Low ESR



FEATURES

- Lead-free, RoHS compliant
- Very Low Equivalent Series Resistance (ESR), Ideal for Power Supplies
- High ripple and surge current capability
- Meets or exceeds EIA 535 BAAC and IECQ standards (QC300801/US0001, IS 28)
- Pre-conditioned, surge current tested for maximum robustness
- Capacitance range: 1.0 μf to 1500 μf (higher values in development)
- Voltage range: 4 to 50 WVDC
- Low Profile sizes (see Low Profile LSR section)
- Operating temperature range -55°C to +125°C, 2/3 x Vr (linear derating) above +85°C
- Precision molded case with flat surfaces for vacuum pick-up
- Laser marking and bold videcon readable polarity stripe
- Compliant terminations
- Glue pad on underside for bonding to circuit board prior to soldering
- Encapsulant material satisfies the UL 94 VO flammability classification
- Termination finish 90% Sn / 10% Pb available
- MSL (moisture sensitivity level) per IPC/Jedec J-STD-020B is level 1

Nemco LSR (Low Equivalent Series Resistance) surface mount tantalum capacitors are specifically designed for those applications such as **POWER SUPPLIES** requiring the highest level of robustness available to tantalum capacitor technology. These devices have inherently **low ESR** due to special manufacturing process and powder technology improvements. They are capable of handling higher ripple currents than standard product. The benefits of using Nemco LSR Series components are its capability to handle higher ripple currents producing lower ripple voltage output and less power dissipation resulting in less heating.

After manufacturing, parts are conditioned by being subjected to an elevated temperature overvoltage burn-in, applied for a minimum of 2 hours. Parts are monitored on a 100% basis for DCL at elevated temperatures. Parts are then subjected to a low impedance surge current. Surge current testing is performed on a 100% basis. Each capacitor is individually monitored. All devices undergo 100% test for capacitance, dissipation factor, DCL, and ESR at 100 kHz to LSR requirements.





PART NUMBERS & SPECIFICATIONS

Capacitance μF	μF Size		Size @ 100Khz max. mΩ Nemco Part No.		tan δ max. (%)	Max. Ripple Current @ 100kHz mA (milliamps)			
(microfarads)		(milliohms)		(microamps)	\	25°C	85°C	125°C	
4 V DC @ 85	°C								
47.0 100.0 100.0 100.0 100.0 150.0 150.0 150.0 220.0 220.0 220.0 330.0 330.0 330.0 470.0 470.0 470.0 470.0 680.0 680.0 680.0 680.0 680.0 680.0 680.0 1000.0 1000.0 1000.0 1000.0 1000.0 1000.0 1500.0 1500.0 1500.0 1500.0	A	500 200 250 350 500 250 70 80 40 50 100 35 45 100 45 100 45 100 45 60 100 18 23 40 60 100 18 23 40 60 100 18 23 50 75 50 75	LSR47	1.9 4.0 4.0 4.0 4.0 6.0 6.0 6.0 8.8 8.8 8.8 13.2 13.2 13.2 13.2 13.2 13.2 13.2 27.2 27.2 27.2 27.2 27.2 27.2 27.2 2	8 8 8 8 8 8 8 8 8 8 8 8 8 8	387 652 583 493 412 583 1254 1173 1936 1732 1225 1049 2070 1826 1225 1826 1225 2171 1915 1285 1915 1581 1225 3873 3426 2031 1658 3873 3426 2031 1658 3873 3426 1658 3979 3162 2673 2500 2236 4243 1817 1483 2236 1826	348 587 525 444 371 525 1128 1055 1743 1559 1102 944 1863 1643 1102 1954 1723 1156 1643 1102 3486 3084 1828 1492 3581 2846 3084 1492 3581 2846 2405 2250 2012 3818 1635 1335 2012 1643	155 261 233 197 165 233 501 469 775 693 490 420 828 730 490 730 490 868 766 514 730 632 490 1549 1370 812 663 513 1549 1370 663 1592 1265 1069 1000 894 1697 727 593 894 730	
	1	70	20111000/ 42 _ 70	00.0		1020	1040	700	
6.3 V DC @ 8	· · ·	1800	LSR6.8 / 6A _1800	0.5	6	204	184	82	
6.8 10.0 15.0 22.0 22.0 22.0 22.0 33.0 33.0 33.0 47.0 47.0 47.0 47.0 47.0 68.0 68.0 68.0	A A A A A B B A B B B A B B B C B B B	1800 1500 700 1500 900 375 600 600 250 350 450 600 800 250 350 500 300 250 350	LSR6.8 / 6A _ 1800 LSR10 / 6A _ 1500 LSR15 / 6A _ 700 LSR15 / 6A _ 1500 LSR22 / 6A _ 500 LSR22 / 6A _ 900 LSR22 / 6B _ 375 LSR22 / 6B _ 600 LSR33 / 6A _ 600 LSR33 / 6B _ 250 LSR33 / 6B _ 350 LSR33 / 6B _ 450 LSR33 / 6B _ 600 LSR47 / 6A _ 800 LSR47 / 6A _ 800 LSR47 / 6B _ 250 LSR47 / 6B _ 350 LSR47 / 6B _ 350 LSR47 / 6B _ 350 LSR47 / 6C _ 300 LSR68 / 6B _ 250 LSR68 / 6B _ 350	0.5 0.6 0.9 0.9 1.4 1.4 1.4 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.3 3.0 3.0 3.0 4.3 4.3 4.3	666666666666666886	204 224 327 224 387 289 476 376 353 583 493 435 376 306 583 493 412 606 583 493 412	184 200 295 200 349 260 428 339 318 525 444 391 338 276 525 444 371 545 525 444	82 89 131 89 155 115 190 151 141 233 197 174 151 122 233 197 165 242 233 197	

