

# Series 1213

## Metallized Polypropylene

**Features:** Flame retardant to UL94, excellent long term stability, self healing, high insulation resistance, low dissipation factor, high frequency operation.

**Applications:** Timing circuits, switch mode power supplies (SMPS).

**Packaging:** Axial wrap and fill (TF, TC), radial lead box (EFR), axial lead epoxy tube (EC).

### Specifications

**1) Temperature Range**

-55°C to +105°C at rated voltage.

**2) Capacitance**

0.001µF to 20µF

**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 80,000 Megohm-Microfarads, but need not exceed 120,000 Megohms.

**5) Humidity Resistance**

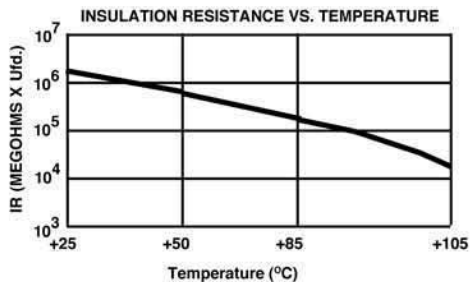
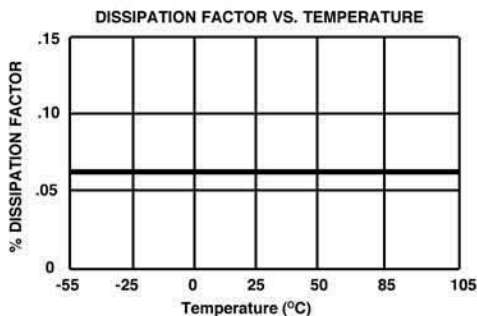
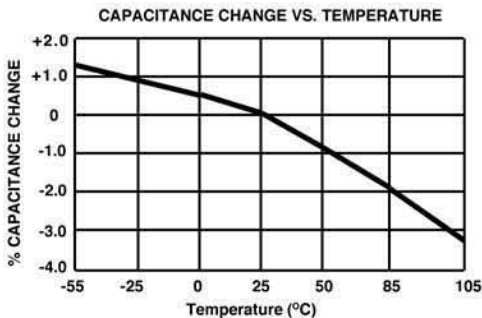
Series 1213 shall meet the requirements of MIL-STD. 202, Method 103B.

**6) Dissipation Factor**

Shall be 0.1% max. when measured at 1 KHz and 25°C.

**7) Life Test**

Will withstand the application of 150% rated voltage at + 85°C for 250 hours with not more than one failure in 12 permitted.



**Typical Temperature Curves  
Metallized Polypropylene**

# Catalog Nomenclature

**\* 1 3 0 6 E F R - 3 - . 0 0 1 - 1 - 5**

**Case Code:**

- TC - Wrap & Fill - Round - Axial
- TF - Wrap & Fill - Flat - Axial
- EC - Epoxy Case - Round - Axial
- EFR - Epoxy Case - Flat - Radial
- DFR - Dipped Construction - Flat - Radial
- HS - Hermetically Sealed

**Dielectric Code:**

- 1206 - Polypropylene/Foil
- 1213 - Metallized Polypropylene
- 1306 - Polyester/Foil
- 1313 - Metallized Polyester
- 1613 - Metallized Polycarbonate
- 1906 - Polystyrene/Foil
- 2113 - Metallized Polyphenylene Sulfide

**Size Code:**

- 3 - Standard
- 2 - Miniature (1313DFR Series Only)
- X - Non-standard
- Or one letter case code

**Capacitance:**

In microfarads ( $\mu$ F)

**Voltage:**

- .35 - 35 VDC
- 0 - 50 VDC
- 1 - 100 VDC
- 2 - 200 VDC
- 3 - 300 VDC
- 4 - 400 VDC
- 10 - 1000 VDC
- 1.6K - 1600VDC
- Etc.

**Tolerance:**

- 1 - 1%
- 2 - 2%
- 5 - 5%
- Etc.

**\* Options**

The following options are available from EFC by specifying the appropriate prefix.

- A - Aluminum foil electrodes
- T - Tin foil electrodes
- HV - High voltage DC applications
- AC - AC voltage rated applications
- MF - Metallized and foil hybrid for maximum pulse current applications
- M - Dual metallized design for pulse current applications
- SP - Low ESR, high RMS current applications
- PC - Direct mount terminals for high current filter applications
- FT - Feed thru filter applications
- RC - Resistor capacitor suppressors



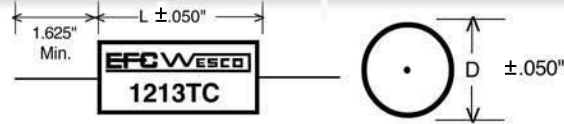
Please consult factory for special requirements, including non-standard values and sizes

## 1213TC Tubular Wrap & Fill

## Metallized Polypropylene Capacitors

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

### Dimensions and Ratings



Cap.	50 VDC		
µF	Part #	D	L
.001	1213TC-3-.001-0-*	.160	.406
.0012	1213TC-3-.0012-0-*	.160	.406
.0015	1213TC-3-.0015-0-*	.160	.406
.0022	1213TC-3-.0022-0-*	.160	.406
.0027	1213TC-3-.0027-0-*	.160	.406
.0039	1213TC-3-.0039-0-*	.160	.406
.0047	1213TC-3-.0047-0-*	.160	.406
.0056	1213TC-3-.0056-0-*	.160	.406
.0068	1213TC-3-.0068-0-*	.160	.406
.0082	1213TC-3-.0082-0-*	.160	.406
.01	1213TC-3-.01-0-*	.160	.406
.012	1213TC-3-.012-0-*	.160	.406
.015	1213TC-3-.015-0-*	.160	.406
.018	1213TC-3-.018-0-*	.160	.406
.022	1213TC-3-.022-0-*	.160	.406
.027	1213TC-3-.027-0-*	.170	.406
.033	1213TC-3-.033-0-*	.180	.406
.039	1213TC-3-.039-0-*	.200	.406
.047	1213TC-3-.047-0-*	.210	.406
.056	1213TC-3-.056-0-*	.230	.406
.068	1213TC-3-.068-0-*	.250	.406
.082	1213TC-3-.082-0-*	.190	.531
.1	1213TC-3-.1-0-*	.210	.531
.12	1213TC-3-.12-0-*	.220	.531
.15	1213TC-3-.15-0-*	.250	.531
.18	1213TC-3-.18-0-*	.270	.531
.22	1213TC-3-.22-0-*	.300	.531
.27	1213TC-3-.27-0-*	.260	.656
.33	1213TC-3-.33-0-*	.290	.656
.39	1213TC-3-.39-0-*	.310	.656
.47	1213TC-3-.47-0-*	.340	.656
.56	1213TC-3-.56-0-*	.320	.781
.68	1213TC-3-.68-0-*	.350	.781
.82	1213TC-3-.82-0-*	.390	.781
1.0	1213TC-3-1.0-0-*	.420	.781
1.25	1213TC-3-1.2-0-*	.420	.906
1.5	1213TC-3-1.5-0-*	.460	.906
2.0	1213TC-3-2.0-0-*	.450	1.190
3.0	1213TC-3-3.0-0-*	.550	1.190
4.0	1213TC-3-4.0-0-*	.630	1.190
5.0	1213TC-3-5.0-0-*	.620	1.440
6.0	1213TC-3-6.0-0-*	.680	1.440

Cap.	100 VDC		
µF	Part #	D	L
.001	1213TC-3-.001-1-*	.180	.406
.0012	1213TC-3-.0012-1-*	.180	.406
.0015	1213TC-3-.0015-1-*	.180	.406
.0022	1213TC-3-.0022-1-*	.180	.406
.0027	1213TC-3-.0027-1-*	.180	.406
.0039	1213TC-3-.0039-1-*	.180	.406
.0047	1213TC-3-.0047-1-*	.180	.406
.0056	1213TC-3-.0056-1-*	.180	.406
.0068	1213TC-3-.0068-1-*	.180	.406
.0082	1213TC-3-.0082-1-*	.180	.406
.01	1213TC-3-.01-1-*	.180	.406
.012	1213TC-3-.012-1-*	.180	.406
.015	1213TC-3-.015-1-*	.180	.406
.018	1213TC-3-.018-1-*	.180	.406
.022	1213TC-3-.022-1-*	.180	.406
.027	1213TC-3-.027-1-*	.200	.406
.033	1213TC-3-.033-1-*	.220	.406
.039	1213TC-3-.039-1-*	.240	.406
.047	1213TC-3-.047-1-*	.180	.531
.056	1213TC-3-.056-1-*	.190	.531
.068	1213TC-3-.068-1-*	.210	.531
.082	1213TC-3-.082-1-*	.220	.531
.1	1213TC-3-.1-1-*	.250	.531
.12	1213TC-3-.12-1-*	.270	.531
.15	1213TC-3-.15-1-*	.300	.531
.18	1213TC-3-.18-1-*	.260	.656
.22	1213TC-3-.22-1-*	.290	.656
.27	1213TC-3-.27-1-*	.320	.656
.33	1213TC-3-.33-1-*	.350	.656
.39	1213TC-3-.39-1-*	.330	.781
.47	1213TC-3-.47-1-*	.360	.781
.56	1213TC-3-.56-1-*	.390	.781
.68	1213TC-3-.68-1-*	.390	.906
.82	1213TC-3-.82-1-*	.420	.906
1.0	1213TC-3-1.0-1-*	.460	.906
1.25	1213TC-3-1.2-1-*	.440	1.190
1.5	1213TC-3-1.5-1-*	.480	1.190
2.0	1213TC-3-2.0-1-*	.550	1.190
3.0	1213TC-3-3.0-1-*	.590	1.440
4.0	1213TC-3-4.0-1-*	.680	1.440
5.0	1213TC-3-5.0-1-*	.760	1.440
6.0	1213TC-3-6.0-1-*	.790	1.570
8.0	1213TC-3-8.0-1-*	.910	1.570
10.0	1213TC-3-10.0-1-*	.970	1.690
12.0	1213TC-3-12.0-1-*	.970	1.940
15.0	1213TC-3-15.0-1-*	1.080	1.940
20.0	1213TC-3-20.0-1-*	1.160	2.250

