

300/300R - 3 Leads • 301/301R - 2 Leads

Miniature Versions of this Type begin on page 46.

Type 300 & 300R capacitors offer high volumetric efficiency for use as power supply input/output filters. They are supplied with three leads for vibration strength and reverse proof mounting. Normally supplied as Type 300 with three leads. For two leads, change to Type 301 or 301R

Capacitance: 22 to 18,000µF, -10% +50%

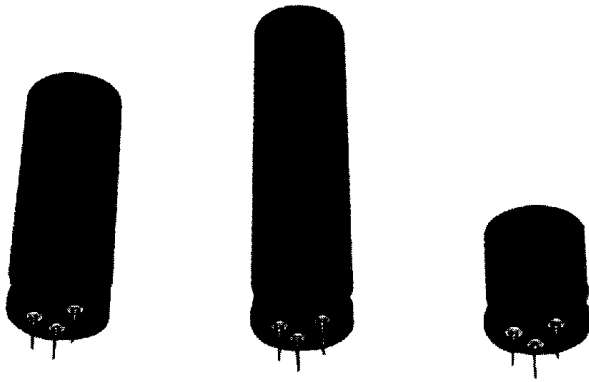
Voltage: 6.3 to 250Vdc

Operating Temperature: -55°C to +105°C

Life Test: 2,000 hours @ +105°C

Shelf Test: 500 hours @ +105°C

DCL: ≤ 0.5√CV µA



Cap. µF	Catalog Number	ESR Max Ω	Ripple A @85°C	Nominal Size (in.)
		120 Hz 20kHz	120Hz 20kHz	D x L

Cap. µF	Catalog Number	ESR Max Ω	Ripple A @85°C	Nominal Size (in.)
		120 Hz 20kHz	120Hz 20kHz	D x L

6.3 Vdc - 9 Vdc Surge

1,500	300152U6R3GE2E	0.160	0.058	1.6	2.46	3/4 x 1 1/8
1,500	300R152U6R3GE2E	0.130	0.046	1.7	2.42	3/4 x 1 1/8
2,200	300222U6R3HE2E	0.100	0.043	2.1	2.94	7/8 x 1 1/8
2,200	300R222U6R3HE2E	0.081	0.028	2.4	3.54	7/8 x 1 1/8
2,700	300272U6R3JE2E	0.089	0.042	2.4	3.12	1 x 1 1/8
2,700	300R272U6R3JE2E	0.061	0.023	3.0	4.02	1 x 1 1/8
3,900	300392U6R3HJ2E	0.053	0.022	3.5	4.86	7/8 x 1 5/8
3,900	300R392U6R3HJ2E	0.041	0.014	4.1	5.88	7/8 x 1 5/8
5,600	300562U6R3JJ2E	0.045	0.022	4.1	5.26	1 x 1 5/8
5,600	300R562U6R3JJ2E	0.031	0.012	5.1	6.77	1 x 1 5/8
6,800	300682U6R3GS2E	0.035	0.014	5.8	8.47	3/4 x 3 1/8
6,800	300R682U6R3GS2E	0.028	0.011	6.4	8.30	3/4 x 3 1/8
8,200	300822U6R3JL2E	0.031	0.015	5.7	7.22	1 x 2 1/8
8,200	300R822U6R3JL2E	0.021	0.008	7.1	9.29	1 x 2 1/8
10,000	300103U6R3HS2E	0.023	0.010	7.5	10.0	7/8 x 3 1/8
10,000	300R103U6R3HS2E	0.017	0.064	9.0	12.2	7/8 x 3 1/8
12,000	300152U6R3GE2E	0.024	0.006	7.2	9.00	1 x 2 5/8
12,000	300R152U6R3GE2E	0.016	0.007	9.0	11.6	1 x 2 5/8
15,000	300152U6R3GE2E	0.020	0.010	8.5	10.5	1 x 3 1/8
15,000	300R152U6R3GE2E	0.013	0.006	11.0	13.5	1 x 3 1/8
18,000	300152U6R3GE2E	0.018	0.009	10.0	11.9	1 x 3 5/8
18,000	300R152U6R3GE2E	0.012	0.005	12.0	15.3	1 x 3 5/8

7.5 Vdc - 10 Vdc Surge

1,200	300122U7R5GE2E	0.170	0.058	1.5	2.05	3/4 x 1 1/8
1,200	300R122U7R5GE2E	0.130	0.046	1.7	2.42	3/4 x 1 1/8
1,800	300182U7R5HE2E	0.110	0.043	2.1	2.94	7/8 x 1 1/8
1,800	300R182U7R5HE2E	0.083	0.028	2.4	3.54	7/8 x 1 1/8
2,200	300222U7R5GJ2E	0.084	0.030	2.6	4.09	3/4 x 1 5/8
2,200	300R222U7R5GJ2E	0.067	0.024	2.9	4.01	3/4 x 1 5/8
2,700	300272U7R5JE2E	0.091	0.042	2.4	3.12	1 x 1 1/8
2,700	300R272U7R5JE2E	0.063	0.023	2.9	4.02	1 x 1 1/8
3,300	300332U7R5GL2E	0.057	0.021	3.7	5.73	3/4 x 2 1/8
3,300	300R332U7R5GL2E	0.046	0.016	4.1	5.62	3/4 x 2 1/8
3,900	300392U7R5HJ2E	0.054	0.022	3.4	4.86	7/8 x 1 5/8
3,900	300R392U7R5HJ2E	0.042	0.014	4.1	5.88	7/8 x 1 5/8
4,700	300472U7R5JJ2E	0.046	0.022	4.0	5.26	1 x 1 5/8
4,700	300R472U7R5JJ2E	0.032	0.022	5.0	6.77	1 x 1 5/8
5,600	300562U7R5HL2E	0.037	0.015	4.9	6.78	7/8 x 2 1/8
5,600	300R562U7R5HL2E	0.028	0.010	5.8	8.23	7/8 x 2 1/8
6,800	300682U7R5HP2E	0.028	0.012	6.2	8.46	7/8 x 2 5/8
6,800	300R682U7R5HP2E	0.022	0.008	7.4	10.3	7/8 x 2 5/8
8,200	300822U7R5JL2E	0.032	0.002	5.6	7.22	1 x 2 1/8
8,200	300R822U7R5JL2E	0.022	0.008	7.0	9.29	1 x 2 1/8
10,000	300103U7R5JP2E	0.025	0.012	7.1	9.00	1 x 2 5/8
10,000	300R103U7R5JP2E	0.017	0.007	8.9	11.6	1 x 2 5/8
12,000	300123U7R5JS2E	0.020	0.010	8.4	10.5	1 x 3 1/8
12,000	300R123U7R5JS2E	0.014	0.006	11.0	13.5	1 x 3 1/8
15,000	300153U7R5JT2E	0.018	0.009	10.0	11.9	1 x 3 5/8
15,000	300R153U7R5JT2E	0.012	0.005	12.0	15.3	1 x 3 5/8

