

Series M1213 Metallized Polypropylene Pulse Capacitors

Features: Flame retardant to UL94, high peak/pulse current, low ESR, low inductance, high frequency operation, self healing.

Applications: DC, AC and pulse applications.

Packaging: Axial wrap and fill (TF, TC), radial lead box (EFR).

Specifications

1) Temperature Range

-55°C to +85°C at rated voltage.

2) Capacitance

0.047μF to 4.7μF

3) Dielectric Strength

At 25°C, 200% of rated voltage when applied terminal to terminal for 10 seconds 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

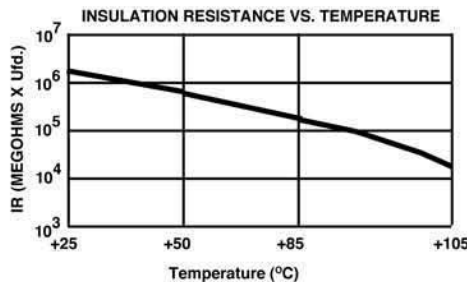
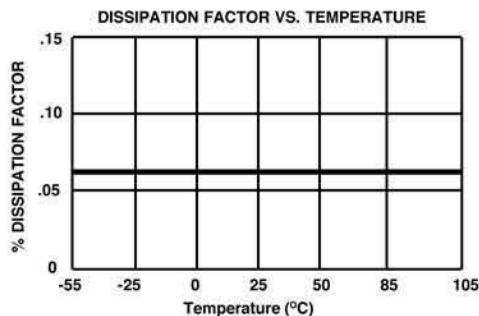
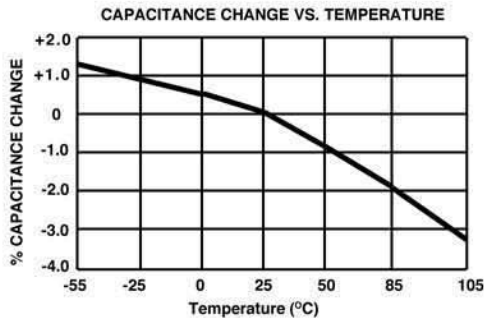
Series M1213 shall meet the requirements of MIL-STD. 202, Method 103B.

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 (μ 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.

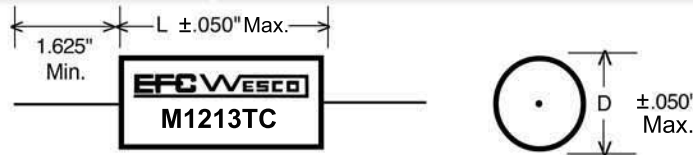
- A - Aluminum foil electrodes
- T - Tin foil electrodes
- HV - High voltage DC applications
- AC - AC voltage rated applications
- MF - Metallized and foil hybrid for maximum pulse current applications
- M - Dual metallized design for pulse current applications
- SP - Low ESR, high RMS current applications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



M1213TC

Tubular Wrap & Fill

Metallized Polypropylene Pulse Capacitors



Dimensions and Ratings

Cap.		850 VDC / 450 VAC						
μF	Part #	D inches (mm)	L inches (mm)	Lead Dia.	dv/dt (V/μsec.)	PK Current (amps)	100 kHz ESR (Milliohms)	RMS Current (amps)
0.10	M1213TC-3-.1-8.5-*	.390	1.300	.031	450	45	16.5	5
0.15	M1213TC-3-.15-8.5-*	.460	1.300	.031	450	68	11.5	7
0.22	M1213TC-3-.22-8.5-*	.540	1.300	.040	450	99	8.1	9
0.33	M1213TC-3-.33-8.5-*	.640	1.300	.040	450	149	5.7	9
0.47	M1213TC-3-.47-8.5-*	.760	1.300	.040	450	212	4.7	9
0.68	M1213TC-3-.68-8.5-*	.720	1.800	.040	295	201	5.1	9
1.00	M1213TC-3-1.0-8.5-*	.860	1.800	.050	295	295	3.9	12
1.50	M1213TC-3-1.5-8.5-*	1.030	1.800	.050	295	443	3.1	12
2.00	M1213TC-3-2.0-8.5-*	1.040	2.300	.050	205	410	3.9	12
3.00	M1213TC-3-3.0-8.5-*	1.300	2.300	.050	205	615	3.4	12