Cap.	160 VDC		
µF	Part #	D	L
.001	1213TC-3-.001-1.6-*	.180	.406
.0012	1213TC-3-.0012-1.6-*	.180	.406
.0015	1213TC-3-.0015-1.6-*	.180	.406
.0022	1213TC-3-.0022-1.6-*	.180	.406
.0027	1213TC-3-.0027-1.6-*	.180	.406
.0039	1213TC-3-.0039-1.6-*	.180	.406
.0047	1213TC-3-.0047-1.6-*	.180	.406
.0056	1213TC-3-.0056-1.6-*	.180	.406
.0068	1213TC-3-.0068-1.6-*	.180	.406
.0082	1213TC-3-.0082-1.6-*	.180	.406
.01	1213TC-3-.01-1.6-*	.180	.406
.012	1213TC-3-.012-1.6-*	.180	.406
.015	1213TC-3-.015-1.6-*	.180	.406
.018	1213TC-3-.018-1.6-*	.180	.406
.022	1213TC-3-.022-1.6-*	.180	.406
.027	1213TC-3-.027-1.6-*	.200	.406
.033	1213TC-3-.033-1.6-*	.220	.406
.039	1213TC-3-.039-1.6-*	.240	.406
.047	1213TC-3-.047-1.6-*	.180	.531
.056	1213TC-3-.056-1.6-*	.190	.531
.068	1213TC-3-.068-1.6-*	.210	.531
.082	1213TC-3-.082-1.6-*	.220	.531
.1	1213TC-3-.1-1.6-*	.250	.531
.12	1213TC-3-.12-1.6-*	.270	.531
.15	1213TC-3-.15-1.6-*	.300	.531
.18	1213TC-3-.18-1.6-*	.260	.656
.22	1213TC-3-.22-1.6-*	.290	.656
.27	1213TC-3-.27-1.6-*	.320	.656
.33	1213TC-3-.33-1.6-*	.350	.656
.39	1213TC-3-.39-1.6-*	.330	.781
.47	1213TC-3-.47-1.6-*	.360	.781
.56	1213TC-3-.56-1.6-*	.390	.781
.68	1213TC-3-.68-1.6-*	.390	.906
.82	1213TC-3-.82-1.6-*	.420	.906
1.0	1213TC-3-1.0-1.6-*	.460	.906
1.25	1213TC-3-1.25-1.6-*	.440	1.190
1.5	1213TC-3-1.5-1.6-*	.480	1.190
2.0	1213TC-3-2.0-1.6-*	.550	1.190
3.0	1213TC-3-3.0-1.6-*	.590	1.440
4.0	1213TC-3-4.0-1.6-*	.680	1.440
5.0	1213TC-3-5.0-1.6-*	.760	1.440
6.0	1213TC-3-6.0-1.6-*	.790	1.570
8.0	1213TC-3-8.0-1.6-*	.910	1.570
10.0	1213TC-3-10.0-1.6-*	.970	1.690
12.0	1213TC-3-12.0-1.6-*	.970	1.940
15.0	1213TC-3-15.0-1.6-*	1.080	1.940
20.0	1213TC-3-20.0-1.6-*	1.160	2.250

\* - Please insert appropriate tolerance code





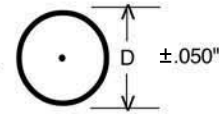
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Lead Spec.  
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Under .250D = 24 AWG  
.250 - .440D = 22AWG  
Above .440D = 20 AWG

### Dimensions and Ratings



200 VDC				400 VDC				600 VDC			
Cap.	Part #	D	L	Cap.	Part #	D	L	Cap.	Part #	D	L
.001	1213TC-3-.001-2-*	.180	.406	.001	1213TC-3-.001-4-*	.180	.406	.001	1213TC-3-.001-6-*	.180	.531
.0012	1213TC-3-.0012-2-*	.180	.406	.0012	1213TC-3-.0012-4-*	.180	.406	.0012	1213TC-3-.0012-6-*	.180	.531
.0015	1213TC-3-.0015-2-*	.180	.406	.0015	1213TC-3-.0015-4-*	.180	.406	.0015	1213TC-3-.0015-6-*	.180	.531
.0022	1213TC-3-.0022-2-*	.180	.406	.0022	1213TC-3-.0022-4-*	.180	.406	.0022	1213TC-3-.0022-6-*	.180	.531
.0027	1213TC-3-.0027-2-*	.180	.406	.0027	1213TC-3-.0027-4-*	.180	.406	.0027	1213TC-3-.0027-6-*	.180	.531
.0039	1213TC-3-.0039-2-*	.180	.406	.0039	1213TC-3-.0039-4-*	.180	.406	.0039	1213TC-3-.0039-6-*	.180	.531
.0047	1213TC-3-.0047-2-*	.180	.406	.0047	1213TC-3-.0047-4-*	.180	.406	.0047	1213TC-3-.0047-6-*	.180	.531
.0056	1213TC-3-.0056-2-*	.180	.406	.0056	1213TC-3-.0056-4-*	.180	.406	.0056	1213TC-3-.0056-6-*	.180	.531
.0068	1213TC-3-.0068-2-*	.180	.406	.0068	1213TC-3-.0068-4-*	.180	.406	.0068	1213TC-3-.0068-6-*	.180	.531
.0082	1213TC-3-.0082-2-*	.180	.406	.0082	1213TC-3-.0082-4-*	.180	.406	.0082	1213TC-3-.0082-6-*	.180	.531
.01	1213TC-3-.01-2-*	.180	.406	.01	1213TC-3-.01-4-*	.190	.406	.01	1213TC-3-.01-6-*	.190	.531
.012	1213TC-3-.012-2-*	.180	.406	.012	1213TC-3-.012-4-*	.210	.406	.012	1213TC-3-.012-6-*	.210	.531
.015	1213TC-3-.015-2-*	.180	.406	.015	1213TC-3-.015-4-*	.230	.406	.015	1213TC-3-.015-6-*	.230	.531
.018	1213TC-3-.018-2-*	.200	.406	.018	1213TC-3-.018-4-*	.250	.406	.018	1213TC-3-.018-6-*	.250	.531
.022	1213TC-3-.022-2-*	.210	.406	.022	1213TC-3-.022-4-*	.190	.531	.022	1213TC-3-.022-6-*	.270	.531
.027	1213TC-3-.027-2-*	.230	.406	.027	1213TC-3-.027-4-*	.210	.531	.027	1213TC-3-.027-6-*	.300	.531
.033	1213TC-3-.033-2-*	.180	.531	.033	1213TC-3-.033-4-*	.230	.531	.033	1213TC-3-.033-6-*	.270	.656
.039	1213TC-3-.039-2-*	.190	.531	.039	1213TC-3-.039-4-*	.250	.531	.039	1213TC-3-.039-6-*	.290	.656
.047	1213TC-3-.047-2-*	.210	.531	.047	1213TC-3-.047-4-*	.270	.531	.047	1213TC-3-.047-6-*	.320	.656
.056	1213TC-3-.056-2-*	.220	.531	.056	1213TC-3-.056-4-*	.290	.531	.056	1213TC-3-.056-6-*	.350	.656
.068	1213TC-3-.068-2-*	.240	.531	.068	1213TC-3-.068-4-*	.260	.656	.068	1213TC-3-.068-6-*	.330	.781
.082	1213TC-3-.082-2-*	.270	.531	.082	1213TC-3-.082-4-*	.280	.656	.082	1213TC-3-.082-6-*	.360	.781
.1	1213TC-3-.1-2-*	.290	.531	.1	1213TC-3-.1-4-*	.310	.656	.1	1213TC-3-.1-6-*	.360	.906
.12	1213TC-3-.12-2-*	.260	.656	.12	1213TC-3-.12-4-*	.340	.656	.12	1213TC-3-.12-6-*	.390	.906
.15	1213TC-3-.15-2-*	.290	.656	.15	1213TC-3-.15-4-*	.330	.781	.15	1213TC-3-.15-6-*	.430	.906
.18	1213TC-3-.18-2-*	.310	.656	.18	1213TC-3-.18-4-*	.360	.781	.18	1213TC-3-.18-6-*	.470	.906
.22	1213TC-3-.22-2-*	.340	.656	.22	1213TC-3-.22-4-*	.390	.781	.22	1213TC-3-.22-6-*	.450	1.190
.27	1213TC-3-.27-2-*	.330	.781	.27	1213TC-3-.27-4-*	.390	.906	.27	1213TC-3-.27-6-*	.490	1.190
.33	1213TC-3-.33-2-*	.360	.781	.33	1213TC-3-.33-4-*	.430	.906	.33	1213TC-3-.33-6-*	.540	1.190
.39	1213TC-3-.39-2-*	.390	.781	.39	1213TC-3-.39-4-*	.460	.906	.39	1213TC-3-.39-6-*	.580	1.190
.47	1213TC-3-.47-2-*	.380	.906	.47	1213TC-3-.47-4-*	.430	1.190	.47	1213TC-3-.47-6-*	.640	1.190
.56	1213TC-3-.56-2-*	.420	.906	.56	1213TC-3-.56-4-*	.470	1.190	.56	1213TC-3-.56-6-*	.610	1.190
.68	1213TC-3-.68-2-*	.460	.906	.68	1213TC-3-.68-4-*	.520	1.190	.68	1213TC-3-.68-6-*	.670	1.190
.82	1213TC-3-.82-2-*	.500	.906	.82	1213TC-3-.82-4-*	.570	1.190	.82	1213TC-3-.82-6-*	.740	1.440
1.0	1213TC-3-1.0-2-*	.470	1.190	1.0	1213TC-3-1.0-4-*	.620	1.190	1.0	1213TC-3-1.0-6-*	.770	1.570
1.25	1213TC-3-1.25-2-*	.530	1.190	1.25	1213TC-3-1.25-4-*	.610	1.440	1.25	1213TC-3-1.25-6-*	.860	1.570
1.5	1213TC-3-1.5-2-*	.570	1.190	1.5	1213TC-3-1.5-4-*	.670	1.440	1.5	1213TC-3-1.5-6-*	.900	1.690
2.0	1213TC-3-2.0-2-*	.580	1.440	2.0	1213TC-3-2.0-4-*	.770	1.440	2.0	1213TC-3-2.0-6-*	1.040	1.690
3.0	1213TC-3-3.0-2-*	.710	1.440	3.0	1213TC-3-3.0-4-*	.890	1.570	3.0	1213TC-3-3.0-6-*	1.260	1.690
4.0	1213TC-3-4.0-2-*	.770	1.570	4.0	1213TC-3-4.0-4-*	.980	1.690	4.0	1213TC-3-4.0-6-*	1.340	1.940
5.0	1213TC-3-5.0-2-*	.860	1.570	5.0	1213TC-3-5.0-4-*	1.090	1.690	5.0	1213TC-3-5.0-6-*	1.390	2.250
6.0	1213TC-3-6.0-2-*	.900	1.690	6.0	1213TC-3-6.0-4-*	1.100	1.940				
8.0	1213TC-3-8.0-2-*	.950	1.940	8.0	1213TC-3-8.0-4-*	1.180	2.250				
10.0	1213TC-3-10.0-2-*	1.060	1.940	10.0	1213TC-3-10.0-4-*	1.310	2.250				
12.0	1213TC-3-12.0-2-*	1.080	2.250								
15.0	1213TC-3-15.0-2-*	1.210	2.250								

\* - Please insert appropriate tolerance code





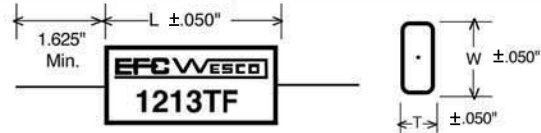
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## 1213TF Oval Wrap & Fill

## Metallized Polypropylene Capacitors

Lead Spec.  
Tinned Copperweld  
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### Dimensions and Ratings



