.360	.550	.230	.360	.550	.290	.420	.570	.290	.420	.820	.390	.540	1.040
.082	.170	.290	.420	.230	.360	.550	.230	.360	.550	.290	.420	.570	.290	.420	.570	.390	.540	.820	.390	.540	1.240
.1	.230	.360	.550	.230	.360	.550	.230	.360	.550	.290	.420	.570	.290	.420	.670	.390	.540	.820	.390	.540	1.240
.12	.230	.360	.550	.230	.360	.550	.230	.360	.550	.290	.420	.570	.290	.420	.670	.390	.540	.820	.560	.720	1.240
.15	.230	.360	.550	.230	.360	.550	.290	.360	.570	.290	.420	.670	.290	.420	.670	.390	.540	.820	.560	.720	1.240
.18	.230	.360	.550	.230	.360	.570	.290	.420	.570	.290	.420	.670	.290	.420	.820	.390	.540	1.040	.560	.720	1.240
.22	.230	.360	.550	.290	.420	.570	.290	.420	.570	.290	.420	.820	.390	.540	.820	.390	.540	1.240	.560	.720	1.240
.27	.230	.360	.550	.290	.420	.570	.290	.420	.670	.290	.420	.820	.390	.540	.820	.390	.540	1.240			
.33	.230	.360	.550	.290	.420	.570	.290	.420	.670	.390	.540	.820	.390	.540	.820	.560	.720	1.240			
.39	.230	.360	.550	.290	.420	.670	.290	.420	.820	.390	.540	.820	.390	.540	1.040	.560	.720	1.240			
.47	.290	.420	.570	.290	.420	.670	.290	.420	.820	.390	.540	.820	.390	.540	1.040	.560	.720	1.240			
.56	.290	.420	.570	.290	.420	.670	.390	.540	.820	.390	.540	1.040	.390	.540	1.240	.560	.720	1.240			
.68	.290	.420	.570	.290	.420	.820	.390	.540	.820	.390	.540	1.040	.390	.550	1.240						
.82	.290	.420	.670	.390	.540	.820	.390	.540	.820	.390	.540	1.240	.560	.720	1.240						
1.0	.290	.420	.670	.390	.540	.820	.390	.540	.820	.560	.720	1.240	.560	.720	1.240						
1.25	.290	.420	.820	.390	.540	.820	.390	.540	1.040	.560	.720	1.240	.560	.720	1.240						
1.5	.290	.420	.820	.390	.540	1.040	.390	.540	1.240	.560	.720	1.240	.560	.720	1.240						
2.0	.390	.540	.820	.390	.540	1.240	.560	.720	1.240	.560	.720	1.240									
3.0	.390	.540	1.040	.560	.720	1.240	.560	.720	1.240												
4.0	.390	.540	1.240	.560	.720	1.240	.560	.720	1.240												
5.0	.390	.540	1.240	.560	.720	1.240															

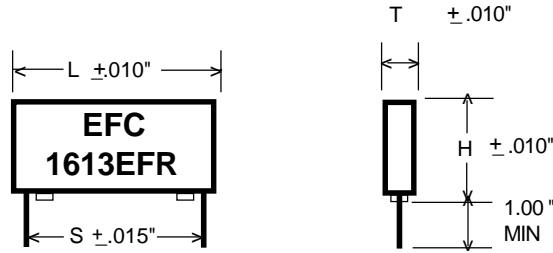
**ELECTRONIC FILM CAPACITORS, INC.**

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**Metallized  
Polycarbonate  
Capacitors**



(All dimensions in inches)

