EFPLS

Double metalized polypropylene film pulse capacitor

Photo is representative

Product features

- High capacitance density
- Self-healing property
- High ripple current, low loss
- High reliability
- Suitable for high frequency applications
- Suitable for harsh environmental conditions

Applications

- Solar inverter
- Wind turbine systems
- Switched mode/industrial power supplies
- Snubber and silicon-controlled rectifier commutation circuits
- High voltage, high current applications
- Industrial power supply
- Air conditioner

Environmental compliance and general specifications

- Operating temperature range: -40 °C to +105 °C

Pb RoHS

Powering Business Worldwide

Part number system

EF	PL	S	1A	J	104	C04	2L	H
Capacitor type	**Family**	**Grade**	**Voltage (Vdc)**	**Tolerance**	**Capacitance (pF)**	**Size code**	**Terminal code**	**Lead length code**
EF = film capacitors	Radial leads pulse	S = standard grade	63=630 1A=1000 1B=1100 1C=1200 1D=1300 1G=1600 2A=2000	J = ±5% K = ±10%	First two digits= signifcant figures, third digit = number of zeros example: 104 = 100000 pF	Refer to size code table	Refer to terminal code table	Refer to lead length code table

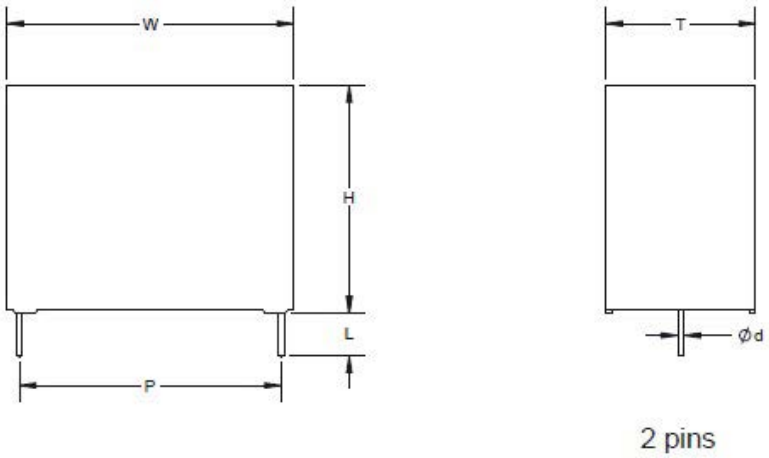
Terminal code table

Digit one (Lead/terminal type)		Digit two (Lead Ipsilateral)	
Straight cut	2	N/A	L
Taping straight	V		

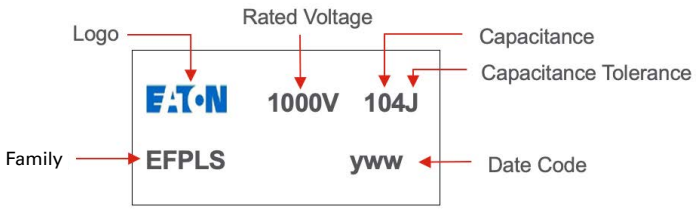
Lead length code table

Lead length	
3.0±0.5 mm (Bulk)	D
3.5±0.5 mm (Bulk)	E
4.0±0.5 mm (Bulk)	F
4.5±0.5 mm (Bulk)	G
5.0±0.5 mm (Bulk)	H
25±2 mm (Ammo)	T

Dimensions-mm



Part marking



Size code table (mm)

Size	Dimension-mm						Pitch-mm		Lead wire-mm		Lead length
Code	W	Tolerance (±)	H	Tolerance (±)	T	Tolerance (±)	P	Tolerance (±)	Ød	Tolerance (±)	L
B01	18	0.5	11	0.5	5	0.5	15	0.5	0.8	0.05	Refer to lead length code table, pitch 27.5 and 37.5 without ammo package
B02	18	0.5	12	0.5	6	0.5	15	0.5	0.8	0.05	
B05	18	0.5	13	0.5	7	0.5	15	0.5	0.8	0.05	
B07	18	0.5	13.5	0.5	7.5	0.5	15	0.5	0.8	0.05	
B09	18	0.5	14.5	0.5	8.5	0.5	15	0.5	0.8	0.05	
B11	18	0.5	16	0.5	10	0.5	15	0.5	0.8	0.05	
B16	18	0.5	19	0.5	11	0.5	15	0.5	0.8	0.05	
C01	26	0.5	15.5	0.5	6	0.5	22.5	0.5	0.8	0.05	
C02	26	0.5	16.5	0.5	7	0.5	22.5	0.5	0.8	0.05	
C03	26	0.5	17	0.5	8.5	0.5	22.5	0.5	0.8	0.05	
C04	26	0.5	19	0.5	10	0.5	22.5	0.5	0.8	0.05	
C05	26	0.5	20	0.5	11	0.5	22.5	0.5	0.8	0.05	
C06	26	0.5	22	0.5	12	0.5	22.5	0.5	0.8	0.05	
C08	26	0.5	24.5	0.5	13	0.5	22.5	0.5	0.8	0.05	
C10	26	0.5	29.5	0.5	14.5	0.5	22.5	0.5	0.8	0.05	
D01	32	0.8	17	0.8	8	0.8	27.5	0.5	0.8	0.05	
D02	32	0.8	18	0.8	9	0.8	27.5	0.5	0.8	0.05	
D03	32	0.8	20	0.8	11	0.8	27.5	0.5	0.8	0.05	
D04	32	0.8	22	0.8	13	0.8	27.5	0.5	0.8	0.05	
D05	32	0.8	24	0.8	14	0.8	27.5	0.5	0.8	0.05	
D06	32	0.8	24.5	0.8	13	0.8	27.5	0.5	0.8	0.05	
D08	32	0.8	28	0.8	14	0.8	27.5	0.5	0.8	0.05	
D10	32	0.8	30	0.8	16	0.8	27.5	0.5	0.8	0.05	
D12	32	0.8	33	0.8	18	1.0	27.5	0.5	0.8	0.05	
D13	32	0.8	37	0.8	22	1.0	27.5	0.5	1.0	0.05	
E01	42	1.0	22	1.0	11	1.0	37.5	0.5	1.0	0.05	
E02	42	1.0	24	1.0	13	1.0	37.5	0.5	1.0	0.05	
E04	42	1.0	28	1.0	17	1.0	37.5	0.5	1.0	0.05	
E05	42	1.0	28.5	1.0	16	1.0	37.5	0.5	1.0	0.05	
E10	42	1.0	32	1.0	19	1.0	37.5	0.5	1.0	0.05	
E13	42	1.0	40	1.0	20	1.0	37.5	0.5	1.0	0.05	
E14	42	1.0	43	1.0	28	1.0	37.5	0.5	1.0	0.05	
E15	42	1.0	44	1.0	24	1.0	37.5	0.5	1.0	0.05	
E16	42	1.0	45	1.0	30	1.0	37.5	0.5	1.0	0.05	
E17	42	1.0	50	1.0	35	1.0	37.5	0.5	1.0	0.05	