Cap.	50 VDC			
μF	Part #	T	W	L
.001	1213TF-3-.001-0-*	.100	.190	.406
.0012	1213TF-3-.0012-0-*	.100	.190	.406
.0015	1213TF-3-.0015-0-*	.100	.190	.406
.0022	1213TF-3-.0022-0-*	.100	.190	.406
.0027	1213TF-3-.0027-0-*	.100	.190	.406
.0039	1213TF-3-.0039-0-*	.100	.190	.406
.0047	1213TF-3-.0047-0-*	.100	.190	.406
.0056	1213TF-3-.0056-0-*	.100	.190	.406
.0068	1213TF-3-.0068-0-*	.100	.190	.406
.0082	1213TF-3-.0082-0-*	.100	.190	.406
.01	1213TF-3-.01-0-*	.100	.190	.406
.012	1213TF-3-.012-0-*	.100	.190	.406
.015	1213TF-3-.015-0-*	.100	.190	.406
.018	1213TF-3-.018-0-*	.100	.190	.406
.022	1213TF-3-.022-0-*	.100	.190	.406
.027	1213TF-3-.027-0-*	.110	.200	.406
.033	1213TF-3-.033-0-*	.120	.220	.406
.039	1213TF-3-.039-0-*	.140	.230	.406
.047	1213TF-3-.047-0-*	.150	.250	.406
.056	1213TF-3-.056-0-*	.170	.270	.406
.068	1213TF-3-.068-0-*	.190	.290	.406
.082	1213TF-3-.082-0-*	.130	.220	.531
.1	1213TF-3-.1-0-*	.150	.240	.531
.12	1213TF-3-.12-0-*	.160	.260	.531
.15	1213TF-3-.15-0-*	.190	.280	.531
.18	1213TF-3-.18-0-*	.210	.300	.531
.22	1213TF-3-.22-0-*	.240	.330	.531
.27	1213TF-3-.27-0-*	.200	.300	.656
.33	1213TF-3-.33-0-*	.230	.320	.656
.39	1213TF-3-.39-0-*	.250	.350	.656
.47	1213TF-3-.47-0-*	.280	.380	.656
.56	1213TF-3-.56-0-*	.260	.360	.781
.68	1213TF-3-.68-0-*	.290	.390	.781
.82	1213TF-3-.82-0-*	.330	.420	.781
1.0	1213TF-3-1.0-0-*	.360	.460	.781
1.25	1213TF-3-1.2-0-*	.360	.460	.906
1.5	1213TF-3-1.5-0-*	.400	.500	.906
2.0	1213TF-3-2.0-0-*	.390	.480	1.190
3.0	1213TF-3-3.0-0-*	.470	.590	1.190
4.0	1213TF-3-4.0-0-*	.440	.680	1.190
5.0	1213TF-3-5.0-0-*	.540	.670	1.440
6.0	1213TF-3-6.0-0-*	.600	.720	1.440

Cap.	100 VDC			
μF	Part #	T	W	L
.001	1213TF-3-.001-1-*	.120	.210	.406
.0012	1213TF-3-.0012-1-*	.120	.210	.406
.0015	1213TF-3-.0015-1-*	.120	.210	.406
.0022	1213TF-3-.0022-1-*	.120	.210	.406
.0027	1213TF-3-.0027-1-*	.120	.210	.406
.0039	1213TF-3-.0039-1-*	.120	.210	.406
.0047	1213TF-3-.0047-1-*	.120	.210	.406
.0056	1213TF-3-.0056-1-*	.120	.210	.406
.0068	1213TF-3-.0068-1-*	.120	.210	.406
.0082	1213TF-3-.0082-1-*	.120	.210	.406
.01	1213TF-3-.01-1-*	.120	.210	.406
.012	1213TF-3-.012-1-*	.120	.210	.406
.015	1213TF-3-.015-1-*	.120	.210	.406
.018	1213TF-3-.018-1-*	.120	.210	.406
.022	1213TF-3-.022-1-*	.120	.220	.406
.027	1213TF-3-.027-1-*	.140	.230	.406
.033	1213TF-3-.033-1-*	.160	.250	.406
.039	1213TF-3-.039-1-*	.180	.270	.406
.047	1213TF-3-.047-1-*	.120	.210	.531
.056	1213TF-3-.056-1-*	.130	.220	.531
.068	1213TF-3-.068-1-*	.150	.240	.531
.082	1213TF-3-.082-1-*	.160	.260	.531
.1	1213TF-3-.1-1-*	.190	.280	.531
.12	1213TF-3-.12-1-*	.210	.300	.531
.15	1213TF-3-.15-1-*	.240	.330	.531
.18	1213TF-3-.18-1-*	.200	.300	.656
.22	1213TF-3-.22-1-*	.230	.320	.656
.27	1213TF-3-.27-1-*	.260	.350	.656
.33	1213TF-3-.33-1-*	.290	.380	.656
.39	1213TF-3-.39-1-*	.270	.360	.781
.47	1213TF-3-.47-1-*	.300	.390	.781
.56	1213TF-3-.56-1-*	.330	.420	.781
.68	1213TF-3-.68-1-*	.310	.430	.906
.82	1213TF-3-.82-1-*	.340	.470	.906
1.0	1213TF-3-1.0-1-*	.380	.510	.906
1.25	1213TF-3-1.2-1-*	.360	.480	1.190
1.5	1213TF-3-1.5-1-*	.400	.520	1.190
2.0	1213TF-3-2.0-1-*	.470	.590	1.190
3.0	1213TF-3-3.0-1-*	.490	.650	1.440
4.0	1213TF-3-4.0-1-*	.570	.740	1.440
5.0	1213TF-3-5.0-1-*	.650	.820	1.440
6.0	1213TF-3-6.0-1-*	.680	.850	1.570
8.0	1213TF-3-8.0-1-*	.800	.970	1.570
10.0	1213TF-3-10.0-1-*	.840	1.040	1.690
12.0	1213TF-3-12.0-1-*	.850	1.040	1.940
15.0	1213TF-3-15.0-1-*	.960	1.160	1.940
20.0	1213TF-3-20.0-1-*	1.040	1.230	2.250

Cap.	160 VDC			
μF	Part #	T	W	L
.001	1213TF-3-.001-1.6-*	.120	.210	.406
.0012	1213TF-3-.0012-1.6-*	.120	.210	.406
.0015	1213TF-3-.0015-1.6-*	.120	.210	.406
.0022	1213TF-3-.0022-1.6-*	.120	.210	.406
.0027	1213TF-3-.0027-1.6-*	.120	.210	.406
.0039	1213TF-3-.0039-1.6-*	.120	.210	.406
.0047	1213TF-3-.0047-1.6-*	.120	.210	.406
.0056	1213TF-3-.0056-1.6-*	.120	.210	.406
.0068	1213TF-3-.0068-1.6-*	.120	.210	.406
.0082	1213TF-3-.0082-1.6-*	.120	.210	.406
.01	1213TF-3-.01-1.6-*	.120	.210	.406
.012	1213TF-3-.012-1.6-*	.120	.210	.406
.015	1213TF-3-.015-1.6-*	.120	.210	.406
.018	1213TF-3-.018-1.6-*	.120	.210	.406
.022	1213TF-3-.022-1.6-*	.120	.220	.406
.027	1213TF-3-.027-1.6-*	.140	.230	.406
.033	1213TF-3-.033-1.6-*	.160	.250	.406
.039	1213TF-3-.039-1.6-*	.180	.270	.406
.047	1213TF-3-.047-1.6-*	.120	.210	.531
.056	1213TF-3-.056-1.6-*	.130	.220	.531
.068	1213TF-3-.068-1.6-*	.150	.240	.531
.082	1213TF-3-.082-1.6-*	.160	.260	.531
.1	1213TF-3-.1-1.6-*	.190	.280	.531
.12	1213TF-3-.12-1.6-*	.210	.300	.531
.15	1213TF-3-.15-1.6-*	.240	.330	.531
.18	1213TF-3-.18-1.6-*	.200	.300	.656
.22	1213TF-3-.22-1.6-*	.230	.320	.656
.27	1213TF-3-.27-1.6-*	.260	.350	.656
.33	1213TF-3-.33-1.6-*	.290	.380	.656
.39	1213TF-3-.39-1.6-*	.270	.360	.781
.47	1213TF-3-.47-1.6-*	.300	.390	.781
.56	1213TF-3-.56-1.6-*	.330	.420	.781
.68	1213TF-3-.68-1.6-*	.310	.430	.906
.82	1213TF-3-.82-1.6-*	.340	.470	.906
1.0	1213TF-3-1.0-1.6-*	.380	.510	.906
1.25	1213TF-3-1.25-1.6-*	.360	.480	1.190
1.5	1213TF-3-1.5-1.6-*	.400	.520	1.190
2.0	1213TF-3-2.0-1.6-*	.470	.590	1.190
3.0	1213TF-3-3.0-1.6-*	.490	.650	1.440
4.0	1213TF-3-4.0-1.6-*	.570	.740	1.440
5.0	1213TF-3-5.0-1.6-*	.650	.820	1.440
6.0	1213TF-3-6.0-1.6-*	.680	.850	1.570
8.0	1213TF-3-8.0-1.6-*	.800	.970	1.570
10.0	1213TF-3-10.0-1.6-*	.840	1.040	1.690
12.0	1213TF-3-12.0-1.6-*	.850	1.040	1.940
15.0	1213TF-3-15.0-1.6-*	.960	1.160	1.940
20.0	1213TF-3-20.0-1.6-*	1.040	1.230	2.250

\* - Please insert appropriate tolerance code





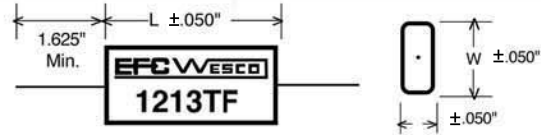
Please consult factory for special requirements, including non-standard values and sizes