10 Vdc - 13 Vdc Surge

1,000	300102U010GE2E	0.170	0.058	1.5	2.41	3/4 x 1 1/8
1,000	300R102U010GE2E	0.130	0.047	1.7	2.46	3/4 x 1 1/8
1,500	300152U010HE2E	0.110	0.043	2.1	2.93	7/8 x 1 1/8
1,500	300R152U010HE2E	0.083	0.028	2.4	3.54	7/8 x 1 1/8
1,800	300182U010GJ2E	0.084	0.030	2.6	4.09	3/4 x 1 5/8
1,800	300R182U010GJ2E	0.067	0.024	2.9	4.01	3/4 x 1 5/8
2,200	300222U010JE2E	0.091	0.042	2.4	3.12	1 x 1 1/8
2,200	300R222U010JE2E	0.063	0.023	2.9	4.01	1 x 1 1/8
2,700	300272U010GL2E	0.057	0.021	3.7	5.73	3/4 x 2 1/8
2,700	300R272U010GL2E	0.046	0.017	4.1	5.61	3/4 x 2 1/8
3,300	300332U010HJ2E	0.054	0.022	3.4	4.86	7/8 x 1 5/8
3,300	300R332U010HJ2E	0.042	0.014	4.1	5.88	7/8 x 1 5/8
3,900	300392U010GP2E	0.044	0.016	4.7	7.17	3/4 x 2 5/8
3,900	300R392U010GP2E	0.035	0.013	5.3	7.03	3/4 x 2 5/8
4,700	300472U010HL2E	0.037	0.015	4.9	6.77	7/8 x 2 1/8
4,700	300R472U010HL2E	0.028	0.010	5.8	8.22	7/8 x 2 1/8
5,600	300562U010HP2E	0.028	0.012	6.2	8.45	7/8 x 2 5/8
5,600	300R562U010HP2E	0.022	0.008	7.4	10.3	7/8 x 2 5/8
6,800	300682U010JL2E	0.032	0.015	5.6	7.21	1 x 2 1/8
6,800	300R682U010JL2E	0.022	0.008	7.0	9.28	1 x 2 1/8
8,200	300822U010JP2E	0.025	0.012	7.1	9.00	1 x 2 5/8
8,200	300R822U010JP2E	0.017	0.007	8.9	11.6	1 x 2 5/8
10,000	300103U010JS2E	0.020	0.010	8.4	10.5	1 x 3 1/8
10,000	300R103U010JS2E	0.014	0.006	11.0	13.5	1 x 3 1/8
12,000	300123U010JT2E	0.018	0.009	10.0	11.9	1 x 3 5/8
12,000	300R123U010JT2E	0.012	0.005	12.0	15.3	1 x 3 5/8

16 Vdc - 20 Vdc Surge

820	300821U016GE2E	0.170	0.059	1.5	2.40	3/4 x 1 1/8
820	300R821U016GE2E	0.140	0.047	1.7	2.45	3/4 x 1 1/8
1,500	300152U016HE2E	0.110	0.043	2.0	2.93	7/8 x 1 1/8
1,500	300R152U016HE2E	0.088	0.028	2.3	3.52	7/8 x 1 1/8
1,800	300182U016JE2E	0.094	0.042	2.3	3.11	1 x 1 1/8
1,800	300R182U016JE2E	0.066	0.023	2.9	4.00	1 x 1 1/8
2,700	300272U016HJ2E	0.056	0.022	3.4	4.85	7/8 x 1 5/8
2,700	300R272U016HJ2E	0.044	0.014	3.9	5.85	7/8 x 1 5/8
3,300	300332U016GP2E	0.046	0.016	4.6	7.14	3/4 x 2 5/8
3,300	300R332U016GP2E	0.037	0.013	5.1	7.00	3/4 x 2 5/8
3,900	300392U016JJ2E	0.048	0.022	4.0	5.24	1 x 1 5/8
3,900	300R392U016JJ2E	0.033	0.012	4.9	6.74	1 x 1 5/8
4,700	300472U016GS2E	0.038	0.014	5.6	8.43	3/4 x 3 1/8
4,700	300R472U016GS2E	0.030	0.011	6.2	8.27	3/4 x 3 1/8
5,600	300562U016JL2E	0.033	0.015	5.5	7.20	1 x 2 1/8
5,600	300R562U016JL2E	0.023	0.008	6.8	9.25	1 x 2 1/8
6,800	300682U016JP2E	0.025	0.012	7.0	8.99	1 x 2 5/8
6,800	300R682U016JP2E	0.017	0.007	8.7	11.5	1 x 2 5/8
8,200	300822U016HT2E	0.021	0.009	8.3	11.2	7/8 x 3 5/8

Cap. μF	Catalog Number	ESR Max Ω		Ripple A @85°C		Nominal Size (in.) D x L
		120 Hz	20kHz	120Hz	20kHz	D x L

16 Vdc - 20 Vdc Surge (continued)

8,200	300R822U016HT2E	0.016	0.006	10.0	13.7	7/8 x 3 5/8
10,000	300103U016JS2E	0.021	0.010	8.3	10.5	1 x 3 1/8
10,000	300R103U016JS2E	0.014	0.006	10.0	13.5	1 x 3 1/8
12,000	300123U016JT2E	0.018	0.009	10.0	11.9	1 x 3 5/8
12,000	300R123U016JT2E	0.012	0.005	12.0	15.3	1 x 3 5/8

20 Vdc - 25 Vdc Surge

680	300681U020GE2E	0.170	0.059	1.5	2.40	3/4 x 1 1/8
680	300R681U020GE2E	0.130	0.047	1.7	2.44	3/4 x 1 1/8
1,000	300102U020HE2E	0.110	0.043	2.0	2.92	7/8 x 1 1/8
1,000	300R102U020HE2E	0.085	0.028	2.4	3.51	7/8 x 1 1/8
1,500	300152U020JE2E	0.092	0.042	2.4	3.11	1 x 1 1/8
1,500	300R152U020JE2E	0.064	0.023	2.9	3.99	1 x 1 1/8
2,200	300222U020HJ2E	0.055	0.022	3.4	4.84	7/8 x 1 5/8
2,200	300R222U020HJ2E	0.043	0.014	4.0	5.83	7/8 x 1 5/8
2,700	300272U020JJ2E	0.047	0.022	4.0	5.24	1 x 1 5/8
2,700	300R272U020JJ2E	0.032	0.012	5.0	6.72	1 x 1 5/8
3,300	300332U020HL2E	0.037	0.015	4.8	6.74	7/8 x 2 1/8
3,300	300R332U020HL2E	0.029	0.010	5.7	8.16	7/8 x 2 1/8
3,900	300392U020GT2E	0.031	0.012	6.5	9.43	3/4 x 3 5/8
3,900	300R392U020GT2E	0.025	0.010	7.2	9.25	3/4 x 3 5/8
4,700	300472U020JL2E	0.032	0.015	5.6	7.19	1 x 2 1/8
4,700	300R472U020JL2E	0.022	0.008	6.9	9.22	1 x 2 1/8
5,600	300562U020JP2E	0.025	0.012	7.1	8.98	1 x 2 5/8
5,600	300R562U020JP2E	0.017	0.007	8.8	11.5	1 x 2 5/8
6,800	300682U020JS2E	0.021	0.010	8.4	10.5	1 x 3 1/8
6,800	300R682U020JS2E	0.014	0.006	11.0	13.5	1 x 3 1/8
8,200	300822U020JT2E	0.018	0.009	10.0	11.9	1 x 3 5/8
8,200	300R822U020JT2E	0.012	0.005	12.0	15.2	1 x 3 5/8