Remark: P = 15/22.5 case color is gray, P = 27.5/37.5 case color is black

Rating and part number

Rated voltage 630 Vdc

	Dimensions									
Capacitance value (µF)	W (mm)	H (mm)	T (mm)	P (mm)	Irms +70 °C, 100 kHz (A)	Peak current (A)	ESR 100 kHz (mΩ)	ESL (nH)	dv/dt (V/µs)	Part number[1]
0.01	18	11	5	15	1.8	30	62	12	3000	EFPLS63J103B012LH
0.012	18	11	5	15	2.2	36	52	12	3000	EFPLS63J123B012LH
0.015	18	11	5	15	2.5	45	42	12	3000	EFPLS63J153B012LH
0.018	18	11	5	15	2.7	54	35	12	3000	EFPLS63J183B012LH
0.02	18	11	5	15	2.8	60	32	12	3000	EFPLS63J203B012LH
0.022	18	11	5	15	2.9	66	30	12	3000	EFPLS63J223B012LH
0.027	18	12	6	15	3.2	81	25	12	3000	EFPLS63J273B022LH
0.033	18	12	6	15	3.7	99	20	12	3000	EFPLS63J333B022LH
0.039	18	12	6	15	3.9	117	16	12	3000	EFPLS63J393B022LH
0.047	18	13.5	7.5	15	4.5	141	15	12	3000	EFPLS63J473B072LH
0.056	18	13.5	7.5	15	4.6	168	14	12	3000	EFPLS63J563B072LH
0.068	18	14.5	8.5	15	4.7	204	13.5	12	3000	EFPLS63J683B092LH
0.082	18	16	10	15	4.8	246	13.2	12	3000	EFPLS63J823B112LH
0.1	18	16	10	15	5	300	13	12	3000	EFPLS63J104B112LH
0.12	18	19	11	15	5.4	360	12.5	12	3000	EFPLS63J124B162LH
0.047	26	15.5	6	22.5	3.8	70.5	20	15	1500	EFPLS63J473C012LH
0.056	26	15.5	6	22.5	4	84	19.5	15	1500	EFPLS63J563C012LH
0.068	26	15.5	6	22.5	4.2	102	19	15	1500	EFPLS63J683C012LH
0.082	26	15.5	6	22.5	4.5	123	18	15	1500	EFPLS63J823C012LH
0.1	26	15.5	6	22.5	5	150	16	15	1500	EFPLS63J104C012LH
0.12	26	16.5	7	22.5	5.3	180	14	15	1500	EFPLS63J124C022LH
0.15	26	17	8.5	22.5	6	225	11	15	1500	EFPLS63J154C032LH
0.18	26	17	8.5	22.5	6.5	270	10	15	1500	EFPLS63J184C032LH
0.22	26	19	10	22.5	7.5	330	8.5	15	1500	EFPLS63J224C042LH
0.27	26	20	11	22.5	8.5	405	6.5	15	1500	EFPLS63J274C052LH
0.33	26	20	11	22.5	9	495	6	15	1500	EFPLS63J334C052LH
0.39	26	22	12	22.5	10	585	5	15	1500	EFPLS63J394C062LH
0.15	32	17	8	27.5	4.6	135	25	20	900	EFPLS63J154D012LH
0.18	32	17	8	27.5	4.8	162	22	20	900	EFPLS63J184D012LH
0.22	32	18	9	27.5	5	198	20	20	900	EFPLS63J224D022LH
0.27	32	20	11	27.5	5.5	243	17.5	20	900	EFPLS63J274D032LH
0.33	32	20	11	27.5	5.8	297	16.5	20	900	EFPLS63J334D032LH
0.39	32	20	11	27.5	6	351	16	20	900	EFPLS63J394D032LH
0.47	32	22	13	27.5	6.5	423	14	20	900	EFPLS63J474D042LH
0.56	32	22	13	27.5	7	504	12	20	900	EFPLS63J564D042LH
0.68	32	24.5	13	27.5	7.5	612	10.5	20	900	EFPLS63J684D062LH
0.82	32	28	14	27.5	8.5	738	9	20	900	EFPLS63J824D082LH
1.0	32	33	18	27.5	10	900	7	20	900	EFPLS63J105D122LH
1.2	32	33	18	27.5	13	1080	6	20	900	EFPLS63J125D122LH

1. Standard part numbers listed---additional confirgurations available for tolerance, terminal and lead length. See part number system for available tolerances and terminal and lead length tables for available options.

Rating and part number

Rated voltage 630 Vdc

	Dimensions									
Capacitance value (µF)	**W (mm)**	**H (mm)**	**T (mm)**	**P (mm)**	**Irms +70 °C, 100 kHz (A)**	**Peak current (A)**	**ESR 100 kHz (mΩ)**	**ESL (nH)**	**dv/dt (V/µs)**	**Part number[1]**
1.5	32	37	22	27.5	15	1350	5	20	900	EFPLS63J155D132LH
1.8	32	37	22	27.5	16	1620	4	20	900	EFPLS63J185D132LH
0.33	42	22	11	37.5	6.8	165	13	25	500	EFPLS63J334E012LH
0.47	42	22	11	37.5	7	235	12.5	25	500	EFPLS63J474E012LH
0.56	42	22	11	37.5	7.5	280	11	25	500	EFPLS63J564E012LH
0.68	42	22	11	37.5	8	340	10.5	25	500	EFPLS63J684E012LH
0.82	42	28.5	16	37.5	8	410	10.5	25	500	EFPLS63J824E052LH
1.0	42	28.5	16	37.5	8.5	500	10	25	500	EFPLS63J105E052LH
1.5	42	28.5	16	37.5	9.5	750	9	25	500	EFPLS63J155E052LH
1.8	42	32	19	37.5	10.5	900	8.5	25	500	EFPLS63J185E102LH
2.2	42	40	20	37.5	11.5	1100	8	25	500	EFPLS63J225E132LH
2.7	42	40	20	37.5	13	1350	7	25	500	EFPLS63J275E132LH
3.3	42	44	24	37.5	14	1650	6	25	500	EFPLS63J335E152LH
3.9	42	45	30	37.5	15	1950	5	25	500	EFPLS63J395E162LH
4.7	42	50	35	37.5	16	2350	4	25	500	EFPLS63J475E172LH

1. Standard part numbers listed---additional confirgurations available for tolerance, terminal and lead length. See part number system for available tolerances and terminal and lead length tables for available options.

Rating and part number

Rated voltage 1000 Vdc

	Dimensions									
Capacitance value (µF)	**W (mm)**	**H (mm)**	**T (mm)**	**P (mm)**	**Irms +70 °C, 100 kHz (A)**	**Peak current (A)**	**ESR 100 kHz (mΩ)**	**ESL (nH)**	**dv/dt (V/µs)**	**Part number[1]**
0.0082	18	11	5	15	1.5	28.7	80	12	3500	EFPLS1AJ822B012LH
0.01	18	11	5	15	1.8	35	62	12	3500	EFPLS1AJ103B012LH
0.012	18	11	5	15	2.2	42	52	12	3500	EFPLS1AJ123B012LH
0.015	18	11	5	15	2.5	52.5	42	12	3500	EFPLS1AJ153B012LH
0.018	18	11	5	15	2.7	63	35	12	3500	EFPLS1AJ183B012LH
0.02	18	12	6	15	2.8	70	32	12	3500	EFPLS1AJ203B022LH
0.022	18	12	6	15	3	77	29	12	3500	EFPLS1AJ223B022LH
0.027	18	13.5	7.5	15	3.5	94.5	24	12	3500	EFPLS1AJ273B072LH
0.033	18	13.5	7.5	15	4	115.5	19	12	3500	EFPLS1AJ333B072LH
0.039	18	14.5	8.5	15	4.5	136.5	16	12	3500	EFPLS1AJ393B092LH
0.047	18	14.5	8.5	15	4.9	164.5	14	12	3500	EFPLS1AJ473B092LH
0.027	26	15.5	6	22.5	3.8	56.7	24	15	2100	EFPLS1AJ273C012LH
0.033	26	15.5	6	22.5	4.3	69.3	19	15	2100	EFPLS1AJ333C012LH
0.039	26	15.5	6	22.5	4.8	81.9	16	15	2100	EFPLS1AJ393C012LH
0.047	26	16.5	7	22.5	5	98.7	15	15	2100	EFPLS1AJ473C022LH
0.056	26	16.5	7	22.5	5.4	117.6	14.5	15	2100	EFPLS1AJ563C022LH
0.068	26	17	8.5	22.5	5.6	142.8	14	15	2100	EFPLS1AJ683C032LH
0.082	26	19	10	22.5	5.8	172.2	13.5	15	2100	EFPLS1AJ823C042LH
0.1	26	19	10	22.5	6	210	13	15	2100	EFPLS1AJ104C042LH
0.12	26	20	11	22.5	6.5	180	12.5	15	1500	EFPLS1AJ124C052LH
0.15	26	22	12	22.5	7	225	11	15	1500	EFPLS1AJ154C062LH
0.1	32	17	8	27.5	4.5	90	25	20	900	EFPLS1AJ104D012LH
0.12	32	18	9	27.5	4.8	108	22	20	900	EFPLS1AJ124D022LH
0.15	32	20	11	27.5	5	135	21	20	900	EFPLS1AJ154D032LH
0.18	32	22	13	27.5	5.5	162	18	20	900	EFPLS1AJ184D042LH
0.22	32	22	13	27.5	6	198	14	20	900	EFPLS1AJ224D042LH
0.27	32	24.5	13	27.5	6.5	243	13.5	20	900	EFPLS1AJ274D062LH
0.33	32	28	14	27.5	7	297	12	20	900	EFPLS1AJ334D082LH
0.39	32	33	18	27.5	7.5	351	11	20	900	EFPLS1AJ394D122LH
0.47	32	33	18	27.5	8	423	10	20	900	EFPLS1AJ474D122LH
0.56	32	37	22	27.5	8.5	504	9	20	900	EFPLS1AJ564D132LH
0.68	32	37	22	27.5	9.5	612	8	20	900	EFPLS1AJ684D132LH
0.18	42	22	11	37.5	6	90	18	25	500	EFPLS1AJ184E012LH
0.22	42	22	11	37.5	6.5	110	14	25	500	EFPLS1AJ224E012LH
0.27	42	24	13	37.5	6.8	135	13	25	500	EFPLS1AJ274E022LH
0.33	42	24	13	37.5	7.2	165	12	25	500	EFPLS1AJ334E022LH
0.39	42	28	17	37.5	7.4	195	11.5	25	500	EFPLS1AJ394E042LH
0.47	42	28	17	37.5	7.6	235	11	25	500	EFPLS1AJ474E042LH
0.56	42	28	17	37.5	8	280	10.5	25	500	EFPLS1AJ564E042LH
0.68	42	32	19	37.5	8.5	340	10	25	500	EFPLS1AJ684E102LH

1. Standard part numbers listed---additional confirgurations available for tolerance, terminal and lead length. See part number system for available tolerances and terminal and lead length tables for available options.