## 1213TF Oval Wrap & Fill

## Metallized Polypropylene Capacitors

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

### Dimensions and Ratings



200 VDC					400 VDC					600 VDC				
Cap.	Part #	T	W	L	Cap.	Part #	T	W	L	Cap.	Part #	T	W	L
.001	1213TF-3-.001-2-*	.120	.210	.406	.001	1213TF-3-.001-4-*	.120	.210	.406	.001	1213TF-3-.001-6-*	.120	.210	.531
.0012	1213TF-3-.0012-2-*	.120	.210	.406	.0012	1213TF-3-.0012-4-*	.120	.210	.406	.0012	1213TF-3-.0012-6-*	.120	.210	.531
.0015	1213TF-3-.0015-2-*	.120	.210	.406	.0015	1213TF-3-.0015-4-*	.120	.210	.406	.0015	1213TF-3-.0015-6-*	.120	.210	.531
.0022	1213TF-3-.0022-2-*	.120	.210	.406	.0022	1213TF-3-.0022-4-*	.120	.210	.406	.0022	1213TF-3-.0022-6-*	.120	.210	.531
.0027	1213TF-3-.0027-2-*	.120	.210	.406	.0027	1213TF-3-.0027-4-*	.120	.210	.406	.0027	1213TF-3-.0027-6-*	.120	.210	.531
.0039	1213TF-3-.0039-2-*	.120	.210	.406	.0039	1213TF-3-.0039-4-*	.120	.210	.406	.0039	1213TF-3-.0039-6-*	.120	.210	.531
.0047	1213TF-3-.0047-2-*	.120	.210	.406	.0047	1213TF-3-.0047-4-*	.120	.210	.406	.0047	1213TF-3-.0047-6-*	.120	.210	.531
.0056	1213TF-3-.0056-2-*	.120	.210	.406	.0056	1213TF-3-.0056-4-*	.120	.210	.406	.0056	1213TF-3-.0056-6-*	.120	.210	.531
.0068	1213TF-3-.0068-2-*	.120	.210	.406	.0068	1213TF-3-.0068-4-*	.120	.210	.406	.0068	1213TF-3-.0068-6-*	.120	.210	.531
.0082	1213TF-3-.0082-2-*	.120	.210	.406	.0082	1213TF-3-.0082-4-*	.120	.210	.406	.0082	1213TF-3-.0082-6-*	.120	.210	.531
.01	1213TF-3-.01-2-*	.120	.210	.406	.01	1213TF-3-.01-4-*	.130	.230	.406	.01	1213TF-3-.01-6-*	.130	.230	.531
.012	1213TF-3-.012-2-*	.120	.210	.406	.012	1213TF-3-.012-4-*	.150	.250	.406	.012	1213TF-3-.012-6-*	.150	.240	.531
.015	1213TF-3-.015-2-*	.120	.210	.406	.015	1213TF-3-.015-4-*	.170	.270	.406	.015	1213TF-3-.015-6-*	.170	.260	.531
.018	1213TF-3-.018-2-*	.140	.230	.406	.018	1213TF-3-.018-4-*	.190	.290	.406	.018	1213TF-3-.018-6-*	.190	.280	.531
.022	1213TF-3-.022-2-*	.150	.250	.406	.022	1213TF-3-.022-4-*	.130	.220	.531	.022	1213TF-3-.022-6-*	.210	.310	.531
.027	1213TF-3-.027-2-*	.170	.270	.406	.027	1213TF-3-.027-4-*	.150	.240	.531	.027	1213TF-3-.027-6-*	.240	.340	.531
.033	1213TF-3-.033-2-*	.120	.210	.531	.033	1213TF-3-.033-4-*	.170	.260	.531	.033	1213TF-3-.033-6-*	.210	.300	.656
.039	1213TF-3-.039-2-*	.130	.220	.531	.039	1213TF-3-.039-4-*	.190	.280	.531	.039	1213TF-3-.039-6-*	.230	.330	.656
.047	1213TF-3-.047-2-*	.150	.240	.531	.047	1213TF-3-.047-4-*	.210	.300	.531	.047	1213TF-3-.047-6-*	.260	.350	.656
.056	1213TF-3-.056-2-*	.160	.260	.531	.056	1213TF-3-.056-4-*	.230	.330	.531	.056	1213TF-3-.056-6-*	.290	.380	.656
.068	1213TF-3-.068-2-*	.180	.280	.531	.068	1213TF-3-.068-4-*	.200	.290	.656	.068	1213TF-3-.068-6-*	.250	.380	.781
.082	1213TF-3-.082-2-*	.210	.300	.531	.082	1213TF-3-.082-4-*	.220	.320	.656	.082	1213TF-3-.082-6-*	.280	.410	.781
.1	1213TF-3-.1-2-*	.230	.330	.531	.1	1213TF-3-.1-4-*	.250	.340	.656	.1	1213TF-3-.1-6-*	.280	.400	.906
.12	1213TF-3-.12-2-*	.200	.290	.656	.12	1213TF-3-.12-4-*	.280	.370	.656	.12	1213TF-3-.12-6-*	.310	.430	.906
.15	1213TF-3-.15-2-*	.230	.320	.656	.15	1213TF-3-.15-4-*	.250	.370	.781	.15	1213TF-3-.15-6-*	.350	.480	.906
.18	1213TF-3-.18-2-*	.250	.350	.656	.18	1213TF-3-.18-4-*	.280	.400	.781	.18	1213TF-3-.18-6-*	.390	.520	.906
.22	1213TF-3-.22-2-*	.280	.380	.656	.22	1213TF-3-.22-4-*	.310	.440	.781	.22	1213TF-3-.22-6-*	.340	.510	1.190
.27	1213TF-3-.27-2-*	.250	.380	.781	.27	1213TF-3-.27-4-*	.310	.430	.906	.27	1213TF-3-.27-6-*	.380	.550	1.190
.33	1213TF-3-.33-2-*	.280	.410	.781	.33	1213TF-3-.33-4-*	.350	.470	.906	.33	1213TF-3-.33-6-*	.430	.600	1.190
.39	1213TF-3-.39-2-*	.310	.440	.781	.39	1213TF-3-.39-4-*	.380	.510	.906	.39	1213TF-3-.39-6-*	.480	.640	1.190
.47	1213TF-3-.47-2-*	.300	.430	.906	.47	1213TF-3-.47-4-*	.330	.490	1.190	.47	1213TF-3-.47-6-*	.530	.700	1.190
.56	1213TF-3-.56-2-*	.340	.460	.906	.56	1213TF-3-.56-4-*	.370	.530	1.190	.56	1213TF-3-.56-6-*	.510	.670	1.190
.68	1213TF-3-.68-2-*	.380	.500	.906	.68	1213TF-3-.68-4-*	.410	.580	1.190	.68	1213TF-3-.68-6-*	.570	.730	1.190
.82	1213TF-3-.82-2-*	.420	.550	.906	.82	1213TF-3-.82-4-*	.460	.630	1.190	.82	1213TF-3-.82-6-*	.630	.800	1.440
1.0	1213TF-3-1.0-2-*	.370	.530	1.190	1.0	1213TF-3-1.0-4-*	.520	.680	1.190	1.0	1213TF-3-1.0-6-*	.670	.830	1.570
1.25	1213TF-3-1.25-2-*	.420	.590	1.190	1.25	1213TF-3-1.25-4-*	.500	.670	1.440	1.25	1213TF-3-1.25-6-*	.750	.920	1.570
1.5	1213TF-3-1.5-2-*	.470	.630	1.190	1.5	1213TF-3-1.5-4-*	.560	.730	1.440	1.5	1213TF-3-1.5-6-*	.770	.970	1.690
2.0	1213TF-3-2.0-2-*	.470	.640	1.440	2.0	1213TF-3-2.0-4-*	.660	.830	1.440	2.0	1213TF-3-2.0-6-*	.910	1.110	1.690
3.0	1213TF-3-3.0-2-*	.600	.770	1.440	3.0	1213TF-3-3.0-4-*	.780	.950	1.570	3.0	1213TF-3-3.0-6-*	1.140	1.340	1.690
4.0	1213TF-3-4.0-2-*	.670	.830	1.570	4.0	1213TF-3-4.0-4-*	.850	1.050	1.690	4.0	1213TF-3-4.0-6-*	1.220	1.410	1.940
5.0	1213TF-3-5.0-2-*	.750	.920	1.570	5.0	1213TF-3-5.0-4-*	.970	1.160	1.690	5.0	1213TF-3-5.0-6-*	1.270	1.460	2.250
6.0	1213TF-3-6.0-2-*	.770	.970	1.690	6.0	1213TF-3-6.0-4-*	.970	1.170	1.940					
8.0	1213TF-3-8.0-2-*	.830	1.020	1.940	8.0	1213TF-3-8.0-4-*	1.050	1.250	2.250					
10.0	1213TF-3-10.0-2-*	.940	1.130	1.940	10.0	1213TF-3-10.0-4-*	1.190	1.380	2.250					
12.0	1213TF-3-12.0-2-*	.960	1.150	2.250										

\* - Please insert appropriate tolerance code



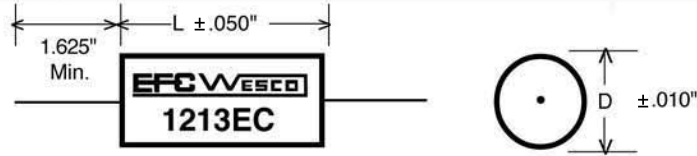


Please consult factory for special requirements, including non-standard values and sizes

**1213EC**  
Tubular Plastic Case  
(Axial Leads)

**Metallized Polypropylene Capacitors**

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



## Dimensions and Ratings

Cap.	50 VDC			
	µF	Part #	D	L
.001	1213EC-3-.001-0-*	.187	.375	
.0012	1213EC-3-.0012-0-*	.187	.375	
.0015	1213EC-3-.0015-0-*	.187	.375	
.0022	1213EC-3-.0022-0-*	.187	.375	
.0027	1213EC-3-.0027-0-*	.187	.375	
.0039	1213EC-3-.0039-0-*	.187	.375	
.0047	1213EC-3-.0047-0-*	.187	.375	
.0056	1213EC-3-.0056-0-*	.187	.375	
.0068	1213EC-3-.0068-0-*	.187	.375	
.0082	1213EC-3-.0082-0-*	.187	.375	
.01	1213EC-3-.01-0-*	.187	.375	
.012	1213EC-3-.012-0-*	.187	.375	
.015	1213EC-3-.015-0-*	.187	.375	
.018	1213EC-3-.018-0-*	.187	.375	
.022	1213EC-3-.022-0-*	.187	.375	
.027	1213EC-3-.027-0-*	.225	.375	
.033	1213EC-3-.033-0-*	.225	.375	
.039	1213EC-3-.039-0-*	.187	.500	
.047	1213EC-3-.047-0-*	.187	.500	
.056	1213EC-3-.056-0-*	.225	.500	
.068	1213EC-3-.068-0-*	.225	.500	
.082	1213EC-3-.082-0-*	.225	.500	
.1	1213EC-3-.1-0-*	.250	.500	
.12	1213EC-3-.12-0-*	.250	.500	
.15	1213EC-3-.15-0-*	.225	.625	
.18	1213EC-3-.18-0-*	.250	.625	
.22	1213EC-3-.22-0-*	.312	.625	
.27	1213EC-3-.27-0-*	.312	.625	
.33	1213EC-3-.33-0-*	.312	.750	
.39	1213EC-3-.39-0-*	.312	.750	
.47	1213EC-3-.47-0-*	.375	.750	
.56	1213EC-3-.56-0-*	.375	.750	
.68	1213EC-3-.68-0-*	.375	.750	
.82	1213EC-3-.82-0-*	.375	.875	
1.0	1213EC-3-1.0-0-*	.437	.875	
1.2	1213EC-3-1.2-0-*	.500	.875	
1.5	1213EC-3-1.5-0-*	.500	.875	
2.0	1213EC-3-2.0-0-*	.500	1.190	

Cap.	100 VDC			
	µF	Part #	D	L
.001	1213EC-3-.001-1-*	.187	.375	
.0012	1213EC-3-.0012-1-*	.187	.375	
.0015	1213EC-3-.0015-1-*	.187	.375	
.0022	1213EC-3-.0022-1-*	.187	.375	
.0027	1213EC-3-.0027-1-*	.187	.375	
.0039	1213EC-3-.0039-1-*	.187	.375	
.0047	1213EC-3-.0047-1-*	.187	.375	
.0056	1213EC-3-.0056-1-*	.187	.375	
.0068	1213EC-3-.0068-1-*	.187	.375	
.0082	1213EC-3-.0082-1-*	.187	.375	
.01	1213EC-3-.01-1-*	.187	.375	
.012	1213EC-3-.012-1-*	.187	.375	
.015	1213EC-3-.015-1-*	.187	.375	
.018	1213EC-3-.018-1-*	.225	.375	
.022	1213EC-3-.022-1-*	.225	.375	
.027	1213EC-3-.027-1-*	.187	.500	
.033	1213EC-3-.033-1-*	.225	.500	
.039	1213EC-3-.039-1-*	.225	.500	
.047	1213EC-3-.047-1-*	.225	.500	
.056	1213EC-3-.056-1-*	.225	.500	
.068	1213EC-3-.068-1-*	.250	.500	
.082	1213EC-3-.082-1-*	.250	.500	
.1	1213EC-3-.1-1-*	.250	.625	
.12	1213EC-3-.12-1-*	.250	.625	
.15	1213EC-3-.15-1-*	.312	.625	
.18	1213EC-3-.18-1-*	.312	.625	
.22	1213EC-3-.22-1-*	.312	.750	
.27	1213EC-3-.27-1-*	.312	.750	
.33	1213EC-3-.33-1-*	.375	.750	
.39	1213EC-3-.39-1-*	.375	.750	
.47	1213EC-3-.47-1-*	.375	.875	
.56	1213EC-3-.56-1-*	.437	.875	
.68	1213EC-3-.68-1-*	.437	.875	
.82	1213EC-3-.82-1-*	.500	.875	
1.0	1213EC-3-1.0-1-*	.500	.875	
1.2	1213EC-3-1.2-1-*	.500	1.190	