Cap.		1200 VDC / 500 VAC						
μF	Part #	D inches (mm)	L inches (mm)	Lead Dia.	dv/dt (V/μsec.)	PK Current (amps)	100 kHz ESR (Milliohms)	RMS Current (amps)
0.047	M1213TC-3-.047-1.2K-*	.390	1.300	.031	710	33	27.0	4
0.068	M1213TC-3-.068-1.2K-*	.460	1.300	.031	710	48	19.0	5
0.10	M1213TC-3-.1-1.2K-*	.540	1.300	.031	710	71	13.4	7
0.15	M1213TC-3-.15-1.2K-*	.650	1.300	.040	710	107	9.3	9
0.22	M1213TC-3-.22-1.2K-*	.790	1.300	.040	710	156	6.8	9
0.33	M1213TC-3-.33-1.2K-*	.760	1.800	.040	450	149	7.2	9
0.47	M1213TC-3-.47-1.2K-*	.860	1.800	.040	450	212	5.7	9
0.68	M1213TC-3-.68-1.2K-*	1.070	1.800	.050	450	306	4.3	12
1.00	M1213TC-3-1.0-1.2K-*	1.260	1.800	.050	450	450	3.4	12
1.50	M1213TC-3-1.5-1.2K-*	1.280	2.300	.050	280	420	4.1	12
2.00	M1213TC-3-2.0-1.2K-*	1.450	2.300	.050	280	560	3.7	12

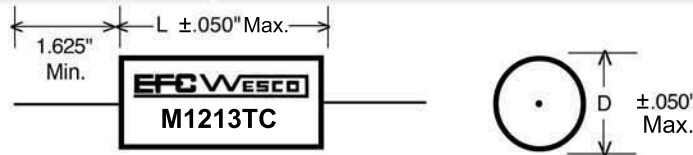
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M1213TC

Tubular Wrap & Fill

Metallized Polypropylene Pulse Capacitors



Dimensions and Ratings

Cap.	2000 VDC / 630 VAC							
μF	Part #	D inches (mm)	L inches (mm)	Lead Dia.	dv/dt (V/μsec.)	PK Current (amps)	100 kHz ESR (Milliohms)	RMS Current (amps)
0.022	M1213TC-3-.022-2K-*	.420	1.300	.031	1150	25	48.0	3
0.033	M1213TC-3-.033-2K-*	.500	1.300	.031	1150	38	32.4	4
0.047	M1213TC-3-.047-2K-*	.580	1.300	.040	1150	54	23.2	6
0.068	M1213TC-3-.068-2K-*	.690	1.300	.040	1150	78	16.3	7
0.10	M1213TC-3-.1-2K-*	.810	1.300	.040	1150	115	11.5	9
0.15	M1213TC-3-.15-2K-*	.770	1.800	.040	710	107	11.2	9
0.22	M1213TC-3-.22-2K-*	.920	1.800	.050	710	156	8.1	12
0.33	M1213TC-3-.33-2K-*	1.110	1.800	.050	710	234	5.9	12
0.47	M1213TC-3-.47-2K-*	1.310	1.800	.050	710	334	4.8	12
0.68	M1213TC-3-.68-2K-*	1.340	2.300	.050	405	275	5.4	12