25 Vdc - 30 Vdc Surge

560	300561U025GE2E	0.180	0.060	1.5	2.36	3/4 x 1 1/8
560	300R561U025GE2E	0.150	0.048	1.6	2.41	3/4 x 1 1/8
820	300821U025HE2E	0.120	0.044	2.0	2.89	7/8 x 1 1/8
820	300R821U025HE2E	0.092	0.029	2.3	3.45	7/8 x 1 1/8
1,200	300122U025JE2E	0.097	0.046	2.3	3.09	1 x 1 1/8
1,200	300R122U025JE2E	0.069	0.023	2.8	3.93	1 x 1 1/8
1,500	300152U025GL2E	0.062	0.021	3.5	5.50	3/4 x 2 1/8
1,500	300R152U025GL2E	0.050	0.017	3.9	5.61	3/4 x 2 1/8
1,800	300182U025HJ2E	0.059	0.023	3.3	4.79	7/8 x 1 5/8
1,800	300R182U025HJ2E	0.046	0.015	3.8	5.73	7/8 x 1 5/8
2,200	300222U025JJ2E	0.049	0.022	3.9	5.20	1 x 1 5/8
2,200	300R222U025JJ2E	0.035	0.012	4.8	6.62	1 x 1 5/8
2,700	300272U025GS2E	0.039	0.014	5.4	8.31	3/4 x 3 1/8
2,700	300R272U025GS2E	0.031	0.011	6.1	8.15	3/4 x 3 1/8
3,300	300332U025JL2E	0.034	0.015	5.4	7.14	1 x 2 1/8
3,300	300R332U025JL2E	0.024	0.008	6.7	9.10	1 x 2 1/8
3,900	300392U025HS2E	0.025	0.010	7.2	9.80	7/8 x 3 1/8
3,900	300R392U025HS2E	0.019	0.007	8.5	11.9	7/8 x 3 1/8
4,700	300472U025JP2E	0.026	0.012	6.9	8.92	1 x 2 5/8
4,700	300R472U025JP2E	0.018	0.007	8.5	11.4	1 x 2 5/8
5,600	300562U025JS2E	0.022	0.010	8.2	10.4	1 x 3 1/8
5,600	300R562U025JS2E	0.015	0.006	10.0	13.3	1 x 3 1/8
6,800	300682U025JT2E	0.019	0.009	9.4	11.8	1 x 3 5/8
6,800	300R682U025JT2E	0.013	0.005	12.0	15.1	1 x 3 5/8

40 Vdc - 50 Vdc Surge

330	300331U040GE2E	0.200	0.063	1.4	2.30	3/4 x 1 1/8
330	300R331U040GE2E	0.160	0.050	1.6	2.35	3/4 x 1 1/8
560	300561U040HE2E	0.120	0.045	1.9	2.84	7/8 x 1 1/8
560	300R561U040HE2E	0.099	0.030	2.2	3.35	7/8 x 1 1/8
680	300681U040JE2E	0.100	0.044	2.2	3.05	1 x 1 1/8
680	300R681U040JE2E	0.074	0.024	2.7	3.84	1 x 1 1/8
1,000	300102U040HJ2E	0.063	0.023	3.2	4.71	7/8 x 1 5/8

Cap. μF	Catalog Number	ESR Max Ω		Ripple A @85°C		Nominal Size (in.) D x L
		120 Hz	20kHz	120Hz	20kHz	D x L

40 Vdc - 50 Vdc Surge (continued)

1,000	300R102U040HJ2E	0.050	0.015	3.7	5.57	7/8 x 1 5/8
1,200	300122U040GP2E	0.051	0.017	4.3	6.75	3/4 x 2 5/8
1,200	300R122U040GP2E	0.041	0.014	4.8	6.88	3/4 x 2 5/8
1,500	300152U040JJ2E	0.052	0.022	3.8	5.14	1 x 1 5/8
1,500	300R152U040JJ2E	0.038	0.012	4.6	6.48	1 x 1 5/8
1,800	300182U040GS2E	0.042	0.015	5.2	8.15	3/4 x 3 1/8
1,800	300R182U040GS2E	0.034	0.012	5.1	7.99	3/4 x 3 1/8
2,200	300222U040JL2E	0.036	0.016	5.3	7.06	1 x 2 1/8
2,200	300R222U040JL2E	0.025	0.009	6.4	8.92	1 x 2 1/8
2,700	300272U040JP2E	0.028	0.012	6.7	8.83	1 x 2 5/8
2,700	300R272U040JP2E	0.019	0.007	8.2	11.2	1 x 2 5/8
3,300	300332U040JS2E	0.023	0.011	8.0	10.3	1 x 3 1/8
3,300	300R332U040JS2E	0.016	0.006	10.0	13.1	1 x 3 1/8
3,900	300392U040JT2E	0.020	0.009	9.2	11.7	1 x 3 5/8
3,900	300R392U040JT2E	0.014	0.005	11.0	14.8	1 x 3 5/8

50 Vdc - 63 Vdc Surge

270	300271U050GE2E	0.300	0.068	1.1	2.19	3/4 x 1 1/8
270	300R271U050GE2E	0.240	0.054	1.3	2.24	3/4 x 1 1/8
390	300391U050HE2E	0.180	0.048	1.6	2.75	7/8 x 1 1/8
390	300R391U050HE2E	0.150	0.033	1.7	3.17	7/8 x 1 1/8
470	300471U050GJ2E	0.150	0.035	1.9	3.66	3/4 x 1 5/8
470	300R471U050GJ2E	0.120	0.028	2.1	3.73	3/4 x 1 5/8
560	300561U050JE2E	0.140	0.046	1.9	2.98	1 x 1 1/8
560	300R561U050JE2E	0.110	0.026	2.2	3.67	1 x 1 1/8
680	300681U050GL2E	0.100	0.024	2.7	5.15	3/4 x 2 1/8
680	300R681U050GL2E	0.080	0.019	3.0	5.25	3/4 x 2 1/8
820	300821U050HJ2E	0.091	0.025	2.6	4.56	7/8 x 1 5/8
820	300R821U050HJ2E	0.076	0.017	2.9	5.29	7/8 x 1 5/8
1,000	300102U050JJ2E	0.072	0.023	3.2	5.02	1 x 1 5/8
1,000	300R102U050JJ2E	0.056	0.023	3.7	6.20	1 x 1 5/8
1,200	300122U050HL2E	0.061	0.017	3.7	6.38	7/8 x 2 1/8
1,200	300R122U050HL2E	0.051	0.011	4.2	7.43	7/8 x 2 1/8
1,500	300152U050JL2E	0.049	0.016	4.5	6.91	1 x 2 1/8
1,500	300R152U050JL2E	0.038	0.009	5.2	8.56	1 x 2 1/8
1,800	300182U050HS2E	0.038	0.011	5.8	9.46	7/8 x 3 1/8
1,800	300R182U050HS2E	0.031	0.007	6.6	11.1	7/8 x 3 1/8
2,200	300222U050JP2E	0.038	0.013	5.7	8.65	1 x 2 5/8
2,200	300R222U050JP2E	0.029	0.007	6.7	10.7	1 x 2 5/8
2,700	300272U050JS2E	0.031	0.011	6.8	10.1	1 x 3 1/8
2,700	300R272U050JS2E	0.023	0.006	8.0	12.6	1 x 3 1/8
3,300	300332U050JT2E	0.027	0.010	7.9	11.5	1 x 3 5/8
3,300	300R332U050JT2E	0.020	0.006	9.4	14.4	1 x 3 5/8