Cap.	160 VDC			
	µF	Part #	D	L
.001	1213EC-3-.001-1.6-*	.187	.375	
.0012	1213EC-3-.0012-1.6-*	.187	.375	
.0015	1213EC-3-.0015-1.6-*	.187	.375	
.0022	1213EC-3-.0022-1.6-*	.187	.375	
.0027	1213EC-3-.0027-1.6-*	.187	.375	
.0039	1213EC-3-.0039-1.6-*	.187	.375	
.0047	1213EC-3-.0047-1.6-*	.187	.375	
.0056	1213EC-3-.0056-1.6-*	.187	.375	
.0068	1213EC-3-.0068-1.6-*	.187	.375	
.0082	1213EC-3-.0082-1.6-*	.187	.375	
.01	1213EC-3-.01-1.6-*	.187	.375	
.012	1213EC-3-.012-1.6-*	.187	.375	
.015	1213EC-3-.015-1.6-*	.187	.375	
.018	1213EC-3-.018-1.6-*	.225	.375	
.022	1213EC-3-.022-1.6-*	.225	.375	
.027	1213EC-3-.027-1.6-*	.187	.500	
.033	1213EC-3-.033-1.6-*	.225	.500	
.039	1213EC-3-.039-1.6-*	.225	.500	
.047	1213EC-3-.047-1.6-*	.225	.500	
.056	1213EC-3-.056-1.6-*	.225	.500	
.068	1213EC-3-.068-1.6-*	.250	.500	
.082	1213EC-3-.082-1.6-*	.250	.500	
.1	1213EC-3-.1-1.6-*	.250	.625	
.12	1213EC-3-.12-1.6-*	.250	.625	
.15	1213EC-3-.15-1.6-*	.312	.625	
.18	1213EC-3-.18-1.6-*	.312	.625	
.22	1213EC-3-.22-1.6-*	.312	.750	
.27	1213EC-3-.27-1.6-*	.312	.750	
.33	1213EC-3-.33-1.6-*	.375	.750	
.39	1213EC-3-.39-1.6-*	.375	.750	
.47	1213EC-3-.47-1.6-*	.375	.875	
.56	1213EC-3-.56-1.6-*	.437	.875	
.68	1213EC-3-.68-1.6-*	.437	.875	
.82	1213EC-3-.82-1.6-*	.500	.875	
1.0	1213EC-3-1.0-1.6-*	.500	.875	
1.2	1213EC-3-1.2-1.6-*	.500	1.190	

\* - Please insert appropriate tolerance code

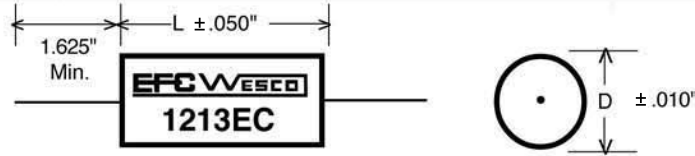


Please consult factory for special requirements, including non-standard values and sizes

**1213EC**  
Tubular Plastic Case  
(Axial Leads)

**Metallized Polypropylene Capacitors**

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



**Dimensions and Ratings**

200 VDC			
Cap. $\mu$ F	Part #	D	L
.001	1213EC-3-.001-2-*	.187	.375
.0012	1213EC-3-.0012-2-*	.187	.375
.0015	1213EC-3-.0015-2-*	.187	.375
.0022	1213EC-3-.0022-2-*	.187	.375
.0027	1213EC-3-.0027-2-*	.187	.375
.0039	1213EC-3-.0033-2-*	.187	.375
.0047	1213EC-3-.0047-2-*	.187	.375
.0056	1213EC-3-.0056-2-*	.187	.375
.0068	1213EC-3-.0068-2-*	.225	.375
.0082	1213EC-3-.0082-2-*	.225	.375
.01	1213EC-3-.01-2-*	.225	.375
.012	1213EC-3-.012-2-*	.225	.375
.015	1213EC-3-.015-2-*	.225	.375
.018	1213EC-3-.018-2-*	.225	.375
.022	1213EC-3-.022-2-*	.225	.500
.027	1213EC-3-.027-2-*	.225	.500
.033	1213EC-3-.033-2-*	.225	.500
.039	1213EC-3-.039-2-*	.225	.500
.047	1213EC-3-.047-2-*	.250	.500
.056	1213EC-3-.056-2-*	.250	.500
.068	1213EC-3-.068-2-*	.250	.625
.082	1213EC-3-.082-2-*	.312	.625
.1	1213EC-3-.1-2-*	.312	.625
.12	1213EC-3-.12-2-*	.312	.625
.15	1213EC-3-.15-2-*	.312	.750
.18	1213EC-3-.18-2-*	.312	.750
.22	1213EC-3-.22-2-*	.375	.750
.27	1213EC-3-.27-2-*	.375	.750
.33	1213EC-3-.33-2-*	.375	.875
.39	1213EC-3-.39-2-*	.437	.875
.47	1213EC-3-.47-2-*	.437	.875
.56	1213EC-3-.56-2-*	.500	.875
.68	1213EC-3-.68-2-*	.500	.875
.82	1213EC-3-.82-2-*	.500	1.190
1.0	1213EC-3-1.0-2-*	.500	1.190

400 VDC			
Cap. $\mu$ F	Part #	D	L
.001	1213EC-3-.001-4-*	.187	.375
.0012	1213EC-3-.0012-4-*	.187	.375
.0015	1213EC-3-.0015-4-*	.187	.375
.0022	1213EC-3-.0022-4-*	.187	.375
.0027	1213EC-3-.0027-4-*	.187	.375
.0039	1213EC-3-.0033-4-*	.187	.375
.0047	1213EC-3-.0047-4-*	.187	.375
.0056	1213EC-3-.0056-4-*	.225	.375
.0068	1213EC-3-.0068-4-*	.225	.375
.0082	1213EC-3-.0082-4-*	.225	.375
.01	1213EC-3-.01-4-*	.225	.375
.012	1213EC-3-.012-4-*	.225	.500
.015	1213EC-3-.015-4-*	.225	.500
.018	1213EC-3-.018-4-*	.225	.500
.022	1213EC-3-.022-4-*	.225	.500
.027	1213EC-3-.027-4-*	.250	.500
.033	1213EC-3-.033-4-*	.250	.625
.039	1213EC-3-.039-4-*	.250	.625
.047	1213EC-3-.047-4-*	.250	.625
.056	1213EC-3-.056-4-*	.312	.625
.068	1213EC-3-.068-4-*	.312	.625
.082	1213EC-3-.082-4-*	.312	.625
.1	1213EC-3-.1-4-*	.312	.750
.12	1213EC-3-.12-4-*	.375	.750
.15	1213EC-3-.15-4-*	.375	.750
.18	1213EC-3-.18-4-*	.375	.875
.22	1213EC-3-.22-4-*	.437	.875
.27	1213EC-3-.27-4-*	.437	.875
.33	1213EC-3-.33-4-*	.500	.875
.39	1213EC-3-.39-4-*	.500	1.190
.47	1213EC-3-.47-4-*	.500	1.190

600 VDC			
Cap. $\mu$ F	Part #	D	L
.001	1213EC-3-.001-6-*	.187	.500
.0012	1213EC-3-.0012-6-*	.187	.500
.0015	1213EC-3-.0015-6-*	.187	.500
.0022	1213EC-3-.0022-6-*	.187	.500
.0027	1213EC-3-.0027-6-*	.187	.500
.0039	1213EC-3-.0033-6-*	.187	.500
.0047	1213EC-3-.0047-6-*	.187	.500
.0056	1213EC-3-.0056-6-*	.225	.500
.0068	1213EC-3-.0068-6-*	.225	.500
.0082	1213EC-3-.0082-6-*	.225	.500
.01	1213EC-3-.01-6-*	.225	.500
.012	1213EC-3-.012-6-*	.250	.500
.015	1213EC-3-.015-6-*	.250	.625
.018	1213EC-3-.018-6-*	.250	.625
.022	1213EC-3-.022-6-*	.250	.625
.027	1213EC-3-.027-6-*	.312	.625
.033	1213EC-3-.033-6-*	.312	.625
.039	1213EC-3-.039-6-*	.312	.750
.047	1213EC-3-.047-6-*	.312	.750
.056	1213EC-3-.056-6-*	.375	.750
.068	1213EC-3-.068-6-*	.375	.750
.082	1213EC-3-.082-6-*	.375	.875
.10	1213EC-3-.1-6-*	.437	.875
.12	1213EC-3-.12-6-*	.437	.875
.15	1213EC-3-.15-6-*	.500	.875
.18	1213EC-3-.18-6-*	.500	1.190
.22	1213EC-3-.22-6-*	.500	1.190

\* - Please insert appropriate tolerance code



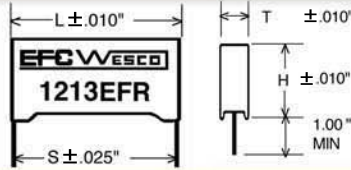


Please consult factory for special requirements, including non-standard values and sizes

**1213EFR**  
Rectangular Plastic Case  
(Radial Leads)

**Metallized Polypropylene Capacitors**

Lead Specs -  
Tinned Copperweld  
B through E cases: 22 AWG  
F through Q cases: 20 AWG