Cap.	3000 VDC / 750 VAC							
μF	Part #	D inches (mm)	L inches (mm)	Lead Dia.	dv/dt (V/μsec.)	PK Current (amps)	100 kHz ESR (Milliohms)	RMS Current (amps)
0.0068	M1213TC-3-.0068-3K-*	.400	1.300	.031	2050	14	130.0	2
0.010	M1213TC-3-.01-3K-*	.470	1.300	.031	2050	21	91.0	3
0.015	M1213TC-3-.015-3K-*	.560	1.300	.040	2050	31	61.0	4
0.022	M1213TC-3-.022-3K-*	.660	1.300	.040	2050	45	42.0	5
0.033	M1213TC-3-.033-3K-*	.800	1.300	.040	2050	68	27.0	7
0.047	M1213TC-3-.047-3K-*	.720	1.800	.040	1250	59	25.0	9
0.068	M1213TC-3-.068-3K-*	.850	1.800	.040	1250	85	18.0	9
0.100	M1213TC-3-.1-3K-*	1.010	1.800	.050	1250	125	13.0	12
0.150	M1213TC-3-.15-3K-*	1.230	1.800	.050	1250	188	9.0	12
0.220	M1213TC-3-.22-3K-*	1.230	2.300	.050	745	164	9.4	12

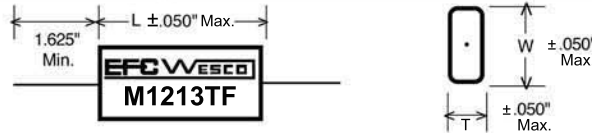
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M1213TF

Oval Wrap & Fill

Metallized Polypropylene Pulse Capacitors



Dimensions and Ratings

Cap.	850 VDC / 450 VAC								
µF	Part #	T inches (mm)	W inches (mm)	L inches (mm)	Lead Dia.	dv/dt (V/µsec.)	PK Current (amps)	100 kHz ESR (Milliohms)	RMS Current (amps)
0.10	M1213TF-3-.1-8.5-*	0.290	0.460	1.300	.031	450	45	16.5	5
0.15	M1213TF-3-.15-8.5-*	0.360	0.530	1.300	.031	450	68	11.5	7
0.22	M1213TF-3-.22-8.5-*	0.420	0.620	1.300	.040	450	99	8.1	9
0.33	M1213TF-3-.33-8.5-*	0.520	0.720	1.300	.040	450	149	5.7	9
0.47	M1213TF-3-.47-8.5-*	0.640	0.840	1.300	.040	450	212	4.7	9
0.68	M1213TF-3-.68-8.5-*	0.600	0.800	1.800	.040	295	201	5.1	9
1.00	M1213TF-3-1.0-8.5-*	0.740	0.940	1.800	.050	295	295	3.9	12
1.50	M1213TF-3-1.5-8.5-*	0.910	1.110	1.800	.050	295	443	3.1	12
2.00	M1213TF-3-2.0-8.5-*	0.920	1.120	2.300	.050	205	410	3.9	12
3.00	M1213TF-3-3.0-8.5-*	1.180	1.380	2.300	.050	205	615	3.4	12

Cap.	1200 VDC / 500 VAC								
µF	Part #	T inches (mm)	W inches (mm)	L inches (mm)	Lead Dia.	dv/dt (V/µsec.)	PK Current (amps)	100 kHz ESR (Milliohms)	RMS Current (amps)
0.047	M1213TF-3-.047-1.2K-*	0.290	0.460	1.300	.031	710	33	27.0	4
0.068	M1213TF-3-.068-1.2K-*	0.360	0.530	1.300	.031	710	48	19.0	5
0.10	M1213TF-3-.1-1.2K-*	0.420	0.620	1.300	.031	710	71	13.4	7
0.15	M1213TF-3-.15-1.2K-*	0.530	0.730	1.300	.040	710	107	9.3	9
0.22	M1213TF-3-.22-1.2K-*	0.670	0.870	1.300	.040	710	156	6.8	9
0.33	M1213TF-3-.33-1.2K-*	0.640	0.840	1.800	.040	450	149	7.2	9
0.47	M1213TF-3-.47-1.2K-*	0.740	0.940	1.800	.040	450	212	5.7	9
0.68	M1213TF-3-.68-1.2K-*	0.950	1.150	1.800	.050	450	306	4.3	12
1.00	M1213TF-3-1.0-1.2K-*	1.140	1.340	1.800	.050	450	450	3.4	12
1.50	M1213TF-3-1.5-1.2K-*	1.160	1.360	2.300	.050	280	420	4.1	12
2.00	M1213TF-3-2.0-1.2K-*	1.330	1.530	2.300	.050	280	560	3.7	12