63 Vdc - 75 Vdc Surge

180	300181U063GE2E	0.380	0.071	1.0	2.18	3/4 x 1 1/8
180	300R181U063GE2E	0.311	0.057	1.1	2.13	3/4 x 1 1/8
270	300271U063HE2E	0.230	0.050	1.4	2.69	7/8 x 1 1/8
270	300R271U063HE2E	0.200	0.034	1.5	3.08	7/8 x 1 1/8
330	300331U063GJ2E	0.190	0.036	1.7	3.63	3/4 x 1 5/8
330	300R331U063GJ2E	0.150	0.029	1.9	3.56	3/4 x 1 5/8
390	300391U063JE2E	0.180	0.047	1.7	2.93	1 x 1 1/8
390	300R391U063JE2E	0.140	0.027	1.9	3.58	1 x 1 1/8
560	300561U063HJ2E	0.120	0.025	2.3	4.48	7/8 x 1 5/8
560	300R561U063HJ2E	0.099	0.017	2.5	5.13	7/8 x 1 5/8
680	300681U063GP2E	0.098	0.019	3.1	6.32	3/4 x 2 5/8
680	300R681U063GP2E	0.078	0.015	3.4	6.45	3/4 x 2 5/8
820	300821U063JJ2E	0.090	0.024	2.9	4.95	1 x 1 5/8
820	300R821U063JJ2E	0.072	0.014	3.2	6.05	1 x 1 5/8
1,000	300102U063GT2E	0.067	0.014	4.3	8.49	3/4 x 3 5/8
1,000	300R102U063GT2E	0.054	0.011	4.8	8.66	3/4 x 3 5/8
1,200	300122U063JL2E	0.061	0.017	4.0	6.82	1 x 2 1/8
1,200	300R122U063JL2E	0.049	0.010	4.6	8.36	1 x 2 1/8
1,500	300152U063JP2E	0.046	0.013	5.2	8.55	1 x 2 5/8
1,500	300R152U063JP2E	0.037	0.008	5.9	10.5	1 x 2 5/8

Cap. μ F	Catalog Number	ESR Max Ω	Ripple A @85°C	Nominal Size (in.)
		120 Hz 20kHz	120Hz 20kHz	D x L

Cap. μ F	Catalog Number	ESR Max Ω	Ripple A @85°C	Nominal Size (in.)
		120 Hz 20kHz	120Hz 20kHz	D x L

63 Vdc - 75 Vdc Surge (continued)

1,800	300182U063JS2E	0.038	0.011	6.2	10.0	1 x 3 1/8
1,800	300R182U063JS2E	0.030	0.007	7.1	12.4	1 x 3 1/8
2,200	300222U063JT2E	0.032	0.010	7.2	11.4	1 x 3 5/8
2,200	300R222U063JT2E	0.025	0.006	8.3	14.1	1 x 3 5/8

75 Vdc - 94 Vdc Surge

120	300121U075GE2E	0.590	0.200	0.8	1.43	3/4 x 1 1/8
180	300181U075HE2E	0.350	0.120	1.2	1.93	7/8 x 1 1/8
220	300221U075JE2E	0.260	0.098	1.5	2.40	1 x 1 1/8
330	300331U075HJ2E	0.170	0.061	2.0	3.23	7/8 x 1 5/8
330	300331U075GL2E	0.200	0.066	2.0	3.44	3/4 x 2 1/8
470	300471U075JJ2E	0.130	0.049	2.6	4.08	1 x 1 5/8
560	300561U075HL2E	0.120	0.041	2.9	4.58	7/8 x 2 1/8
680	300681U075JL2E	0.089	0.034	3.6	5.67	1 x 2 1/8
820	300821U075HS2E	0.071	0.026	4.5	7.01	7/8 x 3 1/8
1,000	300102U075JP2E	0.067	0.026	4.6	7.18	1 x 2 5/8
1,200	300122U075JS2E	0.055	0.021	5.5	8.50	1 x 3 1/8
1,500	300152U075JT2E	0.046	0.018	6.5	9.80	1 x 3 5/8

100 Vdc - 125 Vdc Surge

68	300680U100GE2E	0.710	0.250	0.7	1.20	3/4 x 1 1/8
120	300121U100HE2E	0.410	0.150	1.1	1.65	7/8 x 1 1/8
150	300151U100JE2E	0.310	0.120	1.4	2.07	1 x 1 1/8
220	300221U100HJ2E	0.210	0.077	1.8	2.77	7/8 x 1 5/8
270	300271U100GP2E	0.180	0.065	2.4	3.71	3/4 x 2 5/8
330	300331U100JJ2E	0.160	0.061	2.3	3.52	1 x 1 5/8
390	300391U100HP2E	0.110	0.039	3.3	5.04	7/8 x 2 5/8
390	300391U100GT2E	0.120	0.044	3.4	5.21	3/4 x 3 5/8
470	300471U100JL2E	0.100	0.041	3.3	4.92	1 x 2 1/8
560	300561U100JP2E	0.079	0.032	4.2	6.26	1 x 2 5/8
680	300681U100JS2E	0.064	0.026	5.1	7.47	1 x 3 1/8
820	300821U100JT2E	0.054	0.022	5.9	8.63	1 x 3 5/8

150 Vdc - 180 Vdc Surge

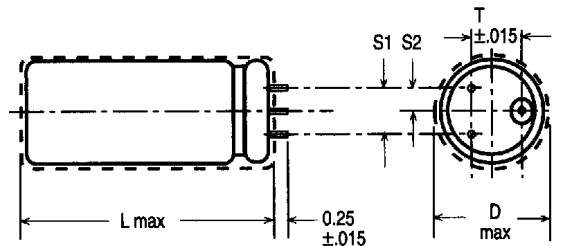
47	300470U150GE2E	2.60	1.30	0.4	0.56	3/4 x 1 1/8
68	300680U150HE2E	1.50	0.740	0.6	0.81	7/8 x 1 1/8
100	300101U150GJ2E	1.30	0.650	0.7	0.95	3/4 x 1 5/8
150	300151U150GL2E	0.880	0.430	1.0	1.37	3/4 x 2 1/8
180	300181U150GP2E	0.660	0.330	1.3	1.77	3/4 x 2 5/8
220	300221U150HL2E	0.500	0.250	1.5	1.96	7/8 x 2 1/8
270	300271U150HP2E	0.380	0.190	1.9	2.53	7/8 x 2 5/8
270	300271U150GT2E	0.440	0.220	1.9	2.53	3/4 x 3 5/8
330	300331U150JL2E	0.360	0.180	2.0	2.79	1 x 2 1/8
390	300391U150JP2E	0.278	0.140	2.5	3.60	1 x 2 5/8
470	300471U150HT2E	0.250	0.130	2.7	3.61	7/8 x 3 5/8
560	300561U150JS2E	0.220	0.110	3.1	4.35	1 x 3 1/8
680	300681U150JT2E	0.180	0.092	3.6	5.10	1 x 3 5/8