**Dimensions and Ratings**

63 VDC / 40 VAC						160 VDC / 100 VAC					
Cap.	Part #	T	L	H	S	Cap.	Part #	T	L	H	S
μF		in. (mm)	in. (mm)	in. (mm)	in. (mm)	μF		in. (mm)	in. (mm)	in. (mm)	in. (mm)
.001	1213EFR-B-.001-63-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)	.001	1213EFR-B-.001-1.6-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0012	1213EFR-B-.0012-63-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)	.0012	1213EFR-B-.0012-1.6-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0015	1213EFR-B-.0015-63-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)	.0015	1213EFR-B-.0015-1.6-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0018	1213EFR-B-.0018-63-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)	.0018	1213EFR-B-.0018-1.6-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0022	1213EFR-B-.0022-63-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)	.0022	1213EFR-B-.0022-1.6-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0027	1213EFR-B-.0027-63-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)	.0027	1213EFR-B-.0027-1.6-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0033	1213EFR-B-.0033-63-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)	.0033	1213EFR-B-.0033-1.6-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0039	1213EFR-B-.0039-63-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)	.0039	1213EFR-B-.0039-1.6-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0047	1213EFR-B-.0047-63-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)	.0047	1213EFR-B-.0047-1.6-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0056	1213EFR-B-.0056-63-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)	.0056	1213EFR-B-.0056-1.6-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0068	1213EFR-B-.0068-63-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)	.0068	1213EFR-B-.0068-1.6-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0082	1213EFR-B-.0082-63-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)	.0082	1213EFR-B-.0082-1.6-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.01	1213EFR-B-.01-63-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)	.01	1213EFR-B-.01-1.6-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.012	1213EFR-B-.012-63-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)	.012	1213EFR-B-.012-1.6-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.015	1213EFR-B-.015-63-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)	.015	1213EFR-B-.015-1.6-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.018	1213EFR-B-.018-63-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)	.018	1213EFR-C-.018-1.6-*	.157 (4.0)	.512 (13.0)	.354 (9.0)	.394 (10.0)
.022	1213EFR-B-.022-63-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)	.022	1213EFR-C-.022-1.6-*	.157 (4.0)	.512 (13.0)	.354 (9.0)	.394 (10.0)
.027	1213EFR-B-.027-63-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)	.027	1213EFR-C-.027-1.6-*	.157 (4.0)	.512 (13.0)	.354 (9.0)	.394 (10.0)
.033	1213EFR-C-.033-63-*	.157 (4.0)	.512 (13.0)	.354 (9.0)	.394 (10.0)	.033	1213EFR-C-.033-1.6-*	.157 (4.0)	.512 (13.0)	.354 (9.0)	.394 (10.0)
.039	1213EFR-C-.039-63-*	.157 (4.0)	.512 (13.0)	.354 (9.0)	.394 (10.0)	.039	1213EFR-C-.039-1.6-*	.157 (4.0)	.512 (13.0)	.354 (9.0)	.394 (10.0)
.047	1213EFR-C-.047-63-*	.157 (4.0)	.512 (13.0)	.354 (9.0)	.394 (10.0)	.047	1213EFR-D-.047-1.6-*	.197 (5.0)	.512 (13.0)	.433 (11.0)	.394 (10.0)
.056	1213EFR-C-.056-63-*	.157 (4.0)	.512 (13.0)	.354 (9.0)	.394 (10.0)	.056	1213EFR-D-.056-1.6-*	.197 (5.0)	.512 (13.0)	.433 (11.0)	.394 (10.0)
.068	1213EFR-D-.068-63-*	.197 (5.0)	.512 (13.0)	.433 (11.0)	.394 (10.0)	.068	1213EFR-E-.068-1.6-*	.236 (6.0)	.512 (13.0)	.472 (12.0)	.394 (10.0)
.082	1213EFR-D-.082-63-*	.197 (5.0)	.512 (13.0)	.433 (11.0)	.394 (10.0)	.082	1213EFR-E-.082-1.6-*	.236 (6.0)	.512 (13.0)	.472 (12.0)	.394 (10.0)
.1	1213EFR-E-.1-63-*	.236 (6.0)	.512 (13.0)	.472 (12.0)	.394 (10.0)	.1	1213EFR-F-.1-1.6-*	.197 (5.0)	.709 (18.0)	.433 (11.0)	.591 (15.0)
.12	1213EFR-E-.12-63-*	.236 (6.0)	.512 (13.0)	.472 (12.0)	.394 (10.0)	.12	1213EFR-G-.12-1.6-*	.236 (6.0)	.709 (18.0)	.472 (12.0)	.591 (15.0)
.15	1213EFR-F-.15-63-*	.197 (5.0)	.709 (18.0)	.433 (11.0)	.591 (15.0)	.15	1213EFR-G-.15-1.6-*	.236 (6.0)	.709 (18.0)	.472 (12.0)	.591 (15.0)
.18	1213EFR-F-.18-63-*	.197 (5.0)	.709 (18.0)	.433 (11.0)	.591 (15.0)	.18	1213EFR-H-.18-1.6-*	.295 (7.5)	.709 (18.0)	.531 (13.5)	.591 (15.0)
.22	1213EFR-G-.22-63-*	.236 (6.0)	.709 (18.0)	.472 (12.0)	.591 (15.0)	.22	1213EFR-H-.22-1.6-*	.295 (7.5)	.709 (18.0)	.531 (13.5)	.591 (15.0)
.27	1213EFR-G-.27-63-*	.236 (6.0)	.709 (18.0)	.472 (12.0)	.591 (15.0)	.27	1213EFR-K-.27-1.6-*	.276 (7.0)	1.04 (26.5)	.630 (16.0)	.787 (20.0)
.33	1213EFR-H-.33-63-*	.295 (7.5)	.709 (18.0)	.531 (13.5)	.591 (15.0)	.27	1213EFR-M-.27-1.6-*	.276 (7.0)	1.04 (26.5)	.630 (16.0)	.886 (22.5)
.39	1213EFR-H-.39-63-*	.295 (7.5)	.709 (18.0)	.531 (13.5)	.591 (15.0)	.33	1213EFR-K-.33-1.6-*	.276 (7.0)	1.04 (26.5)	.630 (16.0)	.787 (20.0)
.47	1213EFR-J-.47-63-*	.236 (6.0)	1.04 (26.5)	.591 (15.0)	.787 (20.0)	.33	1213EFR-M-.33-1.6-*	.276 (7.0)	1.04 (26.5)	.630 (16.0)	.886 (22.5)
.47	1213EFR-L-.47-63-*	.236 (6.0)	1.04 (26.5)	.591 (15.0)	.886 (22.5)	.39	1213EFR-N-.39-1.6-*	.335 (8.5)	1.04 (26.5)	.642 (16.3)	.886 (22.5)
.56	1213EFR-K-.56-63-*	.276 (7.0)	1.04 (26.5)	.630 (16.0)	.787 (20.0)	.47	1213EFR-N-.47-1.6-*	.335 (8.5)	1.04 (26.5)	.642 (16.3)	.886 (22.5)
.56	1213EFR-M-.56-63-*	.276 (7.0)	1.04 (26.5)	.630 (16.0)	.886 (22.5)	.56	1213EFR-O-.56-1.6-*	.394 (10.0)	1.04 (26.5)	.748 (19.0)	.886 (22.5)
.68	1213EFR-N-.68-63-*	.335 (8.5)	1.04 (26.5)	.642 (16.3)	.886 (22.5)	.68	1213EFR-P-.68-1.6-*	.433 (11.0)	1.26 (32.0)	.787 (20.0)	1.08 (27.5)
.82	1213EFR-O-.82-63-*	.394 (10.0)	1.04 (26.5)	.748 (19.0)	.886 (22.5)	.82	1213EFR-P-.82-1.6-*	.433 (11.0)	1.26 (32.0)	.787 (20.0)	1.08 (27.5)
1.0	1213EFR-O-1.0-63-*	.394 (10.0)	1.04 (26.5)	.748 (19.0)	.886 (22.5)	1.0	1213EFR-Q-1.0-1.6-*	.433 (11.0)	1.26 (32.0)	.787 (20.0)	1.08 (27.5)
1.2	1213EFR-P-1.2-63-*	.433 (11.0)	1.26 (32.0)	.787 (20.0)	1.08 (27.5)	1.2	1213EFR-Q-1.2-1.6-*	.512 (13.0)	1.26 (32.0)	.866 (22.0)	1.08 (27.5)
1.5	1213EFR-Q-1.5-63-*	.512 (13.0)	1.26 (32.0)	.866 (22.0)	1.08 (27.5)						

\* - Please insert appropriate tolerance code



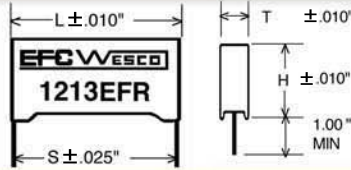


Please consult factory for special requirements, including non-standard values and sizes

**1213EFR**  
Rectangular Plastic Case  
(Radial Leads)

**Metallized Polypropylene Capacitors**

Lead Specs -  
Tinned Copperweld  
B through E cases: 22 AWG  
F through Q cases: 20 AWG



**Dimensions and Ratings**

250 VDC / 160 VAC					
Cap.	Part #	T	L	H	S
μF		in. (mm)	in. (mm)	in. (mm)	in. (mm)
.001	1213EFR-B-.001-2.5-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0012	1213EFR-B-.0012-2.5-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0015	1213EFR-B-.0015-2.5-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0018	1213EFR-B-.0018-2.5-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0022	1213EFR-B-.0022-2.5-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0027	1213EFR-B-.0027-2.5-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0033	1213EFR-B-.0033-2.5-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0039	1213EFR-B-.0039-2.5-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0047	1213EFR-B-.0047-2.5-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0056	1213EFR-B-.0056-2.5-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0068	1213EFR-B-.0068-2.5-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0082	1213EFR-B-.0082-2.5-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.01	1213EFR-B-.01-2.5-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.012	1213EFR-B-.012-2.5-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.015	1213EFR-C-.015-2.5-*	.157 (4.0)	.512 (13.0)	.354 (9.0)	.394 (10.0)
.018	1213EFR-C-.018-2.5-*	.157 (4.0)	.512 (13.0)	.354 (9.0)	.394 (10.0)
.022	1213EFR-C-.022-2.5-*	.157 (4.0)	.512 (13.0)	.354 (9.0)	.394 (10.0)
.027	1213EFR-C-.027-2.5-*	.157 (4.0)	.512 (13.0)	.354 (9.0)	.394 (10.0)
.033	1213EFR-D-.033-2.5-*	.197 (5.0)	.512 (13.0)	.433 (11.0)	.394 (10.0)
.039	1213EFR-D-.039-2.5-*	.197 (5.0)	.512 (13.0)	.433 (11.0)	.394 (10.0)
.047	1213EFR-E-.047-2.5-*	.236 (6.0)	.512 (13.0)	.472 (12.0)	.394 (10.0)
.056	1213EFR-E-.056-2.5-*	.236 (6.0)	.512 (13.0)	.472 (12.0)	.394 (10.0)
.068	1213EFR-E-.068-2.5-*	.236 (6.0)	.512 (13.0)	.472 (12.0)	.394 (10.0)
.082	1213EFR-G-.082-2.5-*	.236 (6.0)	.709 (18.0)	.472 (12.0)	.591 (15.0)
.1	1213EFR-G-.1-2.5-*	.236 (6.0)	.709 (18.0)	.472 (12.0)	.591 (15.0)
.12	1213EFR-G-.12-2.5-*	.236 (6.0)	.709 (18.0)	.472 (12.0)	.591 (15.0)
.15	1213EFR-H-.15-2.5-*	.295 (7.5)	.709 (18.0)	.531 (13.5)	.591 (15.0)
.18	1213EFR-H-.18-2.5-*	.295 (7.5)	.709 (18.0)	.531 (13.5)	.591 (15.0)
.22	1213EFR-H-.22-2.5-*	.295 (7.5)	.709 (18.0)	.531 (13.5)	.591 (15.0)
.27	1213EFR-K-.27-2.5-*	.276 (7.0)	1.04 (26.5)	.630 (16.0)	.787 (20.0)
.27	1213EFR-M-.27-2.5-*	.276 (7.0)	1.04 (26.5)	.630 (16.0)	.886 (22.5)
.33	1213EFR-K-.33-2.5-*	.276 (7.0)	1.04 (26.5)	.630 (16.0)	.787 (20.0)
.33	1213EFR-M-.33-2.5-*	.276 (7.0)	1.04 (26.5)	.630 (16.0)	.886 (22.5)
.39	1213EFR-N-.39-2.5-*	.335 (8.5)	1.04 (26.5)	.642 (16.3)	.886 (22.5)
.47	1213EFR-O-.47-2.5-*	.394 (10.0)	1.04 (26.5)	.748 (19.0)	.886 (22.5)
.56	1213EFR-O-.56-2.5-*	.394 (10.0)	1.04 (26.5)	.748 (19.0)	.886 (22.5)
.68	1213EFR-P-.68-2.5-*	.433 (11.0)	1.26 (32.0)	.787 (20.0)	1.08 (27.5)
.82	1213EFR-P-.82-2.5-*	.433 (11.0)	1.26 (32.0)	.787 (20.0)	1.08 (27.5)
1.0	1213EFR-Q-1.0-2.5-*	.512 (13.0)	1.26 (32.0)	.866 (22.0)	1.08 (27.5)