Rating and part number

Rated voltage 1000 Vdc

	Dimensions									
Capacitance value (µF)	W (mm)	H (mm)	T (mm)	P (mm)	Irms +70 °C, 100 kHz (A)	Peak current (A)	ESR 100 kHz (mΩ)	ESL (nH)	dv/dt (V/µs)	Part number[1]
0.82	42	40	20	37.5	10	410	9	25	500	EFPLS1AJ824E132LH
1.0	42	40	20	37.5	11	500	7	25	500	EFPLS1AJ105E132LH
1.2	42	44	24	37.5	12	600	6.5	25	500	EFPLS1AJ125E152LH
1.5	42	44	24	37.5	13	750	6	25	500	EFPLS1AJ155E152LH
1.8	42	45	30	37.5	15	900	5	25	500	EFPLS1AJ185E162LH
2.2	42	45	30	37.5	16	1100	4	25	500	EFPLS1AJ225E162LH

1. Standard part numbers listed---additional confirgurations available for tolerance, terminal and lead length. See part number system for available tolerances and terminal and lead length tables for available options.

Rating and part number

Rated voltage 1300 Vdc

	Dimensions									
Capacitance value (µF)	**W (mm)**	**H (mm)**	**T (mm)**	**P (mm)**	**Irms +70 °C, 100 kHz (A)**	**Peak current (A)**	**ESR 100 kHz (mΩ)**	**ESL (nH)**	**dv/dt (V/µs)**	**Part number[1]**
0.0082	18	11	5	15	1.7	28.7	95	12	3500	EFPLS1DJ822B012LH
0.01	18	11	5	15	2	35	65	12	3500	EFPLS1DJ103B012LH
0.012	18	11	5	15	2.2	42	52	12	3500	EFPLS1DJ123B012LH
0.015	18	11	5	15	2.5	52.5	42	12	3500	EFPLS1DJ153B012LH
0.018	18	12	6	15	2.8	63	38	12	3500	EFPLS1DJ183B022LH
0.02	18	12	6	15	2.9	70	36	12	3500	EFPLS1DJ203B022LH
0.022	18	13	7	15	3.1	77	32	12	3500	EFPLS1DJ223B052LH
0.027	18	13.5	7.5	15	3.7	94.5	26	12	3500	EFPLS1DJ273B072LH
0.033	18	14.5	8.5	15	4	115.5	19	12	3500	EFPLS1DJ333B092LH
0.039	18	16	10	15	4.5	136.5	16	12	3500	EFPLS1DJ393B112LH
0.047	18	16	10	15	4.8	164.5	15	12	3500	EFPLS1DJ473B112LH
0.056	18	19	11	15	5	196	14	12	3500	EFPLS1DJ563B162LH
0.027	26	15.5	6	22.5	3.5	56.7	24	15	2100	EFPLS1DJ273C012LH
0.033	26	15.5	6	22.5	4	69.3	19	15	2100	EFPLS1DJ333C012LH
0.039	26	15.5	6	22.5	4.8	81.9	16	15	2100	EFPLS1DJ393C012LH
0.047	26	16.5	7	22.5	5	98.7	15	15	2100	EFPLS1DJ473C022LH
0.056	26	16.5	7	22.5	5.4	117.6	14.5	15	2100	EFPLS1DJ563C022LH
0.068	26	17	8.5	22.5	6	142.8	14	15	2100	EFPLS1DJ683C032LH
0.082	26	19	10	22.5	6.5	172.2	13.5	15	2100	EFPLS1DJ823C042LH
0.1	26	19	10	22.5	7	210	13	15	2100	EFPLS1DJ104C042LH
0.12	26	20	11	22.5	6.5	180	12.5	15	1500	EFPLS1DJ124C052LH
0.15	26	22	12	22.5	7	225	12	15	1500	EFPLS1DJ154C062LH
0.18	26	24.5	13	22.5	7.5	270	11	15	1500	EFPLS1DJ184C082LH
0.22	26	29.5	14.5	22.5	8.5	330	9.5	15	1500	EFPLS1DJ224C102LH
0.1	32	17	8	27.5	5.8	90	19	20	900	EFPLS1DJ104D012LH
0.12	32	18	9	27.5	6.2	108	18	20	900	EFPLS1DJ124D022LH
0.15	32	20	11	27.5	6.8	135	15	20	900	EFPLS1DJ154D032LH
0.18	32	22	13	27.5	7	162	14	20	900	EFPLS1DJ184D042LH
0.22	32	22	13	27.5	7.5	198	12	20	900	EFPLS1DJ224D042LH
0.27	32	24	14	27.5	8	243	11	20	900	EFPLS1DJ274D052LH
0.33	32	28	14	27.5	8.5	297	10	20	900	EFPLS1DJ334D082LH
0.39	32	30	16	27.5	9	351	9.5	20	900	EFPLS1DJ394D102LH
0.47	32	33	18	27.5	9.5	423	9	20	900	EFPLS1DJ474D122LH
0.56	32	37	22	27.5	10	504	8.5	20	900	EFPLS1DJ564D132LH
0.68	32	37	22	27.5	11	612	8	20	900	EFPLS1DJ684D132LH
0.18	42	22	11	37.5	5.8	90	19	25	500	EFPLS1DJ184E012LH
0.22	42	22	11	37.5	6	110	18	25	500	EFPLS1DJ224E012LH
0.27	42	24	13	37.5	6.2	135	16.5	25	500	EFPLS1DJ274E022LH
0.33	42	24	13	37.5	6.5	165	15	25	500	EFPLS1DJ334E022LH
0.39	42	28	17	37.5	7.4	195	13	25	500	EFPLS1DJ394E042LH

1. Standard part numbers listed---additional confirgurations available for tolerance, terminal and lead length. See part number system for available tolerances and terminal and lead length tables for available options.

Rating and part number

Rated voltage 1300 Vdc

	Dimensions									
Capacitance value (µF)	W (mm)	H (mm)	T (mm)	P (mm)	Irms +70 °C, 100 kHz (A)	Peak current (A)	ESR 100 kHz (mΩ)	ESL (nH)	dv/dt (V/µs)	Part number[1]
0.47	42	28	17	37.5	7.6	235	12.5	25	500	EFPLS1DJ474E042LH
0.56	42	28	17	37.5	8.5	280	11.5	25	500	EFPLS1DJ564E042LH
0.68	42	32	19	37.5	9	340	11	25	500	EFPLS1DJ684E102LH
0.82	42	40	20	37.5	10	410	9	25	500	EFPLS1DJ824E132LH
1.0	42	40	20	37.5	11.5	500	8	25	500	EFPLS1DJ105E132LH
1.2	42	44	24	37.5	12.5	600	7	25	500	EFPLS1DJ125E152LH
1.5	42	43	28	37.5	14	750	5.8	25	500	EFPLS1DJ155E142LH
1.8	42	45	30	37.5	16	900	5	25	500	EFPLS1DJ185E162LH

1. Standard part numbers listed---additional confirgurations available for tolerance, terminal and lead length. See part number system for available tolerances and terminal and lead length tables for available options.