200 Vdc - 250 Vdc Surge

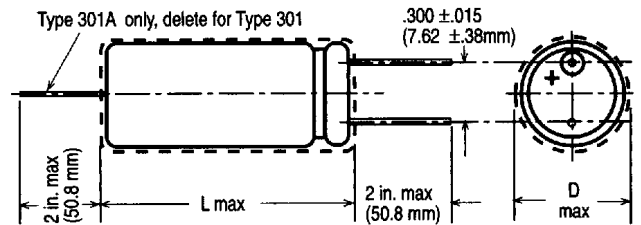
33	300330U200GE2E	3.30	1.50	0.4	0.53	3/4 x 1 1/8
56	300560U200HE2E	1.90	0.830	0.5	0.77	7/8 x 1 1/8
68	300680U200GJ2E	1.70	0.730	0.6	0.90	3/4 x 1 5/8
82	300820U200JE2E	1.40	0.600	0.7	1.09	1 x 1 1/8
100	300101U200GL2E	1.10	0.490	0.9	1.29	3/4 x 2 1/8
120	300121U200HJ2E	0.940	0.420	0.9	1.29	7/8 x 1 5/8
150	300151U200JJ2E	0.680	0.300	1.2	1.87	1 x 1 5/8
180	300181U200HL2E	0.630	0.280	1.3	1.85	7/8 x 2 1/8
220	300221U200JL2E	0.450	0.200	1.7	2.65	1 x 2 1/8
270	300271U200HS2E	0.380	0.170	2.0	2.93	7/8 x 3 1/8
330	300331U200HT2E	0.320	0.140	2.4	3.42	7/8 x 3 5/8
390	300391U200JS2E	0.270	0.120	2.7	4.13	1 x 3 1/8
470	300471U200JT2E	0.230	0.100	3.2	4.85	1 x 3 5/8

250 Vdc - 300 Vdc Surge

22	300220U250GE2E	3.60	1.50	0.3	0.51	3/4 x 1 1/8
39	300390U250HE2E	2.00	0.860	0.5	0.74	7/8 x 1 1/8
47	300470U250GJ2E	1.80	0.760	0.6	0.87	3/4 x 1 5/8
68	300680U250GL2E	1.20	0.510	0.8	1.25	3/4 x 2 1/8
100	300101U250GP2E	0.900	0.380	1.1	1.62	3/4 x 2 5/8
120	300121U250HL2E	0.680	0.290	1.2	1.80	7/8 x 2 1/8
150	300151U250HP2E	0.510	0.220	1.6	2.32	7/8 x 2 5/8
180	300181U250HS2E	0.410	0.170	1.9	2.84	7/8 x 3 1/8
220	300221U250JP2E	0.370	0.160	2.1	3.29	1 x 2 5/8
270	300271U250JS2E	0.290	0.130	2.6	3.98	1 x 3 1/8
330	300331U250JT2E	0.250	0.110	3.0	4.68	1 x 3 5/8



Types 300, 300R & 350



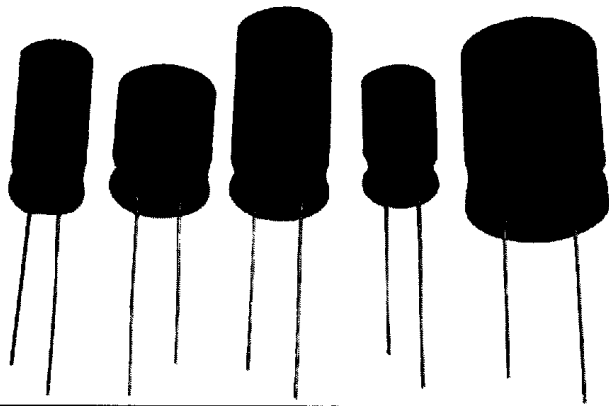
Types 301A & 301

Insulated-Case Dimensions

Case Code	Nominal D x L	Insulated D x L	S1	S2	T
GE	3/4 x 1 1/8	0.775 x 1.157	.200	.100	.300
GJ	3/4 x 1 5/8	0.775 x 1.657	.200	.100	.300
GL	3/4 x 2 1/8	0.775 x 2.157	.200	.100	.300
GP	3/4 x 2 5/8	0.775 x 2.657	.200	.100	.300
GS	3/4 x 3 1/8	0.775 x 3.157	.200	.100	.300
GT	3/4 x 3 5/8	0.775 x 3.657	.200	.100	.300
HE	7/8 x 1 1/8	0.900 x 1.157	.300	.150	.400
HJ	7/8 x 1 5/8	0.900 x 1.657	.300	.150	.400
HL	7/8 x 2 1/8	0.900 x 2.157	.300	.150	.400
HP	7/8 x 2 5/8	0.900 x 2.657	.300	.150	.400
HS	7/8 x 3 1/8	0.900 x 3.157	.300	.150	.400
HT	7/8 x 3 5/8	0.900 x 3.657	.300	.150	.400
JJ	1 x 1 5/8	1.025 x 1.657	.300	.150	.400
JL	1 x 2 1/8	1.025 x 2.157	.300	.150	.400
JS	1 x 3 1/8	1.025 x 3.157	.300	.150	.400
JT	1 x 3 5/8	1.025 x 3.657	.300	.150	.400

Ordering Information for Types 300, 300R & 350

300 103 U 6R3 HS 2 E
 Type: 300, 300R or 350-----|
 Capacitance: 100 = 10 μ F; 101 = 100 μ F-----|
 102 = 1000 μ F; 103 = 10,000 μ F
 Tolerance: M = \pm 20, U = -10% +75%-----|
 Voltage: 6R3 = 6.3Vdc; 063 = 63Vdc; 100 = 100Vdc-----|
 Case Code: See Ratings-----|
 Insulation: 0 = None; 2 = PVC-----|
 Epoxy End Seal: E = epoxy; blank = no epoxy-----|
 Note: This ordering system also applies to Type 350 shown on pages 49 and 50.



Miniature Sizes, 12.5 to 18mm Diameter

For switching power supply input and output filters, miniature Type 301 delivers ESLs of 12 to 15nH and low ESRs from 5mΩ—count on low impedance beyond 100kHz. For 3 leads, change to Type 300 or 300R.

Capacitance: 8 to 10,000μF

Voltage: 6.3 to 250Vdc

Operating Temperature: -55°C to +105°C

Life Test: 4,000 hours @ +105°C

Shelf Test: 500 hours @ +105°C

DCL: ≤ 0.5√CV μA

Ripple Current Multiplier: +105°C = 0.5; +85°C = 1.0; ≤+65°C = 1.34

Cap. μF	Catalog Number	ESR MaxΩ	Ripple A+85°C	Imped. Ω	Nom Size (mm)
		+25°C	20kHz-	+25°C	(mm)
		120Hz	20kHz100kHz	100kHz	D x L

Cap. μF	Catalog Number	ESR MaxΩ	Ripple A+85°C	Imped. Ω	Nom Size (mm)
		+25°C	20kHz-	+25°C	(mm)
		120Hz	20kHz100kHz	100kHz	D x L