**1613EFR**

**Epoxy Case  
(Radial Leads)**

Lead Specs. - Tinned Copperweld

L	S	AWG
.420	.30	22
.550	.40	22
.670	.50	22
.820	.60	22
1.04	.80	22
1.24	1.10	20
1.75	1.60	20

**DIMENSIONS and RATINGS**

Cap. μF	1613EFR-1 50 VDC			1613EFR-2 75 VDC			1613EFR-2 100 VDC			1613EFR-3 150 VDC			1613EFR-3 200 VDC			1613EFR-3 400 VDC			1613EFR-3 600 VDC		
	T	L	H	T	L	H	T	L	H	T	L	H	T	L	H	T	L	H	T	L	H
.001	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.180	.550	.330
.0012	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.180	.550	.330
.0015	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.180	.550	.330
.0022	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.180	.550	.330
.0027	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.180	.550	.330
.0039	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.180	.550	.330	.180	.550	.330
.0047	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.180	.550	.330	.240	.550	.370
.0056	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.180	.550	.330	.240	.550	.370
.0068	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.180	.550	.330	.240	.550	.370
.0082	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.180	.550	.330	.240	.550	.370
.01	.160	.420	.330	.160	.420	.330	.160	.420	.330	.160	.420	.330	.180	.420	.330	.240	.550	.370	.300	.550	.370
.012	.160	.420	.330	.160	.420	.330	.160	.420	.330	.180	.420	.330	.180	.550	.330	.240	.550	.370	.300	.550	.370
.015	.160	.420	.330	.160	.420	.330	.160	.420	.330	.180	.420	.330	.180	.550	.330	.240	.550	.370	.300	.550	.370
.018	.160	.420	.330	.160	.420	.330	.160	.420	.330	.180	.420	.330	.180	.550	.330	.240	.550	.370	.300	.670	.370
.022	.160	.420	.330	.160	.420	.330	.180	.420	.330	.180	.550	.330	.180	.550	.330	.300	.550	.430	.300	.670	.370
.027	.160	.420	.330	.160	.420	.330	.180	.420	.330	.180	.550	.330	.240	.550	.370	.300	.550	.430	.300	.820	.370
.033	.160	.420	.330	.180	.420	.330	.180	.550	.330	.240	.550	.370	.240	.550	.370	.300	.550	.430	.300	.820	.370
.039	.160	.420	.330	.180	.420	.330	.180	.550	.330	.240	.550	.370	.240	.550	.370	.300	.670	.430	.400	.820	.550
.047	.160	.420	.330	.180	.550	.330	.180	.550	.330	.240	.550	.370	.240	.550	.370	.300	.670	.430	.400	.820	.550
.056	.160	.420	.330	.180	.550	.330	.180	.550	.330	.240	.550	.370	.240	.550	.370	.300	.820	.430	.400	.820	.550
.068	.180	.420	.330	.180	.550	.330	.240	.550	.370	.240	.550	.370	.300	.550	.430	.300	.820	.430	.400	1.040	.550
.082	.180	.420	.330	.180	.550	.330	.240	.550	.370	.300	.550	.430	.300	.550	.430	.400	.820	.550	.400	1.240	.550
.1	.180	.420	.330	.180	.550	.330	.240	.550	.370	.300	.550	.430	.300	.670	.430	.400	.820	.550	.400	1.240	.550
.12	.180	.550	.330	.240	.550	.370	.240	.550	.370	.300	.550	.430	.300	.670	.430	.400	.820	.550	.570	1.240	.730
.15	.180	.550	.330	.240	.550	.370	.300	.550	.430	.300	.670	.430	.300	.670	.430	.400	.820	.550	.570	1.240	.730
.18	.180	.550	.330	.240	.550	.370	.300	.550	.430	.300	.670	.430	.300	.820	.430	.400	1.040	.550	.570	1.240	.730
.22	.240	.550	.370	.300	.550	.430	.300	.550	.430	.300	.820	.430	.400	.820	.550	.400	1.240	.550	.570	1.240	.730
.27	.240	.550	.370	.300	.550	.430	.300	.670	.430	.300	.820	.430	.400	.820	.550	.400	1.240	.550	.700	1.240	.940
.33	.240	.550	.370	.300	.550	.430	.300	.670	.430	.400	.820	.550	.400	.820	.550	.570	1.240	.730	.700	1.240	.940
.39	.240	.550	.370	.300	.670	.430	.300	.820	.430	.400	.820	.550	.400	1.040	.550	.570	1.240	.730	.700	1.240	.940
.47	.300	.550	.430	.300	.670	.430	.300	.820	.430	.400	.820	.550	.400	1.040	.550	.570	1.240	.730	.700	1.750	1.125
.56	.300	.550	.430	.300	.670	.430	.400	.820	.550	.400	1.040	.550	.400	1.240	.550	.570	1.240	.730	.700	1.750	1.125
.68	.300	.550	.430	.300	.820	.430	.400	.820	.550	.400	1.040	.550	.400	1.240	.550	.700	1.240	.940	.800	1.750	1.125
.82	.300	.670	.430	.400	.820	.550	.400	.820	.550	.400	1.240	.550	.570	1.240	.730	.700	1.240	.940	.800	1.750	1.125
1.0	.300	.670	.430	.400	.820	.550	.400	.820	.550	.570	1.240	.730	.570	1.240	.730	.700	1.240	.940	.800	1.750	1.125
1.25	.300	.820	.430	.400	.820	.550	.400	1.040	.550	.570	1.240	.730	.570	1.240	.730	.700	1.750	1.125			
1.5	.300	.820	.430	.400	1.040	.550	.400	1.240	.550	.570	1.240	.730	.570	1.240	.730	.700	1.750	1.125			
2.0	.400	.820	.550	.400	1.240	.550	.570	1.240	.730	.570	1.240	.730	.700	1.240	.940	.800	1.750	1.125			
3.0	.400	1.040	.550	.570	1.240	.730	.570	1.240	.730	.570	1.750	.730	.700	1.750	1.125						
4.0	.400	1.240	.550	.570	1.240	.730	.570	1.240	.730	.700	1.750	1.125	.700	1.750	1.125						
5.0	.400	1.240	.550	.570	1.240	.730				.700	1.750	1.125	.800	1.750	1.125						
6.0										.800	1.750	1.125									