Rating and part number

Rated voltage 1600 Vdc

	Dimensions									
Capacitance value (µF)	W (mm)	H (mm)	T (mm)	P (mm)	Irms +70 °C, 100 kHz (A)	Peak current (A)	ESR 100 kHz (mΩ)	ESL (nH)	dv/dt (V/µs)	Part number[1]
0.0033	18	11	5	15	1.1	19.8	190	12	6000	EFPLS1GJ332B012LH
0.0047	18	11	5	15	1.3	28.2	165	12	6000	EFPLS1GJ472B012LH
0.0056	18	11	5	15	1.4	33.6	120	12	6000	EFPLS1GJ562B012LH
0.0068	18	11	5	15	1.6	40.8	100	12	6000	EFPLS1GJ682B012LH
0.0082	18	11	5	15	1.8	49.2	95	12	6000	EFPLS1GJ822B012LH
0.01	18	11	5	15	2	60	65	12	6000	EFPLS1GJ103B012LH
0.012	18	12	6	15	2.3	72	50	12	6000	EFPLS1GJ123B022LH
0.015	18	12	6	15	2.5	90	45	12	6000	EFPLS1GJ153B022LH
0.018	18	13.5	7.5	15	3	108	35	12	6000	EFPLS1GJ183B072LH
0.022	18	13.5	7.5	15	3.2	132	30	12	6000	EFPLS1GJ223B072LH
0.027	18	14.5	8.5	15	3.8	162	25	12	6000	EFPLS1GJ273B092LH
0.033	18	14.5	8.5	15	4	198	20	12	6000	EFPLS1GJ333B092LH
0.015	26	15.5	6	22.5	2.8	45	40	15	3000	EFPLS1GJ153C012LH
0.022	26	15.5	6	22.5	3.5	66	30	15	3000	EFPLS1GJ223C012LH
0.033	26	15.5	6	22.5	4	99	20	15	3000	EFPLS1GJ333C012LH
0.039	26	16.5	7	22.5	4.8	117	16	15	3000	EFPLS1GJ393C022LH
0.047	26	16.5	7	22.5	5.2	141	15	15	3000	EFPLS1GJ473C022LH
0.056	26	17	8.5	22.5	5.4	168	14	15	3000	EFPLS1GJ563C032LH
0.068	26	19	10	22.5	5.8	204	13	15	3000	EFPLS1GJ683C042LH
0.082	26	19	10	22.5	6	246	12	15	3000	EFPLS1GJ823C042LH
0.1	26	20	11	22.5	6.5	300	11	15	3000	EFPLS1GJ104C052LH
0.039	32	17	8	27.5	3.8	78	30	20	2000	EFPLS1GJ393D012LH
0.047	32	17	8	27.5	4	94	29	20	2000	EFPLS1GJ473D012LH
0.056	32	17	8	27.5	4.5	112	28	20	2000	EFPLS1GJ563D012LH
0.068	32	18	9	27.5	5	136	24	20	2000	EFPLS1GJ683D022LH
0.082	32	20	11	27.5	5.5	164	20	20	2000	EFPLS1GJ823D032LH
0.1	32	22	13	27.5	6	200	18	20	2000	EFPLS1GJ104D042LH
0.12	32	22	13	27.5	6.5	240	16	20	2000	EFPLS1GJ124D042LH
0.15	32	24.5	13	27.5	7	300	14	20	2000	EFPLS1GJ154D062LH
0.18	32	28	14	27.5	7.5	360	12	20	2000	EFPLS1GJ184D082LH
0.22	32	33	18	27.5	8.5	440	10	20	2000	EFPLS1GJ224D122LH
0.27	32	33	18	27.5	9	540	9.5	20	2000	EFPLS1GJ274D122LH
0.33	32	33	18	27.5	10	660	8	20	2000	EFPLS1GJ334D122LH
0.39	32	37	22	27.5	11	780	7	20	2000	EFPLS1GJ394D132LH
0.47	32	37	22	27.5	12	940	6	20	2000	EFPLS1GJ474D132LH
0.082	42	22	11	37.5	4.8	98.4	28	25	1200	EFPLS1GJ823E012LH
0.1	42	22	11	37.5	5	120	24	25	1200	EFPLS1GJ104E012LH
0.12	42	22	11	37.5	5.5	144	22	25	1200	EFPLS1GJ124E012LH
0.15	42	22	11	37.5	5.8	180	20	25	1200	EFPLS1GJ154E012LH

1. Standard part numbers listed---additional confirgurations available for tolerance, terminal and lead length. See part number system for available tolerances and terminal and lead length tables for available options.

Rating and part number

Rated voltage 1600 Vdc

	Dimensions									
Capacitance value (µF)	W (mm)	H (mm)	T (mm)	P (mm)	Irms +70 °C, 100 kHz (A)	Peak current (A)	ESR 100 kHz (mΩ)	ESL (nH)	dv/dt (V/µs)	Part number[1]
0.18	42	24	13	37.5	6	216	18	25	1200	EFPLS1GJ184E022LH
0.22	42	24	13	37.5	6.2	264	17	25	1200	EFPLS1GJ224E022LH
0.27	42	24	13	37.5	6.5	324	15	25	1200	EFPLS1GJ274E022LH
0.33	42	28.5	16	37.5	6.8	396	14	25	1200	EFPLS1GJ334E052LH
0.39	42	28.5	16	37.5	7.5	468	12.5	25	1200	EFPLS1GJ394E052LH
0.47	42	32	19	37.5	8	564	12	25	1200	EFPLS1GJ474E102LH
0.56	42	40	20	37.5	9	672	11	25	1200	EFPLS1GJ564E132LH
0.68	42	40	20	37.5	9.5	816	10.5	25	1200	EFPLS1GJ684E132LH
0.82	42	44	24	37.5	10.5	984	9	25	1200	EFPLS1GJ824E152LH
1.0	42	44	24	37.5	12	1200	7.5	25	1200	EFPLS1GJ105E152LH
1.2	42	45	30	37.5	14	1440	6	25	1200	EFPLS1GJ125E162LH

1. Standard part numbers listed---additional confirgurations available for tolerance, terminal and lead length. See part number system for available tolerances and terminal and lead length tables for available options.

Rating and part number

Rated voltage 2000 Vdc

	Dimensions									
Capacitance value (µF)	W (mm)	H (mm)	T (mm)	P (mm)	Irms +70 °C, 100 kHz (A)	Peak current (A)	ESR 100 kHz (mΩ)	ESL (nH)	dv/dt (V/µs)	Part number[1]
0.001	18	11	5	15	0.5	9.5	630	12	9500	EFPLS2AJ102B012LH
0.0012	18	11	5	15	0.6	11.4	500	12	9500	EFPLS2AJ122B012LH
0.0015	18	11	5	15	0.7	14.25	420	12	9500	EFPLS2AJ152B012LH
0.0018	18	11	5	15	0.8	17.1	350	12	9500	EFPLS2AJ182B012LH
0.0022	18	11	5	15	0.9	20.9	300	12	9500	EFPLS2AJ222B012LH
0.0027	18	11	5	15	1	25.65	240	12	9500	EFPLS2AJ272B012LH
0.0033	18	11	5	15	1.2	31.35	190	12	9500	EFPLS2AJ332B012LH
0.0039	18	11	5	15	1.3	37.05	165	12	9500	EFPLS2AJ392B012LH
0.0047	18	11	5	15	1.4	44.65	135	12	9500	EFPLS2AJ472B012LH
0.0056	18	12	6	15	1.6	53.2	110	12	9500	EFPLS2AJ562B022LH
0.0068	18	12	6	15	1.8	64.6	95	12	9500	EFPLS2AJ682B022LH
0.0082	18	12	6	15	2	77.9	80	12	9500	EFPLS2AJ822B022LH
0.01	18	13.5	7.5	15	2.5	95	65	12	9500	EFPLS2AJ103B072LH
0.012	18	14.5	8.5	15	2.8	114	50	12	9500	EFPLS2AJ123B092LH
0.015	18	14.5	8.5	15	3	142.5	45	12	9500	EFPLS2AJ153B092LH
0.018	18	16	10	15	3.8	171	35	12	9500	EFPLS2AJ183B112LH
0.001	26	15.5	6	22.5	0.6	4.5	550	15	4500	EFPLS2AJ102C012LH
0.0012	26	15.5	6	22.5	0.7	5.4	450	15	4500	EFPLS2AJ122C012LH
0.0015	26	15.5	6	22.5	0.8	6.75	360	15	4500	EFPLS2AJ152C012LH
0.0018	26	15.5	6	22.5	0.9	8.1	300	15	4500	EFPLS2AJ182C012LH
0.0022	26	15.5	6	22.5	1	9.9	250	15	4500	EFPLS2AJ222C012LH
0.0027	26	15.5	6	22.5	1.2	12.15	230	15	4500	EFPLS2AJ272C012LH
0.0033	26	15.5	6	22.5	1.2	14.85	200	15	4500	EFPLS2AJ332C012LH
0.0039	26	15.5	6	22.5	1.4	17.55	180	15	4500	EFPLS2AJ392C012LH
0.0047	26	15.5	6	22.5	1.6	21.15	140	15	4500	EFPLS2AJ472C012LH
0.0056	26	15.5	6	22.5	1.8	25.2	120	15	4500	EFPLS2AJ562C012LH
0.0068	26	15.5	6	22.5	2	30.6	95	15	4500	EFPLS2AJ682C012LH
0.0082	26	15.5	6	22.5	2.2	36.9	75	15	4500	EFPLS2AJ822C012LH
0.01	26	15.5	6	22.5	2.3	45	65	15	4500	EFPLS2AJ103C012LH
0.012	26	15.5	6	22.5	2.5	54	60	15	4500	EFPLS2AJ123C012LH
0.015	26	15.5	6	22.5	2.8	67.5	45	15	4500	EFPLS2AJ153C012LH
0.018	26	15.5	6	22.5	3.2	81	35	15	4500	EFPLS2AJ183C012LH
0.022	26	16.5	7	22.5	4	99	26	15	4500	EFPLS2AJ223C022LH
0.027	26	16.5	7	22.5	4.5	121.5	20	15	4500	EFPLS2AJ273C022LH
0.033	26	17	8.5	22.5	5.2	148.5	18	15	4500	EFPLS2AJ333C032LH
0.039	26	19	10	22.5	5.8	175.5	15	15	4500	EFPLS2AJ393C042LH
0.047	26	19	10	22.5	6	211.5	13	15	4500	EFPLS2AJ473C042LH
0.056	26	20	11	22.5	6.5	252	12	15	4500	EFPLS2AJ563C052LH
0.022	32	17	8	27.5	3	55	45	20	2500	EFPLS2AJ223D012LH
0.027	32	17	8	27.5	3.5	67.5	40	20	2500	EFPLS2AJ273D012LH
0.033	32	18	9	27.5	4	82.5	35	20	2500	EFPLS2AJ333D022LH

1. Standard part numbers listed---additional confirgurations available for tolerance, terminal and lead length. See part number system for available tolerances and terminal and lead length tables for available options.