6.3 Vdc - 9 Vdc Surge

680	301681U6R3EM2	0.231	0.150	1.44	0.120	12.5 x 26.5
1,000	301102U6R3FK2	0.160	0.090	2.05	0.085	16 x 25
1,200	301122U6R3ER2	0.134	0.070	2.46	0.060	12.5 x 42.5
1,500	301152U6R3FN2	0.105	0.050	2.90	0.055	16 x 33.5
1,500	301R152M6R3EG2	0.201	0.071	1.84	0.070	12.5 x 20
2,200	301R222M6R3EM2	0.110	0.060	1.63	0.059	12.5 x 26.5
3,300	301332U6R3LV2	0.076	0.045	3.39	0.045	18 x 40
3,300	301R332M6R3EN2	0.093	0.057	2.28	0.056	12.5 x 33.5
3,900	301R392M6R3FK2	0.111	0.041	3.03	0.045	16 x 25
4,700	301R472M6R3ER2	0.068	0.031	3.73	0.032	12.5 x 42.5
5,600	301R562M6R3FF2	0.078	0.037	3.53	0.040	16 x 32
6,800	301R682M6R3FQ2	0.710	0.034	3.65	0.037	16 x 36
8,200	301R822M6R3FV2	0.059	0.031	4.18	0.034	16 x 40
8,200	301R822M6R3LQ2	0.067	0.029	4.51	0.031	18 x 36
10,000	301R103M6R3LV2	0.054	0.024	5.21	0.026	18 x 40

10 Vdc - 13 Vdc Surge

1,000	301R102M010EG2	0.216	0.077	1.80	0.079	12.5 x 20
1,500	301R152M010EK2	0.200	0.064	1.90	0.062	12.5 x 25
1,800	301R182M010EM2	0.122	0.062	2.21	0.061	12.5 x 26.5
2,700	301R272M010EN2	0.111	0.059	2.28	0.060	12.5 x 33.5
2,700	301R272M010FK2	0.116	0.042	3.39	0.046	16 x 25
3,300	301R332M010ER2	0.075	0.032	3.69	0.033	12.5 x 42.5
4,700	301R472M010FF2	0.087	0.038	3.47	0.041	16 x 32
5,600	301R562M010FQ2	0.078	0.033	3.62	0.036	16 x 36
6,800	301R682M010LQ2	0.071	0.031	4.42	0.033	18 x 36
8,200	301R822M010LV2	0.060	0.026	5.01	0.028	18 x 40

16 Vdc - 20 Vdc Surge

820	301R821M016EG2	0.216	0.085	1.78	0.085	12.5 x 20
1,200	301R122M016EM2	0.130	0.066	2.24	0.065	12.5 x 26.5
1,800	301R182M016EN2	0.122	0.055	2.76	0.054	12.5 x 33.5
2,200	301R222M016FK2	0.120	0.042	3.02	0.046	16 x 25
2,700	301R272M016ER2	0.082	0.032	2.65	0.034	12.5 x 42.5
3,300	301R332M016FF2	0.078	0.032	3.78	0.034	16 x 32
3,900	301R392M016FQ2	0.075	0.032	3.97	0.034	16 x 36
4,700	301R472M016LQ2	0.074	0.032	4.34	0.034	18 x 36
5,600	301R562M016LV2	0.062	0.026	4.98	0.028	18 x 40

20 Vdc - 30 Vdc Surge

330	301331U020EM2	0.360	0.160	1.34	0.140	12.5 x 26.5
470	301471U020FK2	0.240	0.090	2.00	0.085	16 x 25
470	301R471M020EG2	0.250	0.077	0.99	0.075	12.5 x 20
560	301561U020ER2	0.220	0.080	2.34	0.060	12.5 x 42.5
680	301681U020FN2	0.170	0.060	2.90	0.055	16 x 33.5
680	301R681M020EM2	0.140	0.067	2.11	0.067	12.5 x 26.5
1,000	301R102M020EN2	0.114	0.048	1.69	0.045	12.5 x 33.5
1,500	301151U020LV2	0.090	0.050	3.25	0.050	18 x 40

20 Vdc - 30 Vdc Surge (continued)

1,500	301R152M020ER2	0.085	0.033	3.58	0.035	12.5 x 42.5
2,200	301R222M020FQ2	0.077	0.032	3.96	0.034	16 x 36
3,300	301R332M020LV2	0.062	0.026	4.92	0.028	18 x 40

25 Vdc - 35 Vdc Surge

330	301331U025EN2	0.290	0.120	1.75	0.100	12.5 x 33.5
390	301R391M025EG2	0.267	0.092	1.52	0.092	12.5 x 20
470	301471U025ER2	0.220	0.080	2.35	0.070	12.5 x 42.5
560	301R561M025EK2	0.193	0.075	1.79	0.076	12.5 x 25
680	301681U025FQ2	0.190	0.075	2.44	0.075	16 x 36
680	301R681M025EM2	0.160	0.067	2.17	0.068	12.5 x 26.5
1,000	301R102M025EN2	0.152	0.056	2.67	0.058	12.5 x 33.5
1,200	301122U025LV2	0.100	0.050	3.20	0.055	18 x 40
1,200	301R122M025FK2	0.132	0.045	2.93	0.047	16 x 25
1,200	301R122M025ER2	0.090	0.034	3.58	0.036	12.5 x 42.5
1,500	301R152M025FF2	0.095	0.039	3.44	0.041	16 x 32
1,800	301R182M025FQ2	0.075	0.032	3.97	0.034	16 x 36
2,200	301R222M025FV2	0.073	0.031	4.13	0.033	16 x 40
2,200	301R222M025LQ2	0.070	0.030	4.34	0.032	18 x 36
2,700	301R272M025LV2	0.062	0.026	4.97	0.028	18 x 40

35 Vdc - 50 Vdc Surge

270	301R271M035EG2	0.249	0.094	1.60	0.093	12.5 x 20
390	301R391M035EK2	0.233	0.089	1.72	0.090	12.5 x 25
470	301R471M035EM2	0.200	0.068	2.08	0.070	12.5 x 26.5
680	301R681M035EN2	0.191	0.059	2.45	0.059	12.5 x 33.5
820	301R821M035FK2	0.133	0.046	2.86	0.050	16 x 25
820	301R821M035ER2	0.094	0.035	3.50	0.037	12.5 x 42.5
1,200	301R122M035FF2	0.099	0.041	3.71	0.042	16 x 32
1,500	301R152M035FQ2	0.082	0.033	3.92	0.035	16 x 36
1,800	301R182M035LQ2	0.079	0.033	4.25	0.034	18 x 36

40 Vdc - 55 Vdc Surge

220	301221U040FK2	0.480	0.140	1.65	0.120	16 x 25
330	301331U040FN2	0.330	0.120	2.24	0.080	16 x 33.5
330	301R331M040EM2	0.202	0.068	2.05	0.070	12.5 x 26.5
390	301391U040ER2	0.270	0.150	1.90	0.100	12.5 x 42.5
470	301R471M040FK2	0.133	0.046	2.82	0.050	16 x 25
680	301R681M040ER2	0.095	0.035	3.41	0.037	12.5 x 42.5
820	301821U040LV2	0.160	0.075	2.60	0.080	18 x 40
1,000	301R102M040FQ2	0.080	0.033	3.87	0.035	16 x 36
1,500	301R152M040LV2	0.063	0.027	4.82	0.030	18 x 40

50 Vdc - 75 Vdc Surge

100	301101U050EN2	0.810	0.260	1.14	0.220	12.5 x 33.5
120	301R121M050EG2	0.391	0.139	1.33	0.141	12.5 x 20
150	301151U050FK2	0.550	0.220	1.30	0.180	16 x 25

Cap. μ F	Catalog Number	ESR Max Ω +25°C	Ripple A+85°C 20kHz-100kHz	Imped. Ω +25°C 100kHz	Nom Size (mm) D x L
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Cap. μ F	Catalog Number	ESR Max Ω +25°C	Ripple A+85°C 20kHz-100kHz	Imped. Ω +25°C 100kHz	Nom Size (mm) D x L
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50 Vdc - 75 Vdc Surge (continued)