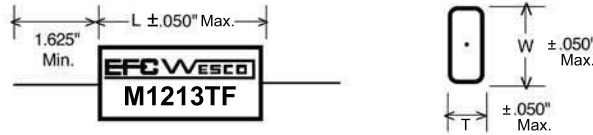
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M1213TF

Oval Wrap & Fill

Metallized Polypropylene Pulse Capacitors



Dimensions and Ratings

Cap.		2000 VDC / 630 VAC							
µF	Part #	T inches (mm)	W inches (mm)	L inches (mm)	Lead Dia.	dv/dt (V/µsec.)	PK Current (amps)	100 kHz ESR (Milliohms)	RMS Current (amps)
0.022	M1213TF-3-.022-2K-*	0.320	0.490	1.300	.031	1150	25	48.0	3
0.033	M1213TF-3-.033-2K-*	0.380	0.580	1.300	.031	1150	38	32.4	4
0.047	M1213TF-3-.047-2K-*	0.460	0.660	1.300	.040	1150	54	23.2	6
0.068	M1213TF-3-.068-2K-*	0.570	0.770	1.300	.040	1150	78	16.3	7
0.10	M1213TF-3-.1-2K-*	0.690	0.890	1.300	.040	1150	115	11.5	9
0.15	M1213TF-3-.15-2K-*	0.650	0.850	1.800	.040	710	107	11.2	9
0.22	M1213TF-3-.22-2K-*	0.800	1.000	1.800	.050	710	156	8.1	12
0.33	M1213TF-3-.33-2K-*	0.990	1.190	1.800	.050	710	234	5.9	12
0.47	M1213TF-3-.47-2K-*	1.190	1.390	1.800	.050	710	334	4.8	12
0.68	M1213TF-3-.68-2K-*	1.220	1.420	2.300	.050	405	275	5.4	12

Cap.		3000 VDC / 750 VAC							
µF	Part #	T inches (mm)	W inches (mm)	L inches (mm)	Lead Dia.	dv/dt (V/µsec.)	PK Current (amps)	100 kHz ESR (Milliohms)	RMS Current (amps)
0.0068	M1213TF-3-.0068-3K-*	0.300	0.470	1.300	.031	2050	14	130.0	2
0.010	M1213TF-3-.01-3K-*	0.350	0.550	1.300	.031	2050	21	91.0	3
0.015	M1213TF-3-.015-3K-*	0.440	0.640	1.300	.040	2050	31	61.0	4
0.022	M1213TF-3-.022-3K-*	0.540	0.740	1.300	.040	2050	45	42.0	5
0.033	M1213TF-3-.033-3K-*	0.680	0.880	1.300	.040	2050	68	27.0	7
0.047	M1213TF-3-.047-3K-*	0.600	0.800	1.800	.040	1250	59	25.0	9
0.068	M1213TF-3-.068-3K-*	0.730	0.930	1.800	.040	1250	85	18.0	9
0.100	M1213TF-3-.1-3K-*	0.890	1.090	1.800	.050	1250	125	13.0	12
0.150	M1213TF-3-.15-3K-*	1.110	1.310	1.800	.050	1250	188	9.0	12
0.220	M1213TF-3-.22-3K-*	1.110	1.310	2.300	.050	745	164	9.4	12

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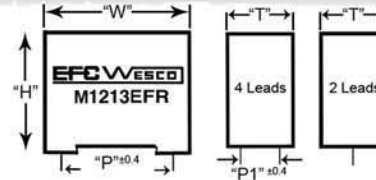