Rating and part number

Rated voltage 2000 Vdc

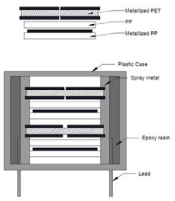
	Dimensions									
Capacitance value (µF)	W (mm)	H (mm)	T (mm)	P (mm)	Irms +70 °C, 100 kHz (A)	Peak current (A)	ESR 100 kHz (mΩ)	ESL (nH)	dv/dt (V/µs)	Part number[1]
0.039	32	20	11	27.5	4.5	97.5	28	20	2500	EFPLS2AJ393D032LH
0.047	32	20	11	27.5	4.8	117.5	25	20	2500	EFPLS2AJ473D032LH
0.056	32	22	13	27.5	5	140	24	20	2500	EFPLS2AJ563D042LH
0.068	32	22	13	27.5	5.5	170	22	20	2500	EFPLS2AJ683D042LH
0.082	32	24.5	13	27.5	6	205	20	20	2500	EFPLS2AJ823D062LH
0.1	32	28	14	27.5	6.5	250	18	20	2500	EFPLS2AJ104D082LH
0.12	32	33	18	27.5	7	300	16	20	2500	EFPLS2AJ124D122LH
0.15	32	33	18	27.5	7.5	375	14	20	2500	EFPLS2AJ154D122LH
0.18	32	37	22	27.5	8	450	12	20	2500	EFPLS2AJ184D132LH
0.22	32	37	22	27.5	8.5	550	10	20	2500	EFPLS2AJ224D132LH
0.033	42	22	11	37.5	4	49.5	35	25	1500	EFPLS2AJ333E012LH
0.039	42	22	11	37.5	4.5	58.5	28	25	1500	EFPLS2AJ393E012LH
0.047	42	22	11	37.5	4.8	70.5	26	25	1500	EFPLS2AJ473E012LH
0.056	42	22	11	37.5	5	84	24	25	1500	EFPLS2AJ563E012LH
0.068	42	22	11	37.5	5.4	102	23	25	1500	EFPLS2AJ683E012LH
0.082	42	22	11	37.5	5.8	123	22	25	1500	EFPLS2AJ823E012LH
0.1	42	24	13	37.5	6.5	150	18	25	1500	EFPLS2AJ104E022LH
0.12	42	24	13	37.5	7	180	16	25	1500	EFPLS2AJ124E022LH
0.15	42	28.5	16	37.5	7.5	225	15	25	1500	EFPLS2AJ154E052LH
0.18	42	28.5	16	37.5	8	270	14	25	1500	EFPLS2AJ184E052LH
0.22	42	32	19	37.5	8.5	330	12	25	1500	EFPLS2AJ224E102LH
0.27	42	40	20	37.5	9	405	11	25	1500	EFPLS2AJ274E132LH
0.33	42	40	20	37.5	9.5	495	10.5	25	1500	EFPLS2AJ334E132LH
0.39	42	44	24	37.5	10	585	9.5	25	1500	EFPLS2AJ394E152LH
0.47	42	44	24	37.5	10.5	705	9	25	1500	EFPLS2AJ474E152LH
0.56	42	45	30	37.5	12	840	7.5	25	1500	EFPLS2AJ564E162LH
0.68	42	45	30	37.5	14	1020	6	25	1500	EFPLS2AJ684E162LH

1. Standard part numbers listed---additional confirgurations available for tolerance, terminal and lead length. See part number system for available tolerances and terminal and lead length tables for available options.

General information

Application	DC/pulse and high frequency applications
Dielectric	Polypropylene Film
Reference standard	IEC 61071/EN 61071
Climatic category	40/105/56 IEC 60068-1
Operating temperature range	-40 °C to +105 °C, (+85 °C to +105 °C, decreasing factor 1.25% per °C for U_R)
Installation	Any position
Storage conditions	Storage time: ≤24 months from the date marked on the package label, Average relative humidity per year ≤70%, RH≤85% for 30 days in one year, Dew is absent, Temperature: -40 °C to +85 °C
Application note and limiting conditions	The continuous peak voltage shall not exceed the rated DC voltage rating

Construction

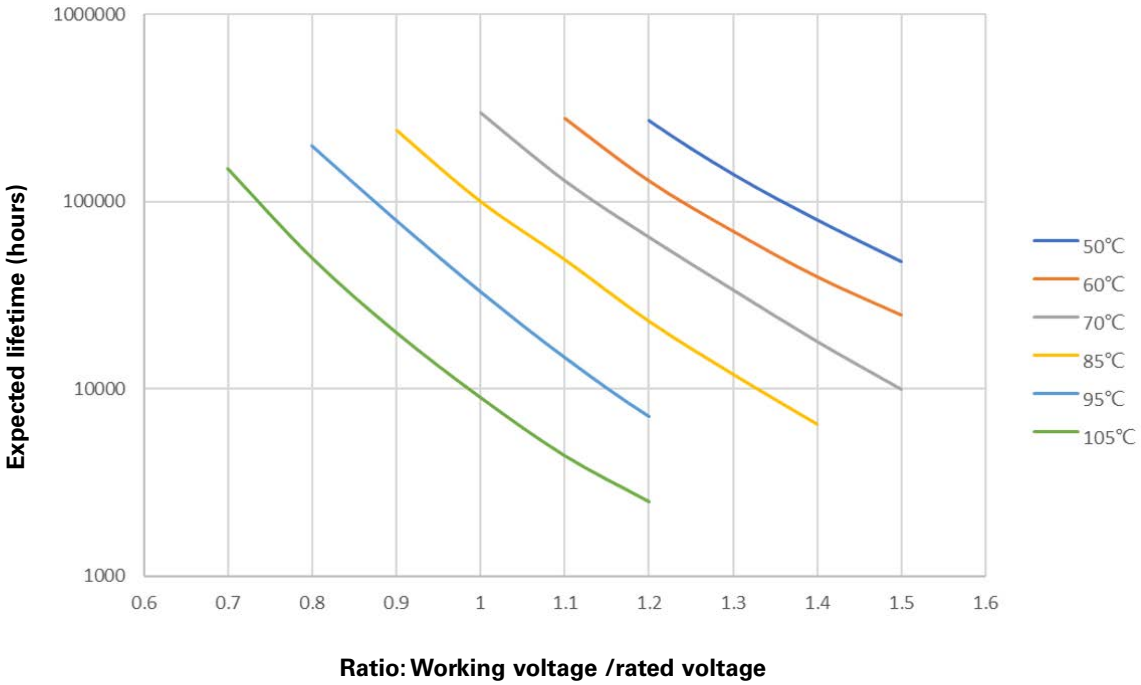
Metallized film	PET/PP & Al
Metal sprayed	Sn/Zn Alloy
Connection electrode	Tinned copper wire
Plastic case	Plastic Case (UL94V-0)
Filling	Epoxy Resin (UL94V-0)
Film construction	