180	301181U050ER2	0.500	0.180	1.55	0.150	12.5 x 42.5
180	301R181M050EK2	0.261	0.090	1.61	0.092	12.5 x 25
220	301221U050FN2	0.420	0.150	1.83	0.120	16 x 33.5
220	301R221M050EM2	0.240	0.069	2.08	0.071	12.5 x 26.5
330	301R331M050EN2	0.221	0.063	2.22	0.066	12.5 x 33.5
390	301R391M050FK2	0.150	0.048	2.82	0.052	16 x 25
470	301471U050LV2	0.250	0.090	2.40	0.095	18 x 40
470	301R471M050ER2	0.111	0.036	3.46	0.039	12.5 x 42.5
560	301R561M050FF2	0.118	0.041	3.36	0.043	16 x 32
680	301R681M050FQ2	0.102	0.040	3.69	0.042	16 x 36
820	301R821M050FV2	0.095	0.038	3.79	0.040	16 x 40
820	301R821M050LQ2	0.089	0.036	4.07	0.038	18 x 36
1,000	301R101M050LV2	0.077	0.028	4.81	0.032	18 x 40

250 Vdc - 300 Vdc Surge

8	3018R2U250EG2	29.9	3.05	0.23	3.20	12.5 x 20
12	301120U250EK2	23.3	2.50	0.27	2.65	12.5 x 25
15	301150U250EM2	15.0	1.90	0.38	2.00	12.5 x 26.5
18	301180U250EN2	12.1	1.50	0.47	1.60	12.5 x 33.5
27	301270U250FK2	10.8	1.61	0.53	1.70	16 x 25
27	301270U250ER2	7.82	1.39	0.67	1.40	12.5 x 42.5
33	301330U250FF2	5.50	0.720	0.80	0.730	16 x 32
39	301390U250FQ2	5.26	0.700	0.89	0.700	16 x 36
47	301470U250FV2	4.68	0.670	1.00	0.680	16 x 40
56	301560U250LQ2	3.75	0.550	1.10	0.550	18 x 36
68	301680U250LV2	3.11	0.360	1.29	0.360	18 x 40

63 Vdc - 75 Vdc Surge

120	301R121M063EG2	0.451	0.093	1.60	0.090	12.5 x 20
180	301R181M063EK2	0.298	0.090	1.83	0.091	12.5 x 25
270	301R271M063EN2	0.160	0.055	2.46	0.054	12.5 x 33.5
330	301R331M063FK2	0.171	0.050	2.74	0.054	16 x 25
390	301R391M063ER2	0.130	0.038	3.38	0.040	12.5 x 42.5
470	301R471M063FF2	0.142	0.043	3.27	0.045	16 x 32
560	301R561M063FQ2	0.120	0.035	3.80	0.038	16 x 36
680	301R681M063FV2	0.113	0.032	3.87	0.035	16 x 40
680	301R681M063LQ2	0.103	0.029	4.17	0.032	18 x 36
820	301R821M063LV2	0.090	0.029	4.74	0.033	18 x 40

100 Vdc - 125 Vdc Surge

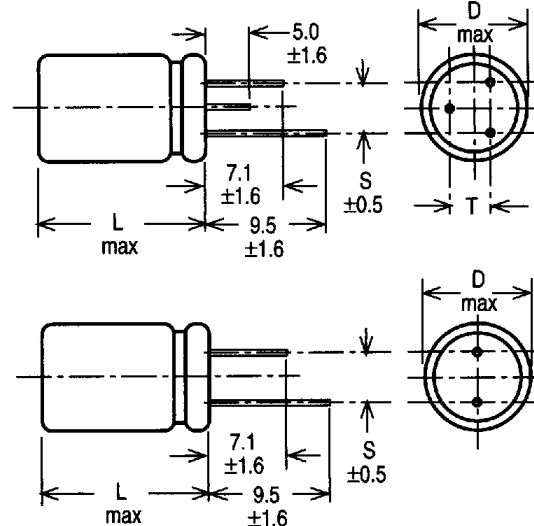
47	301470U100EG2	5.94	1.17	0.47	0.980	12.5 x 20
68	301680U100EM2	2.55	0.550	0.72	0.390	12.5 x 26.5
100	301101U100EN2	1.97	0.500	0.80	0.330	12.5 x 33.5
120	301121U100FK2	1.22	0.310	1.03	0.260	16 x 25
150	301151U100ER2	0.940	0.270	1.22	0.220	12.5 x 42.5
180	301181U100FF2	0.682	0.190	1.48	0.170	16 x 32
220	301221U100FQ2	0.660	0.180	1.65	0.170	16 x 36
270	301271U100FV2	0.581	0.160	1.80	0.160	16 x 40
330	301331U100LQ2	0.550	0.140	1.82	0.140	18 x 36
390	301391U100LV2	0.521	0.120	2.09	0.120	18 x 40

160 Vdc - 200 Vdc Surge

15	301150U160EG2	17.5	1.45	0.40	1.25	12.5 x 20
22	301220U160EK2	12.8	0.960	0.52	0.830	12.5 x 25
27	301270U160EM2	9.70	0.720	0.66	0.640	12.5 x 26.5
39	301390U160EN2	6.21	0.600	0.74	0.520	12.5 x 33.5
47	301470U160FK2	6.00	0.620	0.70	0.590	16 x 25
56	301560U160ER2	5.11	0.500	0.89	0.480	12.5 x 42.5
68	301680U160FF2	3.50	0.350	1.15	0.280	16 x 32
82	301820U160FQ2	2.95	0.320	1.53	0.230	16 x 36
100	301101U160LQ2	2.54	0.210	1.65	0.190	18 x 36
120	301121U160LV2	2.01	0.190	1.79	0.160	18 x 40

200 Vdc - 250 Vdc Surge

10	301100U200EG2	19.9	1.78	0.39	1.58	12.5 x 20
15	301150U200EK2	15.2	1.27	0.49	1.05	12.5 x 25
18	301180U200EM2	10.6	0.960	0.63	0.880	12.5 x 26.5
22	301220U200EN2	7.01	0.580	0.75	0.550	12.5 x 33.5
27	301270U200FK2	6.50	0.650	0.68	0.610	16 x 25
33	301330U200ER2	5.99	0.550	0.87	0.590	12.5 x 42.5
39	301390U200FF2	3.91	0.340	1.15	0.300	16 x 32
47	301470U200FQ2	3.73	0.330	1.50	0.290	16 x 36
56	301560U200FV2	3.25	0.290	1.58	0.270	16 x 40
68	301680U200LQ2	2.84	0.260	1.74	0.250	18 x 36
82	301820U200LV2	2.31	0.180	1.89	0.165	18 x 40



Type 300/300R Three Leads

Type 301/301R Two Leads

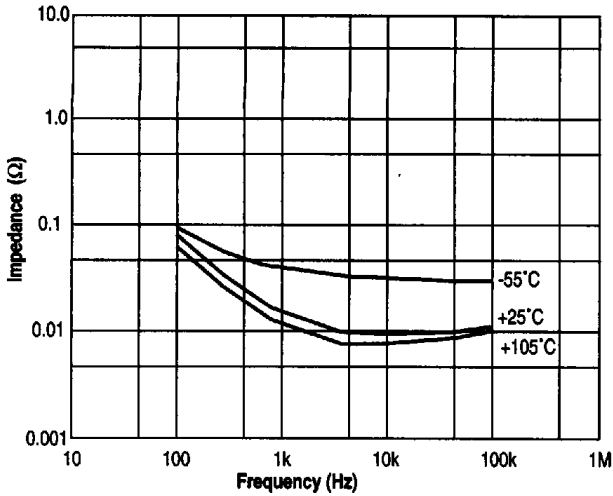
Insulated-Case Dimensions, L incl. Sleeve & Epoxy Seal - millimeters