Please consult factory for special requirements, including non-standard values and sizes

M1213EFR
Rectangular Plastic Case
(Radial Leads)

Metallized Polypropylene Pulse Capacitors

Dimensions and Ratings



Cap.		850 VDC / 500 VAC												
μF	Part #	"T" mm	"W" mm	"H" mm	"P" mm	"P1" mm	I _{PEAK} AMPS	I _{RMS} AMPS 100kHz @ 70°C			ESR (mΩ) Max @100kHz			dV/dT V/μS
								d=0.8 2 wires	d=1.2 2 wires	d=1.2 4 wires	d=0.8 2 wires	d=1.2 2 wires	d=1.2 4 wires	
.15	M1213EFR-32-.15-8.5-*	11.0	32.0	20.0	27.5	-	184	8.0	8.0	-	14.2	13.6	-	1225
.22	M1213EFR-32-.22-8.5-*	11.0	32.0	20.0	27.5	-	270	9.0	10.0	-	10.1	9.4	-	1225
.33	M1213EFR-32-.33-8.5-*	16.0	32.0	25.5	27.5	-	405	9.0	12.9	-	7.5	6.8	-	1225
.33	M1213EFR-34-.33-8.5-*	16.0	32.0	25.5	27.5	5.1	405	-	-	14.0	-	-	5.9	1225
.47	M1213EFR-32-.47-8.5-*	18.0	32.0	30.0	27.5	-	577	9.0	13.9	-	6.2	5.2	-	1225
.47	M1213EFR-34-.47-8.5-*	18.0	32.0	30.0	27.5	5.1	577	-	-	14.0	-	-	4.3	1225
.82	M1213EFR-32-.82-8.5-*	20.0	42.0	41.0	37.5	-	615	9.0	13.9	-	6.5	5.4	-	750
.82	M1213EFR-34-.82-8.5-*	20.0	42.0	41.0	37.5	10.2	615	-	-	22.0	-	-	4.2	750
1.00	M1213EFR-32-1.0-8.5-*	20.0	42.0	41.0	37.5	-	750	9.0	13.9	-	6.3	5.2	-	750
1.00	M1213EFR-34-1.0-8.5-*	20.0	42.0	41.0	37.5	10.2	750	-	-	23.0	-	-	4.1	750
1.50	M1213EFR-32-1.5-8.5-*	32.0	42.0	35.0	37.5	-	750	9.0	13.9	-	5.0	4.7	-	750
1.50	M1213EFR-34-1.5-8.5-*	32.0	42.0	35.0	37.5	10.2	750	-	-	28.0	-	-	3.8	750
2.20	M1213EFR-32-2.2-8.5-*	35.0	57.5	51.0	52.5	-	1034	9.0	13.9	-	5.9	5.1	-	470
2.20	M1213EFR-34-2.2-8.5-*	35.0	57.5	51.0	52.5	20.3	1034	-	-	29.0	-	-	4.6	470
3.00	M1213EFR-32-3.0-8.5-*	35.0	57.5	51.0	52.5	-	1410	9.0	13.9	-	5.6	4.5	-	470
3.00	M1213EFR-34-3.0-8.5-*	35.0	57.5	51.0	52.5	20.3	1410	-	-	29.0	-	-	3.3	470
4.00	M1213EFR-32-4.0-8.5-*	35.0	57.5	60.5	52.5	-	1880	9.0	13.9	-	5.0	3.8	-	470
4.00	M1213EFR-34-4.0-8.5-*	35.0	57.5	60.5	52.5	20.3	1880	-	-	29.0	-	-	2.6	470
4.70	M1213EFR-32-4.7-8.5-*	35.0	57.5	60.5	52.5	-	2209	9.0	13.9	-	4.6	3.5	-	470
4.70	M1213EFR-34-4.7-8.5-*	35.0	57.5	60.5	52.5	20.3	2209	-	-	29.0	-	-	-	470