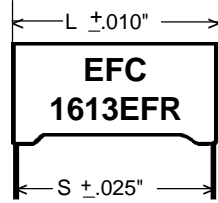
**ELECTRONIC FILM CAPACITORS, INC.**

Reidville Industrial Park \* 41 Interstate Lane \* WATERBURY, CONNECTICUT 06705  
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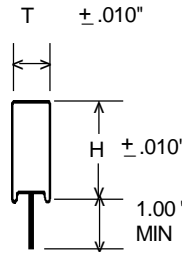
EFC will manufacture to any non-standard value and size. Please consult factory for special requirements.



# Metallized Polycarbonate Capacitors



(All dimensions in inches)



# 1613EFR

## Epoxy Case (Radial Leads)

Lead Specs.  
Tinned Copperweld  
B through E cases: 22 AWG  
F through R cases: 20 AWG

## DIMENSIONS and RATINGS

Cap. μF	63/40	100/63	160/100	250/160	400/220	630/250	CASE SIZE	L mm	T mm	H mm	S mm
	VDC/VAC	VDC/VAC	VDC/VAC	VDC/VAC	VDC/VAC	VDC/VAC		in.	in.	in.	in.
.001	B	B	B	B	B	C	B	10.5	4	9	7.5
.0012	B	B	B	B	B	C	C	.413	.157	.354	.295
.0015	B	B	B	B	B	C		13	4	9	10
.0022	B	B	B	B	B	C	D	.512	.157	.354	.394
.0027	B	B	B	B	B	C		13	5	11	10
.0039	B	B	B	B	B	C	E	.512	.197	.433	.394
.0047	B	B	B	B	B	C		13	6	12	10
.0056	B	B	B	B	B	C	F	.512	.236	.472	.394
.0068	B	B	B	B	B	C		18	5	11	15
.0082	B	B	B	B	B	C	G	.709	.197	.433	.591
.01	B	B	B	B	B	D		18	6	12	15
.012	B	B	B	B	B	D	H	.709	.236	.472	.591
.015	B	B	B	B	C	E		18	7.5	13.5	15
.018	B	B	B	C	C	E	J	.709	.295	.531	.591
.022	B	B	B	C	C	F		26.5	6	15	20
.027	B	B	B	C	C	G	K	1.04	.236	.591	.787
.033	B	B	C	C	D	G		26.5	7	16	20
.039	B	B	C	C	D	H	L	1.04	.276	.630	.787
.047	B	B	C	C	D	H		26.5	6	15	22.5
.056	B	C	C	D	E	J/L	M	1.04	.236	.591	.886
.068	B	C	D	D	E	J/L		26.5	7	16	22.5
.082	B	C	D	D	F	K/M	N	1.04	.276	.630	.886
.1	C	C	D	D	G	K/M		26.5	8.5	16.3	22.5
.12	C	D	D	D	H	N	O	1.04	.335	.642	.886
.15	C	D	E	D	H	O		26.5	10	19	22.5
.18	C	E	E	G	J/L	O	P	1.04	.394	.748	.886
.22	D	E	E	G	K/M	P		32	11	20	27.5
.27	D	F	F	H	K/M	P	Q	1.26	.433	.787	1.08
.33	D	F	F	H	N			N	32	13	22
.39	D	G	G	K/M	N	N	1.26	.512	.866	1.08	
.47	E	G	G	K/M	O						
.56	F	H	H	O	O						
.68	F	H	H	O	O						
.82	G	H	J/L	O	P						
1.0	G	K/M	J/L	O							
1.25	H	K/M	K/M	P							
1.50	J/L	K/M	N	P							
2.00	J/L	N	P	Q							
3.00	K/M	P	Q								
4.00	N	P									
5.00	N	P									
6.00	P	Q									
8.00											