Case Code	Nominal D x L	Insulated D x L	Insulated Epoxy Seal D x L	S ± 0.6	T ± 0.5	Lead Diam. mm	AWG	Wt. Gr.
EG	12.5 x 20.0	13.0 x 21.5	13.0 x 23.0	5.0	2.50	0.81	20	3.8
EK	12.5 x 25.0	13.0 x 26.5	13.0 x 29.0	5.0	2.50	0.81	20	4.5
EM	12.5 x 26.5	13.0 x 28.0	13.0 x 29.5	5.0	2.50	0.81	20	4.7
EN	12.5 x 33.5	13.0 x 34.2	13.0 x 36.0	5.0	2.50	0.81	20	5.8
ER	12.5 x 42.5	13.0 x 43.7	13.0 x 45.5	5.0	2.50	0.81	20	7.3
FK	16.0 x 25.0	16.5 x 26.2	16.5 x 27.9	7.5	3.75	0.81	20	7.2
FF	16.0 x 32.0	16.5 x 33.5	16.5 x 36.0	7.5	3.75	0.81	20	9.4
FN	16.0 x 33.5	16.5 x 34.2	16.5 x 36.0	7.5	3.75	0.81	20	9.5
FQ	16.0 x 36.0	16.5 x 37.5	16.5 x 40.0	7.5	3.75	0.81	20	10.6
FV	16.0 x 40.0	16.5 x 41.7	16.5 x 42.4	7.5	3.75	0.81	20	11.9
LQ	18.0 x 36.0	18.5 x 37.5	18.5 x 40.0	7.5	3.75	0.81	20	13.4
LV	18.0 x 40.0	18.5 x 42.0	18.5 x 43.0	7.5	3.75	0.81	20	14.9
HH	22.0 x 22.0	22.5 x 23.5	22.5 x 26.0	10.0	5.0	0.81	20	11.0
HK	22.0 x 25.0	22.5 x 26.2	22.5 x 27.9	10.0	5.0	0.81	20	13.5
HG	22.0 x 30.0	22.5 x 32.5	22.5 x 34.0	10.0	5.0	0.81	20	15.1
HV	22.0 x 40.0	22.5 x 42.0	22.5 x 43.0	10.0	5.0	0.81	20	20.4

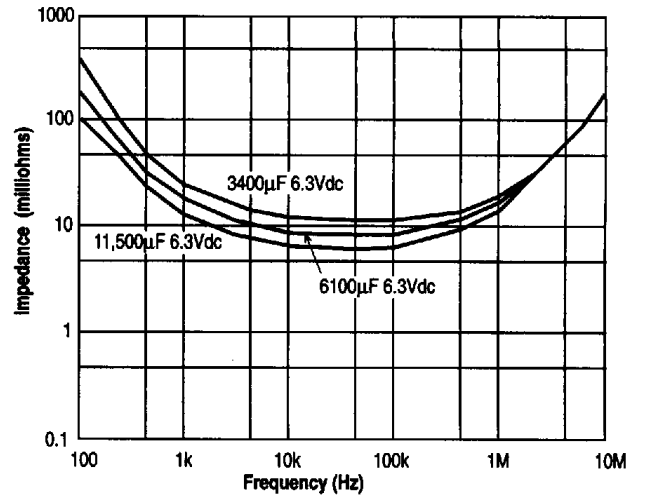
Ordering Information for Types 301, 301R, 300 & 300R

301 103 M 6R3 LV 2 E
Type: 301, 301R, 300 or 300R-----|
Capacitance: 100 = 10 μ F; 101 = 100 μ F-----|
 102 = 1000 μ F; 103 = 10,000 μ F
Tolerance: M = ± 20 , U = -10% +75%-----|
Voltage: 6R3 = 6.3Vdc; 063 = 63Vdc; 100 = 100Vdc-----|
Case Code: See table-----|
Insulation: 0 = None; 2 = PVC-----|
Epoxy End Seal: E = epoxy; blank = no epoxy-----|

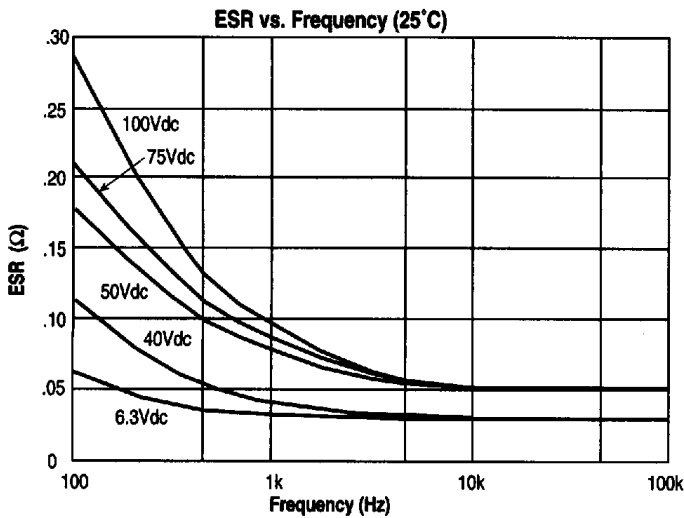
Type 301/301R Impedance vs Frequency



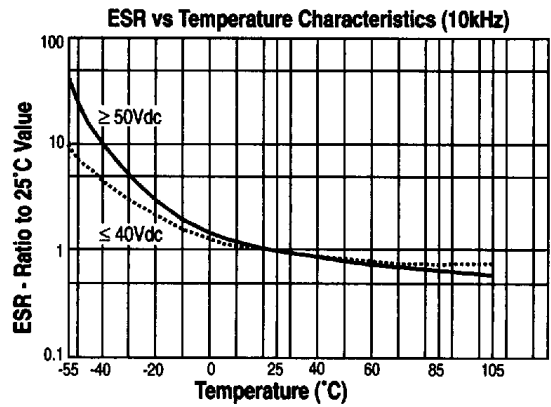
Type 350 Impedance vs Frequency



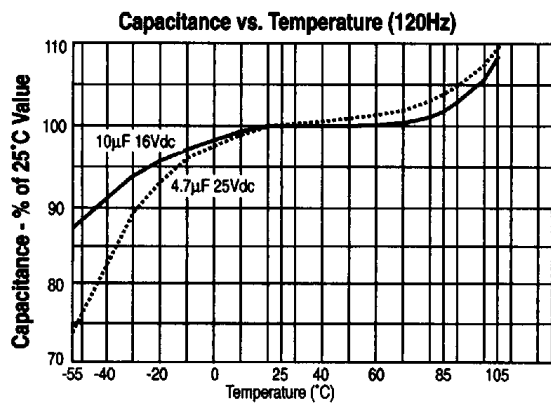
Type 301/301R ESR vs Frequency



Type 350 ESR vs Temperature



Type 301/301R Capacitance vs Temperature



Type 350 Capacitance vs Temperature