* - Please insert appropriate tolerance code

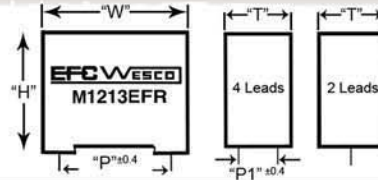


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M1213EFR
Rectangular Plastic Case
(Radial Leads)

Metallized Polypropylene Pulse Capacitors

Dimensions and Ratings



Cap.		1000 VDC / 600 VAC												
µF	Part #	"T" mm	"W" mm	"H" mm	"P" mm	"P1" mm	I _{PEAK} AMPS	I _{RMS} AMPS 100kHz @ 70°C			ESR (mΩ) Max @100kHz			dV/dT V/µs
								d=0.8	d=1.2	d=1.2	d=0.8	d=1.2	d=1.2	
								2 wires	2 wires	4 wires	2 wires	2 wires	4 wires	
.15	M1213EFR-32-15-10-*	11.0	32.0	20.0	27.5	-	201	8.0	8.0	-	13.2	12.6	-	1340
.22	M1213EFR-32-22-10-*	11.0	32.0	20.0	27.5	-	295	9.0	10.9	-	9.7	9.1	-	1340
.33	M1213EFR-32-33-10-*	16.0	32.0	25.5	27.5	-	442	9.0	14.0	-	7.3	6.5	-	1340
.33	M1213EFR-34-33-10-*	16.0	32.0	25.5	27.5	5.1	442	-	-	15.0	-	-	5.5	1340
.47	M1213EFR-32-47-10-*	18.0	32.0	30.0	27.5	-	630	9.0	14.0	-	5.9	5.1	-	1340
.47	M1213EFR-34-47-10-*	18.0	32.0	30.0	27.5	5.1	630	-	-	20.0	-	-	4.2	1340
.82	M1213EFR-32-82-10-*	20.0	42.0	41.0	37.5	-	678	9.0	13.9	-	6.2	5.1	-	827
.82	M1213EFR-34-82-10-*	20.0	42.0	41.0	37.5	10.2	678	-	-	22.0	-	-	3.8	827
1.00	M1213EFR-32-1.0-10-*	20.0	42.0	41.0	37.5	-	827	9.0	13.9	-	6.0	5.1	-	827
1.00	M1213EFR-34-1.0-10-*	20.0	42.0	41.0	37.5	10.2	827	-	-	23.0	-	-	3.4	827
1.50	M1213EFR-32-1.5-10-*	32.0	42.0	35.0	37.5	-	1240	9.0	13.9	-	4.6	3.7	-	827
1.50	M1213EFR-34-1.5-10-*	32.0	42.0	35.0	37.5	10.2	1240	-	-	29.0	-	-	2.7	827
2.20	M1213EFR-32-2.2-10-*	35.0	57.5	51.0	52.5	-	1126	9.0	13.9	-	5.9	5.1	-	512
2.20	M1213EFR-34-2.2-10-*	35.0	57.5	51.0	52.5	20.3	1126	-	-	29.0	-	-	4.3	512
3.00	M1213EFR-32-3.0-10-*	35.0	57.5	51.0	52.5	-	1536	9.0	13.9	-	5.6	4.5	-	512
3.00	M1213EFR-34-3.0-10-*	35.0	57.5	51.0	52.5	20.3	1536	-	-	29.0	-	-	3.3	512
4.70	M1213EFR-32-4.7-10-*	35.0	57.5	60.5	52.5	-	2406	9.0	13.9	-	4.6	3.5	-	512
4.70	M1213EFR-34-4.7-10-*	35.0	57.5	60.5	52.5	20.3	2406	-	-	29.0	-	-	2.2	512