Electrical and general characteristics

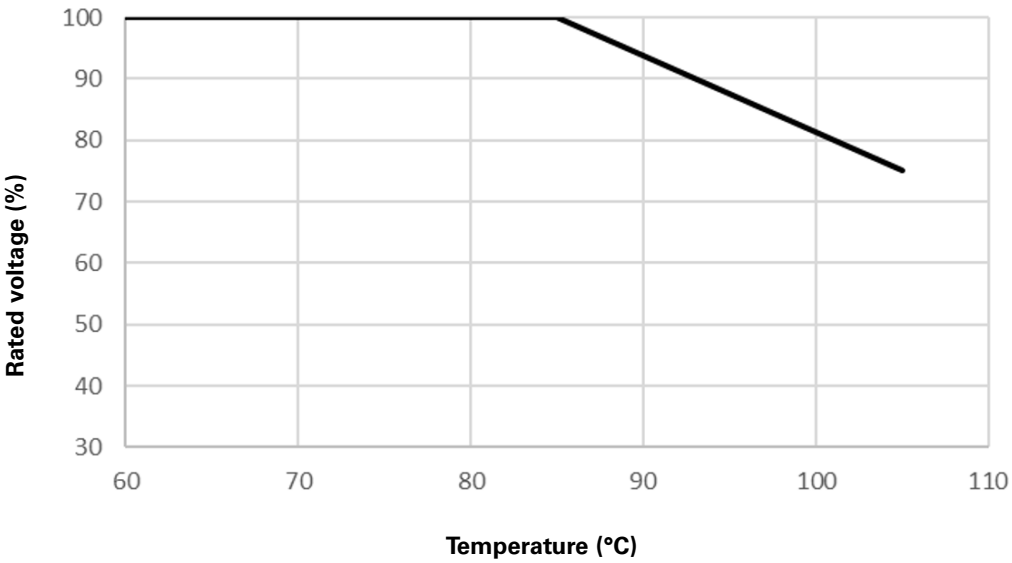
Voltage range (U_R)	630 Vdc to 2000 Vdc
Capacitance range	0.001 µF to 4.7 µF
Capacitance tolerance	±5% or ±10% at +20 °C
Capacitance	Measuring frequency at 1 kHz, +20 °C Measuring voltage: 1.0 ±0.2 V
Standard atmospheric conditions for static test	Ambient temperature +15 °C to +35 °C. Relative humidity 45% to 75% Air pressure 86 kPa to 106 kPa.
Withstanding DC voltage between terminals U_{TT}	1.5 x U_R for 10 seconds (between terminations) @ +20 °C ±5 °C
Withstanding AC voltage between terminal and case U_{TC}	$2U_R$ /√2+1000 Vac, 50/60 Hz 60 s (at +20 ±5 °C)
Dissipation factor	10 x 10^{-4} at 1 kHz, +20 °C +/-5 °C
Insulation resistance	R between leads, for C ≤ 0.33 µF at 100 V; 1 min > 100,000 MΩ RC between leads, for C > 0.33 µF at 100 V; 1 min > 30,000 MΩ* µF
Self-inductance	<1 nH per mm of lead spacing
Life expectancy	100,000 hours (U_R θ hotspot = +85 °C) (△C/C≤5%)
Failure rate	100 FITs (U_R θ hotspot = +85 °C)
Maximum altitude	2000 m
Overvoltage	Maximum duration within one day: Apply 110% of rated voltage 30% of on-load duration Apply 115% of rated voltage 30 minutes Apply 120% of rated voltage 5 minutes Apply 130% of rated voltage 1 minute