### ELECTRONIC FILM CAPACITORS, INC.

Reidville Industrial Park \* 41 Interstate Lane \* WATERBURY, CONNECTICUT 06705

Phone (203) 755-5629

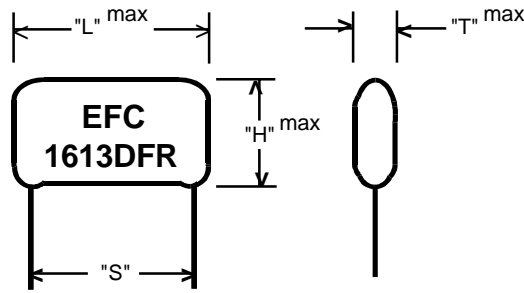
FAX (203) 755-0659

EFC will manufacture to any non-standard value and size. Please consult factory for special requirements.





# Metallized Polycarbonate Capacitors



(All dimensions in millimeters)

## 1613DFR

**Epoxy Dipped  
(Radial Leads)**

Lead Specs. - Tinned Copperweld

L	S	DIA.
10.0	7.5	0.6
12.5	10.0	0.6
18.0	15.0	0.8
26.0	22.5	0.8
31.0	27.5	0.8

## DIMENSIONS and RATINGS

Cap.	1613DFR-3 63 VDC			1613DFR-3 100 VDC			1613DFR-3 250 VDC			1613DFR-3 400 VDC			1613DFR-3 630 VDC				
	μF	T	H	L	T	H	L	T	H	L	T	H	L	T	H		
.001	4.0	8.0	10.0	4.0	8.0	10.0	4.0	8.0	10.0	4.0	8.0	10.0	4.5	8.5	10.0		
.0012	4.0	8.0	10.0	4.0	8.0	10.0	4.0	8.0	10.0	4.0	8.0	10.0	4.5	8.5	10.0		
.0015	4.0	8.0	10.0	4.0	8.0	10.0	4.0	8.0	10.0	4.0	8.0	10.0	4.5	8.5	10.0		
.0022	4.0	8.0	10.0	4.0	8.0	10.0	4.0	8.0	10.0	4.0	8.0	10.0	4.5	8.5	10.0		
.0027	4.0	8.0	10.0	4.0	8.0	10.0	4.0	8.0	10.0	4.0	8.0	10.0	4.5	8.5	10.0		
.0039	4.0	8.0	10.0	4.0	8.0	10.0	4.0	8.0	10.0	4.0	8.0	10.0	4.5	8.5	10.0		
.0047	4.0	8.0	10.0	4.0	8.0	10.0	4.0	8.0	10.0	4.0	8.0	10.0	4.5	8.5	12.5		
.0056	4.0	8.0	10.0	4.0	8.0	10.0	4.0	8.0	10.0	4.0	8.0	10.0	4.5	8.5	12.5		
.0068	4.0	8.0	10.0	4.0	8.0	10.0	4.0	8.0	10.0	4.5	8.5	10.0	4.5	9.0	12.5		
.0082	4.0	8.0	10.0	4.0	8.0	10.0	4.0	8.0	10.0	4.5	8.5	10.0	4.5	9.0	12.5		
.01	4.0	8.0	10.0	4.0	8.0	10.0	4.0	8.0	10.0	4.5	9.0	10.0	5.0	9.5	12.5		
.012	4.0	8.0	10.0	4.0	8.0	10.0	4.0	8.0	10.0	4.5	9.0	10.0	5.5	10.5	12.5		