Cap.		1200 VDC / 630 VAC												
µF	Part #	"T" mm	"W" mm	"H" mm	"P" mm	"P1" mm	I _{PEAK} AMPS	I _{RMS} AMPS 100kHz @ 70°C			ESR (mΩ) Max @100kHz			dV/dT V/µs
								d=0.8	d=1.2	d=1.2	d=0.8	d=1.2	d=1.2	
								2 wires	2 wires	4 wires	2 wires	2 wires	4 wires	
.10	M1213EFR-32-1-1.2K-*	11.0	32.0	20.0	27.5	-	157	7.0	7.0	-	17.2	16.7	-	1570
.15	M1213EFR-32-15-1.2K-*	13.0	32.0	27.0	27.5	-	236	9.0	10.0	-	12.1	11.5	-	1570
.22	M1213EFR-32-22-1.2K-*	13.0	32.0	27.0	27.5	-	345	9.0	10.0	-	9.1	8.3	-	1570
.22	M1213EFR-34-22-1.2K-*	13.0	32.0	27.0	27.5	5.1	345	-	-	13.0	-	-	7.5	1570
.33	M1213EFR-32-33-1.2K-*	18.0	32.0	30.0	27.5	-	518	9.0	14.0	-	7.0	6.0	-	1570
.33	M1213EFR-34-33-1.2K-*	18.0	32.0	30.0	27.5	5.1	518	-	-	17.8	-	-	5.0	1570
.68	M1213EFR-32-68-1.2K-*	20.0	42.0	41.0	37.5	-	656	9.0	14.0	-	7.0	6.0	-	965
.68	M1213EFR-34-68-1.2K-*	20.0	42.0	41.0	37.5	10.2	656	-	-	19.8	-	-	4.8	965
.82	M1213EFR-32-82-1.2K-*	20.0	42.0	41.0	37.5	-	791	9.0	14.0	-	5.6	4.6	-	965
.82	M1213EFR-34-82-1.2K-*	20.0	42.0	41.0	37.5	10.2	791	-	-	25.8	-	-	3.5	965
1.00	M1213EFR-32-1.0-1.2K-*	20.0	42.0	41.0	37.5	-	965	9.0	14.0	-	5.5	4.5	-	965
1.00	M1213EFR-34-1.0-1.2K-*	20.0	42.0	41.0	37.5	10.2	965	-	-	26.2	-	-	3.4	965
1.20	M1213EFR-32-1.2-1.2K-*	32.0	42.0	35.0	37.5	-	1158	9.0	14.0	-	5.1	4.0	-	965
1.20	M1213EFR-34-1.2-1.2K-*	32.0	42.0	35.0	37.5	10.2	1158	-	-	29.0	-	-	3.0	965

* - Please insert appropriate tolerance code

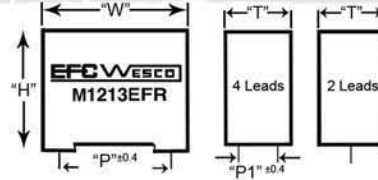


Please consult factory for special requirements, including non-standard values and sizes

M1213EFR
Rectangular Plastic Case
(Radial Leads)