Charcteristics curves

Expected life curve

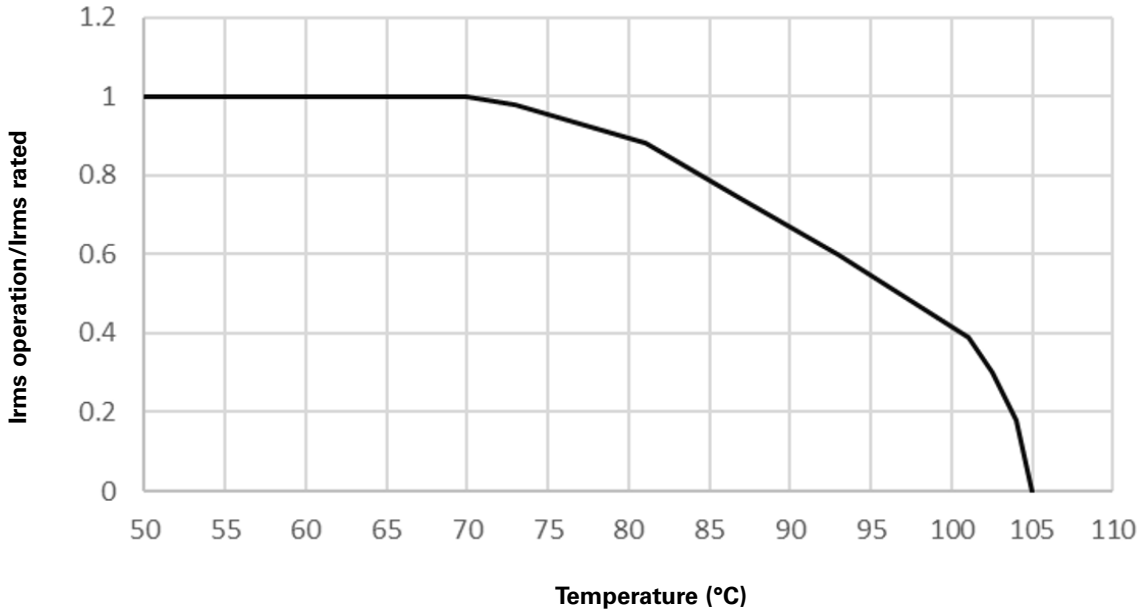


Derating of U_R vs temperature

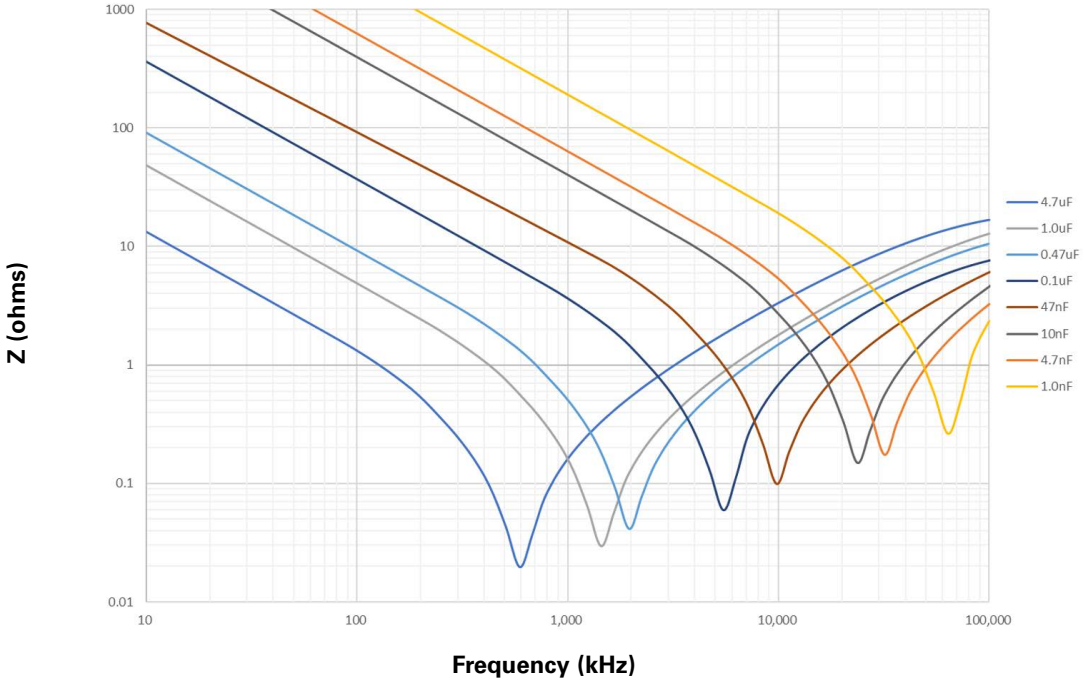


Charcteristics curves

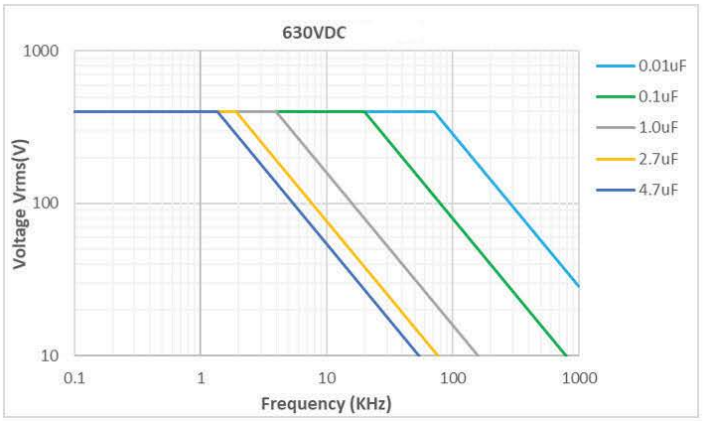
Derating of I_{rms} vs temperature

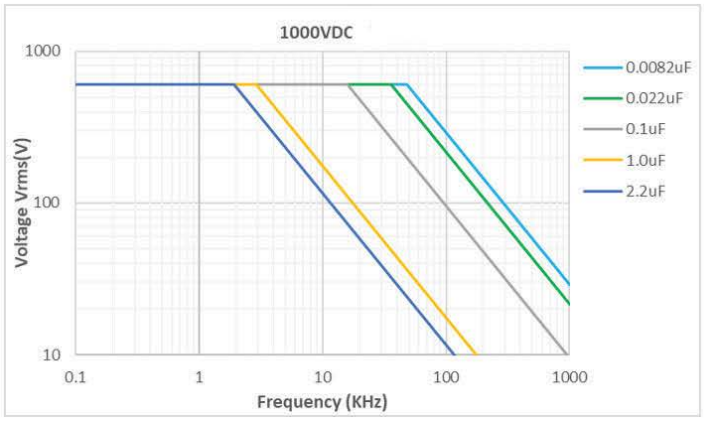


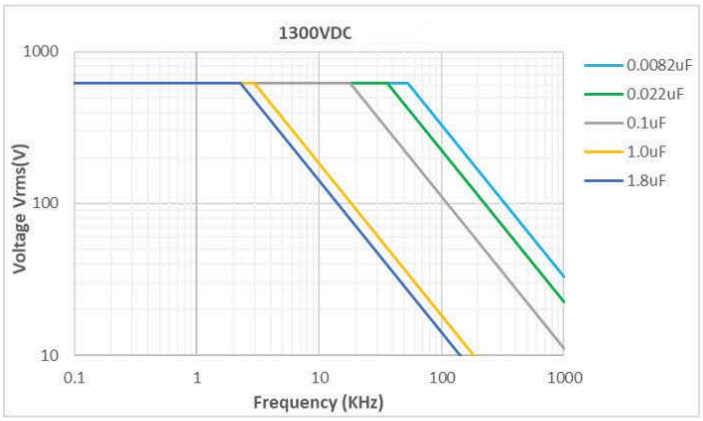
Impedance vs frequency

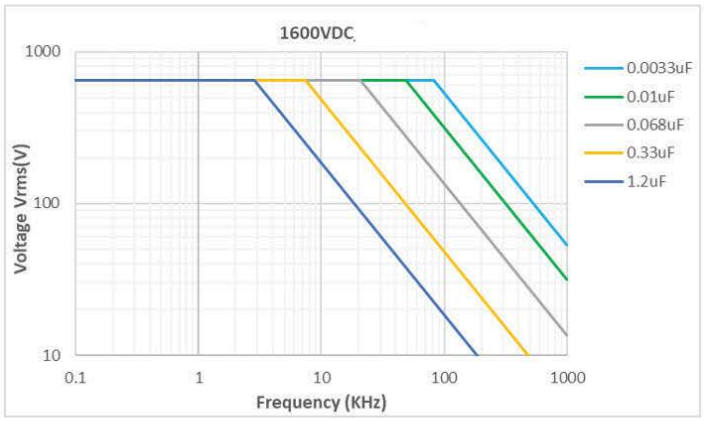


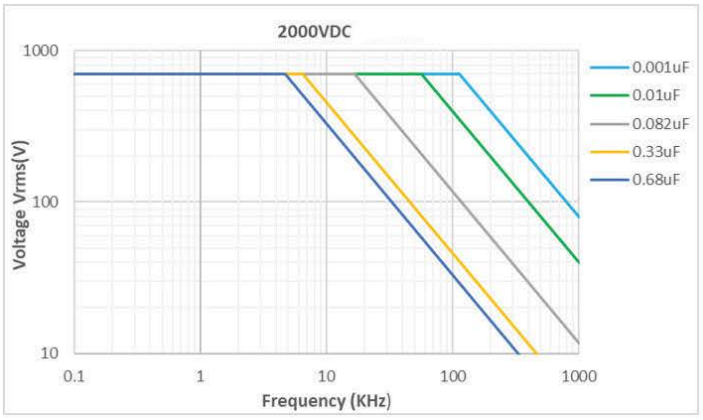
Maximum voltage (Vrms) vs frequency
(Sinusoidal waveform, at +85 °C)



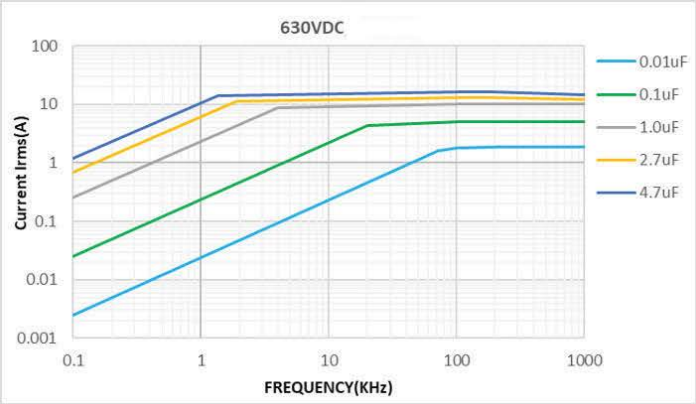


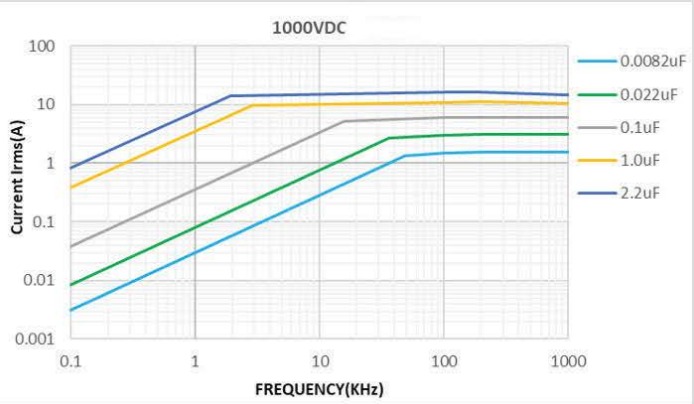


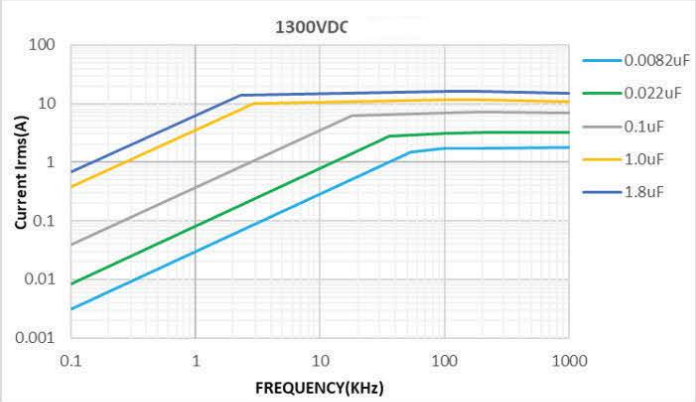


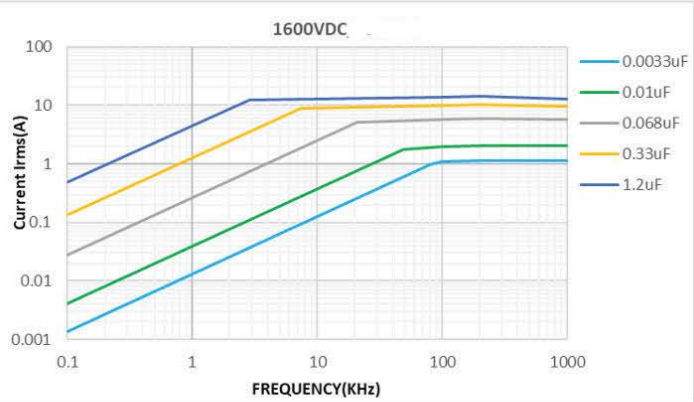


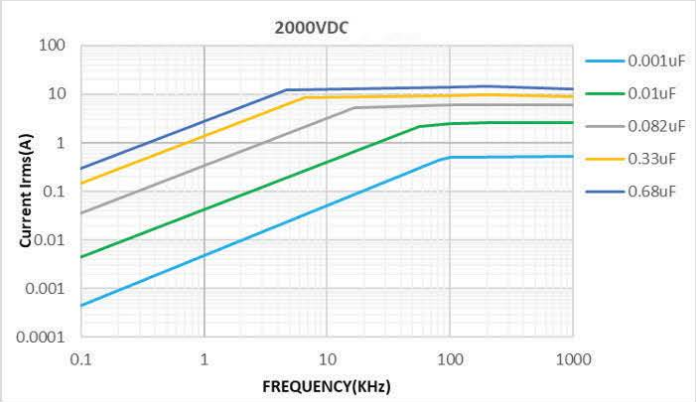
Maximum current (Irms) vs frequency
(Sinusoidal waveform, at +85 °C)