400 VDC / 220 VAC					
Cap.	Part #	T	L	H	S
μF		in. (mm)	in. (mm)	in. (mm)	in. (mm)
.001	1213EFR-B-.001-4-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0012	1213EFR-B-.0012-4-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0015	1213EFR-B-.0015-4-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0018	1213EFR-B-.0018-4-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0022	1213EFR-B-.0022-4-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0027	1213EFR-B-.0027-4-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0033	1213EFR-B-.0033-4-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0039	1213EFR-B-.0039-4-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0047	1213EFR-B-.0047-4-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0056	1213EFR-B-.0056-4-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0068	1213EFR-B-.0068-4-*	.157 (4.0)	.413 (10.5)	.354 (9.0)	.295 (7.5)
.0082	1213EFR-C-.0082-4-*	.157 (4.0)	.512 (13.0)	.354 (9.0)	.394 (10.0)
.01	1213EFR-C-.01-4-*	.157 (4.0)	.512 (13.0)	.354 (9.0)	.394 (10.0)
.012	1213EFR-C-.012-4-*	.157 (4.0)	.512 (13.0)	.354 (9.0)	.394 (10.0)
.015	1213EFR-C-.015-4-*	.157 (4.0)	.512 (13.0)	.354 (9.0)	.394 (10.0)
.018	1213EFR-C-.018-4-*	.157 (4.0)	.512 (13.0)	.354 (9.0)	.394 (10.0)
.022	1213EFR-D-.022-4-*	.197 (5.0)	.512 (13.0)	.433 (11.0)	.394 (10.0)
.027	1213EFR-D-.027-4-*	.197 (5.0)	.512 (13.0)	.433 (11.0)	.394 (10.0)
.033	1213EFR-E-.033-4-*	.236 (6.0)	.512 (13.0)	.472 (12.0)	.394 (10.0)
.039	1213EFR-E-.039-4-*	.236 (6.0)	.512 (13.0)	.472 (12.0)	.394 (10.0)
.047	1213EFR-F-.047-4-*	.197 (5.0)	.709 (18.0)	.433 (11.0)	.591 (15.0)
.056	1213EFR-G-.056-4-*	.236 (6.0)	.709 (18.0)	.472 (12.0)	.591 (15.0)
.068	1213EFR-G-.068-4-*	.236 (6.0)	.709 (18.0)	.472 (12.0)	.591 (15.0)
.082	1213EFR-H-.082-4-*	.295 (7.5)	.709 (18.0)	.531 (13.5)	.591 (15.0)
.1	1213EFR-H-.1-4-*	.295 (7.5)	.709 (18.0)	.531 (13.5)	.591 (15.0)
.12	1213EFR-K-.12-4-*	.276 (7.0)	1.04 (26.5)	.630 (16.0)	.787 (20.0)
.12	1213EFR-M-.12-4-*	.276 (7.0)	1.04 (26.5)	.630 (16.0)	.886 (22.5)
.15	1213EFR-K-.15-4-*	.276 (7.0)	1.04 (26.5)	.630 (16.0)	.787 (20.0)
.15	1213EFR-M-.15-4-*	.276 (7.0)	1.04 (26.5)	.630 (16.0)	.886 (22.5)
.18	1213EFR-N-.18-4-*	.335 (8.5)	1.04 (26.5)	.642 (16.3)	.886 (22.5)
.22	1213EFR-N-.22-4-*	.335 (8.5)	1.04 (26.5)	.642 (16.3)	.886 (22.5)
.27	1213EFR-O-.27-4-*	.394 (10.0)	1.04 (26.5)	.748 (19.0)	.886 (22.5)
.33	1213EFR-P-.33-4-*	.433 (11.0)	1.26 (32.0)	.787 (20.0)	1.08 (27.5)
.39	1213EFR-P-.39-4-*	.433 (11.0)	1.26 (32.0)	.787 (20.0)	1.08 (27.5)
.47	1213EFR-P-.47-4-*	.433 (11.0)	1.26 (32.0)	.787 (20.0)	1.08 (27.5)
.56	1213EFR-Q-.56-4-*	.512 (13.0)	1.26 (32.0)	.866 (22.0)	1.08 (27.5)

\* - Please insert appropriate tolerance code



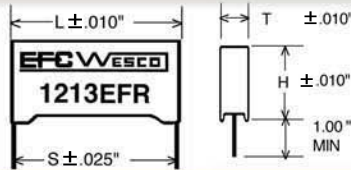


Please consult factory for special requirements, including non-standard values and sizes

**1213EFR**  
Rectangular Plastic Case  
(Radial Leads)

**Metallized Polypropylene Capacitors**

Lead Specs -  
Tinned Copperweld  
B through E cases: 22 AWG  
F through Q cases: 20 AWG



## Dimensions and Ratings

Cap.	<b>630 VDC / 250 VAC</b>				
μF	Part #	T in. (mm)	L in. (mm)	H in. (mm)	S in. (mm)
.001	1213EFR-C-.001-6.3-*	.157 (4.0)	.512 (13.0)	.354 (9.0)	.394 (10.0)
.0012	1213EFR-C-.0012-6.3-*	.157 (4.0)	.512 (13.0)	.354 (9.0)	.394 (10.0)
.0015	1213EFR-C-.0015-6.3-*	.157 (4.0)	.512 (13.0)	.354 (9.0)	.394 (10.0)
.0018	1213EFR-C-.0018-6.3-*	.157 (4.0)	.512 (13.0)	.354 (9.0)	.394 (10.0)
.0022	1213EFR-C-.0022-6.3-*	.157 (4.0)	.512 (13.0)	.354 (9.0)	.394 (10.0)
.0027	1213EFR-C-.0027-6.3-*	.157 (4.0)	.512 (13.0)	.354 (9.0)	.394 (10.0)
.0033	1213EFR-C-.0033-6.3-*	.157 (4.0)	.512 (13.0)	.354 (9.0)	.394 (10.0)
.0039	1213EFR-C-.0039-6.3-*	.157 (4.0)	.512 (13.0)	.354 (9.0)	.394 (10.0)
.0047	1213EFR-C-.0047-6.3-*	.157 (4.0)	.512 (13.0)	.354 (9.0)	.394 (10.0)
.0056	1213EFR-C-.0056-6.3-*	.157 (4.0)	.512 (13.0)	.354 (9.0)	.394 (10.0)
.0068	1213EFR-C-.0068-6.3-*	.157 (4.0)	.512 (13.0)	.354 (9.0)	.394 (10.0)
.0082	1213EFR-C-.0082-6.3-*	.157 (4.0)	.512 (13.0)	.354 (9.0)	.394 (10.0)
.01	1213EFR-D-.01-6.3-*	.197 (5.0)	.512 (13.0)	.433 (11.0)	.394 (10.0)
.012	1213EFR-D-.012-6.3-*	.197 (5.0)	.512 (13.0)	.433 (11.0)	.394 (10.0)
.015	1213EFR-E-.015-6.3-*	.236 (6.0)	.512 (13.0)	.472 (12.0)	.394 (10.0)
.018	1213EFR-E-.018-6.3-*	.236 (6.0)	.512 (13.0)	.472 (12.0)	.394 (10.0)
.022	1213EFR-F-.022-6.3-*	.197 (5.0)	.709 (18.0)	.433 (11.0)	.591 (15.0)
.027	1213EFR-G-.027-6.3-*	.236 (6.0)	.709 (18.0)	.472 (12.0)	.591 (15.0)
.033	1213EFR-G-.033-6.3-*	.236 (6.0)	.709 (18.0)	.472 (12.0)	.591 (15.0)
.039	1213EFR-E-.039-6.3-*	.295 (7.5)	.709 (18.0)	.531 (13.5)	.591 (15.0)
.047	1213EFR-H-.047-6.3-*	.295 (7.5)	.709 (18.0)	.531 (13.5)	.591 (15.0)
.056	1213EFR-H-.056-6.3-*	.295 (7.5)	.709 (18.0)	.531 (13.5)	.591 (15.0)
.068	1213EFR-K-.068-6.3-*	.276 (7.0)	1.04 (26.5)	.630 (16.0)	.787 (20.0)
.068	1213EFR-M-.068-6.3-*	.276 (7.0)	1.04 (26.5)	.630 (16.0)	.886 (22.5)
.082	1213EFR-N-.082-6.3-*	.335 (8.5)	1.04 (26.5)	.642 (16.3)	.886 (22.5)
.1	1213EFR-N-.1-6.3-*	.335 (8.5)	1.04 (26.5)	.642 (16.3)	.886 (22.5)
.12	1213EFR-O-.12-6.3-*	.394 (10.0)	1.04 (26.5)	.748 (19.0)	.886 (22.5)
.15	1213EFR-P-.15-6.3-*	.433 (11.0)	1.26 (32.0)	.787 (20.0)	1.08 (27.5)
.18	1213EFR-P-.18-6.3-*	.433 (11.0)	1.26 (32.0)	.787 (20.0)	1.08 (27.5)
.22	1213EFR-P-.22-6.3-*	.433 (11.0)	1.26 (32.0)	.787 (20.0)	1.08 (27.5)
.27	1213EFR-Q-.27-6.3-*	.512 (13.0)	1.26 (32.0)	.866 (22.0)	1.08 (27.5)

\* - Please insert appropriate tolerance code



Please consult factory for special requirements, including non-standard values and sizes

## 1213DFR

Epoxy Dipped (Radial Leads)

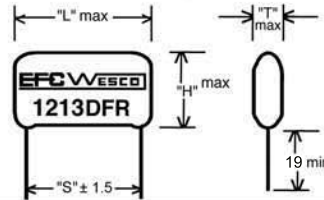
## Metallized Polypropylene Capacitors

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
44.0	38.0	1.0

## Dimensions and Ratings

All dimensions in mm



Cap.	160 VDC			
μF	Part #	T	H	L
.001	1213DFR-3-.001-1.6-*	4.0	8.0	10.0
.0012	1213DFR-3-.0012-1.6-*	4.0	8.0	10.0
.0015	1213DFR-3-.0015-1.6-*	4.0	8.0	10.0
.0022	1213DFR-3-.0022-1.6-*	4.0	8.0	10.0
.0027	1213DFR-3-.0027-1.6-*	4.0	8.0	10.0
.0039	1213DFR-3-.0039-1.6-*	4.0	8.0	10.0
.0047	1213DFR-3-.0047-1.6-*	4.0	8.0	10.0
.0056	1213DFR-3-.0056-1.6-*	4.0	8.0	10.0
.0068	1213DFR-3-.0068-1.6-*	4.0	8.0	10.0
.0082	1213DFR-3-.0082-1.6-*	4.0	8.0	10.0
.01	1213DFR-3-.01-1.6-*	4.0	8.0	10.0
.012	1213DFR-3-.012-1.6-*	4.0	8.0	10.0
.015	1213DFR-3-.015-1.6-*	4.0	8.0	10.0
.018	1213DFR-3-.018-1.6-*	4.0	8.0	10.0
.022	1213DFR-3-.022-1.6-*	4.0	8.0	10.0
.027	1213DFR-3-.027-1.6-*	4.0	8.5	10.0
.033	1213DFR-3-.033-1.6-*	4.0	8.5	10.0
.039	1213DFR-3-.039-1.6-*	4.0	9.0	10.0
.047	1213DFR-3-.047-1.6-*	4.0	9.0	10.0
.056	1213DFR-3-.056-1.6-*	4.0	9.0	10.0
.068	1213DFR-3-.068-1.6-*	4.0	9.0	12.5
.082	1213DFR-3-.082-1.6-*	4.5	9.0	12.5
.1	1213DFR-3-.1-1.6-*	4.5	9.5	12.5
.12	1213DFR-3-.12-1.6-*	5.0	10.0	12.5
.15	1213DFR-3-.15-1.6-*	5.5	11.0	12.5
.18	1213DFR-3-.18-1.6-*	6.0	12.0	12.5
.22	1213DFR-3-.22-1.6-*	5.5	11.0	18.0
.27	1213DFR-3-.27-1.6-*	6.0	12.0	18.0
.33	1213DFR-3-.33-1.6-*	6.5	12.5	18.0
.39	1213DFR-3-.39-1.6-*	7.0	13.0	18.0
.47	1213DFR-3-.47-1.6-*	7.5	13.5	18.0
.56	1213DFR-3-.56-1.6-*	8.0	14.5	18.0
.68	1213DFR-3-.68-1.6-*	8.5	16.0	18.0
.82	1213DFR-3-.82-1.6-*	8.0	14.5	26.0
1.0	1213DFR-3-1.0-1.6-*	8.5	16.0	26.0
1.2	1213DFR-3-1.2-1.6-*	9.0	16.5	26.0
1.5	1213DFR-3-1.5-1.6-*	9.5	18.0	26.0
1.8	1213DFR-3-1.8-1.6-*	9.5	18.0	31.0
2.2	1213DFR-3-2.2-1.6-*	10.0	20.0	31.0
2.7	1213DFR-3-2.7-1.6-*	11.5	21.0	31.0
3.3	1213DFR-3-3.3-1.6-*	12.5	23.0	31.0
3.9	1213DFR-3-3.9-1.6-*	13.5	25.0	31.0
4.7	1213DFR-3-4.7-1.6-*	15.0	26.0	31.0
5.6	1213DFR-3-5.6-1.6-*	16.0	28.0	31.0
6.8	1213DFR-3-6.8-1.6-*	17.0	30.0	31.0