Metallized Polypropylene Pulse Capacitors

Dimensions and Ratings



Cap.		2000 VDC / 700 VAC												
μF	Part #	"T" mm	"W" mm	"H" mm	"P" mm	"P1" mm	I _{PEAK} AMPS	I _{RMS} AMPS 100kHz @ 70°C			ESR (mΩ) Max @100kHz			dV/dT V/μs
								d=0.8 2 wires	d=1.2 2 wires	d=1.2 4 wires	d=0.8 2 wires	d=1.2 2 wires	d=1.2 4 wires	
0.033	M1213EFR-32-.033-2K-*	11.0	32.0	20.0	27.5	-	73	5.0	5.0	-	39.8	39.0	-	2200
0.047	M1213EFR-32-.047-2K-*	11.0	32.0	20.0	27.5	-	103	5.9	5.9	-	28.6	28.0	-	2200
0.068	M1213EFR-32-.068-2K-*	13.0	32.0	27.0	27.5	-	150	8.0	8.0	-	20.0	19.5	-	2200
0.10	M1213EFR-32-.1-2K-*	16.0	32.0	25.5	27.5	-	220	9.0	10.0	-	14.5	13.8	-	2200
0.10	M1213EFR-34-.1-2K-*	16.0	32.0	25.5	27.5	5.1	220	-	-	11.0	-	-	13.1	2200
0.15	M1213EFR-32-.15-2K-*	18.0	32.0	30.0	27.5	-	330	9.0	14.0	-	10.5	9.8	-	2200
0.15	M1213EFR-34-.15-2K-*	18.0	32.0	30.0	27.5	5.1	330	-	-	15.2	-	-	8.7	2200
0.33	M1213EFR-32-.33-2K-*	20.0	42.0	41.0	37.5	-	459	9.0	14.0	-	8.0	7.0	-	1390
0.33	M1213EFR-34-.33-2K-*	20.0	42.0	41.0	37.5	10.2	459	-	-	17.1	-	-	6.0	1390
0.47	M1213EFR-32-.47-2K-*	32.0	42.0	35.0	37.5	-	653	9.0	14.0	-	6.8	6.2	-	1390
0.47	M1213EFR-34-.47-2K-*	32.0	42.0	35.0	37.5	10.2	653	-	-	24.0	-	-	5.2	1390
1.20	M1213EFR-32-1.2-2K-*	35.0	57.5	51.0	52.5	20.3	1014	9.0	14.0	-	6.9	6.3	-	845
1.20	M1213EFR-34-1.2-2K-*	35.0	57.5	51.0	52.5	20.3	1014	-	-	27.8	-	-	5.1	845
1.50	M1213EFR-32-1.5-2K-*	35.0	57.5	51.0	52.5	20.3	1267	9.0	14.0	-	6.2	5.0	-	845
1.50	M1213EFR-34-1.2-2K-*	35.0	57.5	51.0	52.5	20.3	1267	-	-	29.0	-	-	3.8	845

Cap.		3000 VDC / 750 VAC												
μF	Part #	"T" mm	"W" mm	"H" mm	"P" mm	"P1" mm	I _{PEAK} AMPS	I _{RMS} AMPS 100kHz @ 70°C			ESR (mΩ) Max @100kHz			dV/dT V/μs
								d=0.8 2 wires	d=1.2 2 wires	d=1.2 4 wires	d=0.8 2 wires	d=1.2 2 wires	d=1.2 4 wires	
0.022	M1213EFR-32-.022-3K-*	11.0	32.0	20.0	27.5	-	74	5.0	5.0	-	47.5	47.1	-	3350
0.033	M1213EFR-32-.033-3K-*	13.0	32.0	27.0	27.5	-	111	7.0	7.0	-	32.5	32.0	-	3350
0.047	M1213EFR-32-.047-3K-*	16.0	32.0	25.5	27.5	-	157	9.0	9.0	-	23.5	22.7	-	3350
0.047	M1213EFR-34-.047-3K-*	16.0	32.0	25.5	27.5	5.1	157	-	-	9.0	-	-	22.0	3350
0.056	M1213EFR-32-.056-3K-*	16.0	32.0	25.5	27.5	-	188	9.0	9.5	-	19.4	18.2	-	3350
0.056	M1213EFR-34-.056-3K-*	16.0	32.0	25.5	27.5	5.1	188	-	-	10.8	-	-	16.7	3350
0.068	M1213EFR-32-.068-3K-*	16.0	32.0	25.5	27.5	-	227	9.0	10.0	-	17.1	16.0	-	3350
0.068	M1213EFR-34-.068-3K-*	16.0	32.0	25.5	27.5	5.1	228	-	-	11.0	-	-	15.2	3350
0.10	M1213EFR-32-.1-3K-*	18.0	32.0	30.0	27.5	-	335	9.0	13.0	-	12.2	11.4	-	3350
0.10	M1213EFR-34-.1-3K-*	18.0	32.0	30.0	27.5	5.1	335	-	-	15.0	-	-	10.3	3350

* - Please insert appropriate tolerance code