.015	4.0	8.0	10.0	4.0	8.0	10.0	4.5	8.5	10.0	4.5	9.0	12.5	6.0	11.0	12.5		
.018	4.0	8.0	10.0	4.0	8.0	10.0	4.5	8.5	10.0	4.5	9.0	12.5	6.0	11.0	18.0		
.022	4.0	8.0	10.0	4.0	8.0	10.0	4.5	8.5	10.0	4.5	9.0	12.5	6.0	12.0	18.0		
.027	4.0	8.0	10.0	4.0	8.0	10.0	4.5	8.5	10.0	5.0	9.5	12.5	6.5	12.5	18.0		
.033	4.0	8.0	10.0	4.0	8.0	10.0	4.5	9.0	10.0	5.5	10.5	12.5	7.0	13.0	18.0		
.039	4.0	8.0	10.0	4.0	8.0	10.0	4.5	9.0	12.5	6.0	11.0	12.5	7.5	13.5	18.0		
.047	4.0	8.0	10.0	4.0	8.0	10.0	5.0	9.5	12.5	6.5	12.0	12.5	8.0	14.5	18.0		
.056	4.0	8.0	10.0	4.0	8.0	10.0	5.0	10.0	12.5	5.0	10.0	18.0	8.0	15.0	18.0		
.068	4.0	8.0	10.0	4.5	8.5	10.0	5.5	10.5	12.5	5.5	10.5	18.0	8.5	15.5	18.0		
.082	4.0	8.0	10.0	4.5	9.0	10.0	6.0	11.0	12.5	6.0	11.0	18.0	8.5	15.5	26.0		
.1	4.0	8.0	10.0	4.5	9.0	12.5	5.5	10.5	18.0	6.0	12.0	18.0	8.5	16.0	26.0		
.12	4.0	8.0	10.0	4.5	9.5	12.5	6.0	12.0	18.0	6.5	12.5	18.0	9.0	16.5	26.0		
.15	4.0	8.0	10.0	5.0	10.0	12.5	6.5	12.5	18.0	7.5	13.5	18.0	9.5	17.0	26.0		
.18	4.0	8.0	10.0	5.5	10.5	12.5	7.0	13.0	18.0	8.5	15.5	18.0	9.0	16.5	31.0		
.22	4.0	8.5	12.5	6.0	11.0	12.5	7.5	13.5	18.0	7.5	13.5	26.0	9.5	18.0	31.0		
.27	4.5	8.5	12.5	5.5	10.5	18.0	8.0	14.0	18.0	8.5	15.5	26.0	10.0	19.0	31.0		
.33	4.5	9.0	12.5	5.5	11.0	18.0	8.5	15.5	18.0	9.0	16.0	26.0	11.5	20.5	31.0		
.39	5.0	9.5	12.5	6.0	12.0	18.0	7.5	13.5	26.0	9.5	17.0	26.0	12.0	21.0	31.0		
.47	5.5	10.0	12.5	7.0	13.0	18.0	8.0	15.0	26.0	10.0	19.0	26.0	13.0	23.0	31.0		
.56	5.5	10.5	12.5	7.5	14.0	18.0	8.5	16.0	26.0	9.5	17.0	31.0	13.5	25.0	31.0		
.68	6.0	11.0	12.5	8.0	15.0	18.0	9.5	17.0	26.0	10.5	20.0	31.0	15.0	27.0	31.0		

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