Cap.	250 VDC			
μF	Part #	T	H	L
.001	1213DFR-3-.001-2.5-*	4.0	8.0	10.0
.0012	1213DFR-3-.0012-2.5-*	4.0	8.0	10.0
.0015	1213DFR-3-.0015-2.5-*	4.0	8.0	10.0
.0022	1213DFR-3-.0022-2.5-*	4.0	8.0	10.0
.0027	1213DFR-3-.0027-2.5-*	4.0	8.0	10.0
.0039	1213DFR-3-.0039-2.5-*	4.0	8.0	10.0
.0047	1213DFR-3-.0047-2.5-*	4.0	8.0	10.0
.0056	1213DFR-3-.0056-2.5-*	4.0	8.0	10.0
.0068	1213DFR-3-.0068-2.5-*	4.0	8.0	10.0
.0082	1213DFR-3-.0082-2.5-*	4.0	8.0	10.0
.01	1213DFR-3-.01-2.5-*	4.0	8.0	10.0
.012	1213DFR-3-.012-2.5-*	4.0	8.0	10.0
.015	1213DFR-3-.015-2.5-*	4.0	8.5	10.0
.018	1213DFR-3-.018-2.5-*	4.0	8.5	10.0
.022	1213DFR-3-.022-2.5-*	4.0	9.0	10.0
.027	1213DFR-3-.027-2.5-*	4.0	9.0	10.0
.033	1213DFR-3-.033-2.5-*	4.5	9.0	12.5
.039	1213DFR-3-.039-2.5-*	5.0	10.0	12.5
.047	1213DFR-3-.047-2.5-*	5.5	10.5	12.5
.056	1213DFR-3-.056-2.5-*	5.5	11.0	12.5
.068	1213DFR-3-.068-2.5-*	6.0	12.0	12.5
.082	1213DFR-3-.082-2.5-*	5.0	10.0	18.0
.1	1213DFR-3-.1-2.5-*	5.5	11.0	18.0
.12	1213DFR-3-.12-2.5-*	6.0	12.0	18.0
.15	1213DFR-3-.15-2.5-*	6.5	12.5	18.0
.18	1213DFR-3-.18-2.5-*	7.0	13.0	18.0
.22	1213DFR-3-.22-2.5-*	7.5	14.0	18.0
.27	1213DFR-3-.27-2.5-*	8.5	15.5	18.0
.33	1213DFR-3-.33-2.5-*	7.5	14.0	26.0
.39	1213DFR-3-.39-2.5-*	8.0	14.5	26.0
.47	1213DFR-3-.47-2.5-*	8.5	15.0	26.0
.56	1213DFR-3-.56-2.5-*	9.0	16.5	26.0
.68	1213DFR-3-.68-2.5-*	9.5	18.0	26.0
.82	1213DFR-3-.82-2.5-*	9.5	17.0	31.0
1.0	1213DFR-3-1.0-2.5-*	10.0	19.0	31.0
1.2	1213DFR-3-1.2-2.5-*	11.0	20.0	31.0
1.5	1213DFR-3-1.5-2.5-*	12.5	23.0	31.0
1.8	1213DFR-3-1.8-2.5-*	13.0	24.0	31.0
2.2	1213DFR-3-2.2-2.5-*	14.0	26.0	31.0
2.7	1213DFR-3-2.7-2.5-*	15.5	28.0	31.0
3.3	1213DFR-3-3.3-2.5-*	17.5	33.0	31.0
3.9	1213DFR-3-3.9-2.5-*	16.5	28.0	44.0
4.7	1213DFR-3-4.7-2.5-*	17.5	33.0	44.0

\* - Please insert appropriate tolerance code





Please consult factory for special requirements, including non-standard values and sizes

## 1213DFR

Epoxy Dipped (Radial Leads)

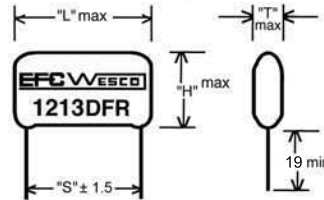
## Metallized Polypropylene Capacitors

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
44.0	38.0	1.0

## Dimensions and Ratings

All dimensions in mm



Cap.	400 VDC			
µF	Part #	T	H	L
.001	1213DFR-3-.001-4-*	4.0	8.0	10.0
.0012	1213DFR-3-.0012-4-*	4.0	8.0	10.0
.0015	1213DFR-3-.0015-4-*	4.0	8.0	10.0
.0022	1213DFR-3-.0022-4-*	4.0	8.0	10.0
.0027	1213DFR-3-.0027-4-*	4.0	8.0	10.0
.0039	1213DFR-3-.0039-4-*	4.0	8.5	10.0
.0047	1213DFR-3-.0047-4-*	4.0	9.0	10.0
.0056	1213DFR-3-.0056-4-*	4.0	9.0	10.0
.0068	1213DFR-3-.0068-4-*	4.5	9.0	10.0
.0082	1213DFR-3-.0082-4-*	4.5	9.0	10.0
.01	1213DFR-3-.01-4-*	4.5	9.0	10.0
.012	1213DFR-3-.012-4-*	4.5	9.0	12.5
.015	1213DFR-3-.015-4-*	4.5	9.0	12.5
.018	1213DFR-3-.018-4-*	4.5	9.0	12.5
.022	1213DFR-3-.022-4-*	5.0	9.5	12.5
.027	1213DFR-3-.027-4-*	5.0	10.0	12.5
.033	1213DFR-3-.033-4-*	5.5	11.0	12.5
.039	1213DFR-3-.039-4-*	6.0	12.0	12.5
.047	1213DFR-3-.047-4-*	6.5	12.5	12.5
.056	1213DFR-3-.056-4-*	5.5	11.0	18.0
.068	1213DFR-3-.068-4-*	6.5	12.5	18.0
.082	1213DFR-3-.082-4-*	7.0	13.0	18.0
.1	1213DFR-3-.1-4-*	7.5	14.0	18.0
.12	1213DFR-3-.12-4-*	8.0	14.5	18.0
.15	1213DFR-3-.15-4-*	8.5	16.0	18.0
.18	1213DFR-3-.18-4-*	8.0	14.0	26.0
.22	1213DFR-3-.22-4-*	8.5	16.0	26.0
.27	1213DFR-3-.27-4-*	9.0	16.5	26.0
.33	1213DFR-3-.33-4-*	9.5	18.0	26.0
.39	1213DFR-3-.39-4-*	9.5	18.0	31.0
.47	1213DFR-3-.47-4-*	10.0	19.0	31.0
.56	1213DFR-3-.56-4-*	11.0	20.0	31.0
.68	1213DFR-3-.68-4-*	12.0	22.0	31.0
.82	1213DFR-3-.82-4-*	13.0	23.0	31.0
1.0	1213DFR-3-1.0-4-*	14.0	25.0	31.0
1.2	1213DFR-3-1.2-4-*	15.0	27.0	31.0
1.5	1213DFR-3-1.5-4-*	17.0	32.0	31.0
1.8	1213DFR-3-1.8-4-*	15.0	27.0	44.0
2.2	1213DFR-3-2.2-4-*	17.0	32.0	44.0

Cap.	630 VDC			
µF	Part #	T	H	L
.001	1213DFR-3-.001-6.3-*	4.0	8.0	10.0
.0012	1213DFR-3-.0012-6.3-*	4.0	8.5	10.0
.0015	1213DFR-3-.0015-6.3-*	4.0	8.5	10.0
.0022	1213DFR-3-.0022-6.3-*	4.0	9.0	10.0
.0027	1213DFR-3-.0027-6.3-*	4.0	9.0	10.0
.0039	1213DFR-3-.0039-6.3-*	4.0	9.0	10.0
.0047	1213DFR-3-.0047-6.3-*	4.0	9.0	12.5
.0056	1213DFR-3-.0056-6.3-*	4.0	9.0	12.5
.0068	1213DFR-3-.0068-6.3-*	4.5	9.0	12.5
.0082	1213DFR-3-.0082-6.3-*	5.0	9.5	12.5
.01	1213DFR-3-.01-6.3-*	5.0	10.0	12.5
.012	1213DFR-3-.012-6.3-*	5.5	11.0	12.5
.015	1213DFR-3-.015-6.3-*	6.0	12.0	12.5
.018	1213DFR-3-.018-6.3-*	5.5	11.0	18.0
.022	1213DFR-3-.022-6.3-*	6.0	12.0	18.0
.027	1213DFR-3-.027-6.3-*	6.5	12.0	18.0
.033	1213DFR-3-.033-6.3-*	6.5	12.5	18.0
.039	1213DFR-3-.039-6.3-*	7.0	13.0	18.0
.047	1213DFR-3-.047-6.3-*	7.5	13.5	18.0
.056	1213DFR-3-.056-6.3-*	8.0	14.0	18.0
.068	1213DFR-3-.068-6.3-*	8.5	16.0	18.0
.082	1213DFR-3-.082-6.3-*	8.0	14.0	26.0
.1	1213DFR-3-.1-6.3-*	8.5	16.0	26.0
.12	1213DFR-3-.12-6.3-*	9.0	16.5	26.0
.15	1213DFR-3-.15-6.3-*	9.5	18.0	26.0
.18	1213DFR-3-.18-6.3-*	9.5	17.0	31.0
.22	1213DFR-3-.22-6.3-*	10.0	19.0	31.0
.27	1213DFR-3-.27-6.3-*	10.5	20.0	31.0
.33	1213DFR-3-.33-6.3-*	12.0	22.0	31.0
.39	1213DFR-3-.39-6.3-*	13.0	23.0	31.0
.47	1213DFR-3-.47-6.3-*	14.0	25.0	31.0
.56	1213DFR-3-.56-6.3-*	15.0	27.0	31.0
.68	1213DFR-3-.68-6.3-*	17.0	32.0	31.0
.82	1213DFR-3-.82-6.3-*	15.0	27.0	44.0
1.0	1213DFR-3-1.0-6.3-*	17.0	32.0	44.0

\* - Please insert appropriate tolerance code