Validation test

Test Item	Test condition	Performance
Temperature cycling	Reference: IEC 60068-2-14 High temperature: +105 +/-5 °C Low temperature: -40 +/-5 °C 5 cycles, 30 minutes for each temperature	Capacitance change rate (△C/C): ≤±3% DF change (△tgδ): ≤50*10^{-4} at 1 kHz Insulation Resistance: ≥50% of initial limit (T-T) test voltage: 1.5 x U_R/10 s (T-C) test voltage: 2 U_R/√2+1000 Vac/60 s
Operational life	Testing method per IEC 61071 Test Temperature: +105 +/-2 °C. Apply 130% of (75% rated voltage) for 1,000 +24/-0 hours. At 500 hours,1000 charges and discharges At 1.4 x I peak (maximum respective peak current in continuous operation)	Capacitance change Rate (△C/C): ≤±5% DF change (△tgδ): ≤50*10^{-4} at 1 kHz Insulation Resistance: ≥50% of initial limit (T-T) test voltage: 1.5 x U_R/10 s (T-C) test voltage: 2 U_R /√2+1000 Vac/60 s
Terminal strength (leaded)	Tension: 0.50 < D ≤0.80, 10 N, 0.80 < D ≤1.25, 20 N Bending force: 0.50 < D ≤0.80, 5 N, 0.80 < D ≤1.25, 10 N Make two successive bends in each direction	No broken and no abnormal Insulation Resistance: ≥50% of initial limit (T-T) test voltage: 1.5 x U_R/10 s (T-C) test voltage: 2 U_R/√2+1000 Vac/60 s
Resistance to solvents	Reference: IEC 60068-2-45 test XA method 1 Solvent: propanol (isopropyl alcohol) Temperature: +23 ± 5 °C Immersion time: 5 ± 0.5 minutes Drying time: 5 minutes Mechanical treatment: 10 rubbing (with cotton wool)	Capacitance change Rate (△C/C): ≤±1% DF change (△tgδ): ≤50*10^{-4} at 1 kHz Insulation Resistance: ≥50% of initial limit (T-T) test voltage: 1.5 x U_R/10 s (T-C) test voltage: 2 U_R /√2+1000 Vac/60 s
Bump	Reference: IEC 60068-2-27 1000 times, Acceleration: 400 m/s^2 Pulse duration: 6 ms	Capacitance change Rate (△C/C): ≤±1% DF change (△tgδ): ≤50*10^{-4} at 1 kHz Insulation Resistance: ≥50% of initial limit (T-T) test voltage: 1.5 x U_R/10 s (T-C) test voltage: 2 U_R /√2+1000 Vac/60 s
Vibration	Reference: IEC 60068-2-6 Test FC: vibration sinusoidal Displacement: 0.35 mm Acceleration: 98 m/s^2 Frequency: 10 Hz to 55 Hz Frequency sweep cycles: 10 times Test duration: Take three mutually perpendicular directions, each with a duration of 10 frequency cycles, One octave per minute.	Capacitance change Rate (△C/C): ≤±0.5% DF change (△tgδ): ≤50*10^{-4} at 1 kHz Insulation Resistance: ≥50% of initial limit (T-T) test voltage: 1.5 x U_R/10 s (T-C) test voltage: 2 U_R /√2+1000 Vac/60 s
Resistance to soldering heat	Reference: IEC 60068-2-20 +260 +/- 5 °C 10 s	Capacitance change Rate (△C/C): ≤±2% DF change (△tgδ): ≤50*10^{-4} at 1 kHz Insulation Resistance: ≥50% of initial limit (T-T) test voltage: 1.5 x U_R/10 s (T-C) test voltage: 2 U_R /√2+1000 Vac/60 s
Solderability	Reference: IEC 60068-2-20 Soldering temperature: +245 +/-5 °C 2 s	More than 95% of circumferential surface of lead wire shall be covered with new solder
Humidity resistance	Reference: IEC 60068-2-3 40 +/-2 °C 90% to 95% R.H 56 days	Capacitance change Rate (△C/C): ≤±5% DF change (△tgδ): ≤50*10^{-4} at 1 kHz Insulation Resistance: ≥50% of initial limit (T-T) test voltage: 1.5 x U_R/10 s (T-C) test voltage: 2 U_R /√2+1000 Vac/60 s
High temperature features	Reference: IEC 60068-2-2, Test Bb +105 +/- 2 °C, 16 +1/-0 hours	Capacitance change Rate (△C/C): 0% to -5% DF change (△tgδ): ≤50*10^{-4} at 1 kHz Insulation Resistance: ≥50% of initial limit (T-T) test voltage: 1.5 x U_R/10 s (T-C) test voltage: 2 U_R /√2+1000 Vac/60 s
Low temperature features	Reference: IEC 60068-2-1, Test Ab -40 +/- 2°C, 2 +1/-0 hours	Capacitance change Rate (△C/C): 0% to +5% DF change (△tgδ): ≤50*10^{-4} at 1 kHz Insulation Resistance: ≥50% of initial limit (T-T) test voltage: 1.5 x U_R/10 s (T-C) test voltage: 2 U_R /√2+1000 Vac/60 s

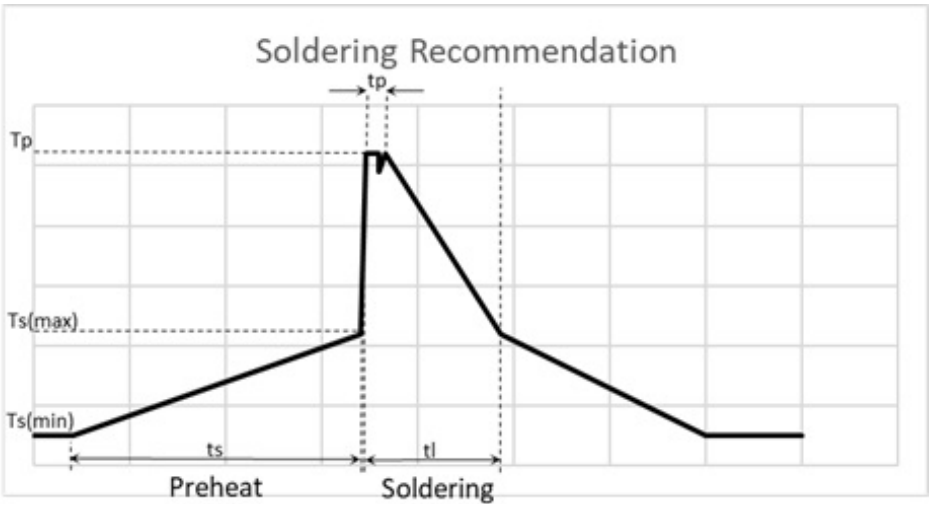
Electrical test

Test	Test condition	Performance
Self-healing test	Apply 150% of rated voltage Duration: 10 seconds Number of clearings ≤5 Clearing = voltage drop of 5 % increase the voltage at 100 V/s till 5 clearings occur with a maximum of 2.5 x U_R for a duration of 10 seconds	Capacitance change rate (△C/C) : ≤±0.5% DF change (△tgδ): : ≤50*10^{-4} at 1 kHz Insulation resistance: ≥50% of initial limit (T-T) test voltage: 1.5 x U_R/10 s (T-C) test voltage: 2 U_R /√2+1000VAC/60 s
Surge discharge test	Five charges and discharges in ten minutes. Test voltage: 1.1 U_R Test current: 1.1 times the maximum impulse current The interelectrode withstand voltage was tested within five minutes after the test.	Capacitance change rate (△C/C) : ≤±1.0% DF change (△tgδ): : ≤50*10^{-4} at 1 kHz Insulation resistance: ≥50% of initial limit (T-T) test voltage: 1.5 x U_R/10 s (T-C) test voltage: 2 U_R /√2+1000VAC/60 s
Thermal stability	Temperature: ambient temperature: +70 °C Test current: 1.1Irms Test frequency: 100 kHz Test time: 48 hours During, the last 6 hours, the temperature of the case near of the top rise shall be measured per 1.5 hours	Capacitance change rate (△C/C) : ≤±2.0% DF change (△tgδ): : ≤50*10^{-4} at 1 kHz Insulation resistance: ≥50% of initial limit (T-T) test voltage: 1.5 x U_R/10 s (T-C) test voltage: 2 U_R /√2+1000VAC/60 s

Packaging information

Pitch	Size	Dimension-mm			Package quantity	
mm	Code	W	H	T	Bulk pack/box	Ammo pack/box
15	B01	18	11	5	1,054	680
	B02	18	12	6	867	560
	B05	18	13	7	748	480
	B07	18	13.5	7.5	697	450
	B09	18	14.5	8.5	612	390
	B11	18	16	10	527	340
	B16	18	19	11	476	300
22.5	C01	26	15.5	6	612	350
	C02	26	16.5	7	528	300
	C03	26	17	8.5	432	250
	C04	26	19	10	372	210
	C05	26	20	11	336	190
	C06	26	22	12	300	170
	C08	26	24.5	13	276	160
	C10	26	29.5	14.5	252	140
27.5	D01	32	17	8	380	NA
	D02	32	18	9	340	NA
	D03	32	20	11	280	NA
	D04	32	22	13	230	NA
	D05	32	24	14	220	NA
	D06	32	24.5	13	230	NA
	D08	32	28	14	220	NA
	D10	32	30	16	190	NA
	D12	32	33	18	170	NA
	D13	32	37	22	140	NA
37.5	E01	42	22	11	196	NA
	E02	42	24	13	161	NA
	E04	42	28	17	126	NA
	E05	42	28.5	16	133	NA
	E10	42	32	19	112	NA
	E13	42	40	20	105	NA
	E14	42	43	28	77	NA
	E15	42	44	24	91	NA
	E16	42	45	30	70	NA
	E17	42	50	35	63	NA

Wave solder profile



Profile feature		
Preheat	• Ts maximimum	110 °C
	• Ts minimum	NA
	• ts	< 150 seconds
Preheat	• Tp	260 °C ±5 °C
	• tp	< 10 seconds
	• tl	≤60 seconds

Capacitor body maximum temperature at wave soldering ≤120 °C

Manual solder

+400 °C, 3 seconds maximum by soldering iron, generally manual, hand soldering is not recommended

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