 $_$ Insert tolerance M (±20%) or K(±10%) to complete the Nemco part number

Capacitance μF	Case Size	ESR @ 100Khz max. mΩ	Nemco Part No.	DCL μA max.	tan δ max. (%)		c. Ripple Cur 100kHz m (milliamps)	
(microfarads)		(milliohms)		(microamps)		25°C	85°C	125°C
.3 V DC @ 8	35°C cor	nt.						
68.0 68.0	C C	150 200	LSR68 / 6C _ 150 LSR68 / 6C _ 200	4.3 4.3	6 6	856 742	771 667	343 297
100.0	В	250 250	LSR100 / 6B 250	6.3	10	583	525	237
100.0	В	400	LSR100 / 6B 400	6.3	10	461	415	184
100.0	С	75	LSR100 / 6C _ 75	6.3	6	1211	1091	484
100.0	С	150	LSR100 / 6C _ 150	6.3	6	856	771	343
150.0	C	50	LSR150 / 6C _ 50	9.5	6	1483	1335	593
150.0	С	90	LSR150 / 6C _ 90	9.5	6	1106	995	442
150.0	C C	150 200	LSR150 / 6C _ 150	9.5 9.5	6 6	856 742	771 667	343 297
150.0 150.0	C	250	LSR150 / 6C _ 200 LSR150 / 6C _ 250	6.3	6	663	597	265
150.0	D	50	LSR150 / 6D 50	9.5	6	1732	1559	693
150.0	D	125	LSR150 / 6D _ 125	9.5	6	1095	986	438
220.0	С	70	LSR220 / 6C _ 70	13.9	8	1254	1128	501
220.0	С	100	LSR220 / 6C _ 100	13.9	10	1049	944	420
220.0	С	125	LSR220 / 6C _ 125	13.9	8	938	844	375
220.0	C	250	LSR220 / 6C _ 250	13.9	10	663	597	265
220.0	D	50 100	LSR220 / 6D _ 50	13.9	8	1732	1559	693
220.0 220.0	D D	100 125	LSR220 / 6D _ 100 LSR220 / 6D _ 125	13.9 13.9	8 8	1125 1095	1102 986	490 438
220.0	H	100	LSR220 / 6D _ 125 LSR220 / 6H 100	13.9	8	1285	1156	514
330.0	D D	45	LSR330 / 6D _ 45	20.8	8	1826	1643	730
330.0	D	50	LSR330 / 6D _ 43	20.8	8	1732	1559	693
330.0	D	70	LSR330 / 6D 70	20.8	8	1464	1317	586
330.0	D	100	LSR330 / 6D _ 100	20.8	8	1125	1102	490
330.0	Н	50	LSR330 / 6H _ 50	20.8	8	1817	1635	727
330.0	Н	100	LSR330 / 6H _ 100	20.8	8	1285	1156	514
330.0	H	125	LSR330 / 6H _ 125	20.8	8	1149	1034	460
330.0	H	150	LSR330 / 6H _ 150	20.8	8	1049	944	420
470.0 470.0	D D	45 60	LSR470 / 6D _ 45 LSR470 / 6D 60	29.6 29.6	12 12	1826 1581	1643 1423	730 632
470.0 470.0	D D	100	LSR470 / 6D _ 60 LSR470 / 6D 100	29.6	12	1225	1102	490
470.0	D	200	LSR470 / 6D _ 100 LSR470 / 6D _ 200	29.6	12	866	779	346
470.0	H	18	LSR470 / 6H 18	28.0	6	3873	3486	1549
470.0	H	23	LSR470 / 6H _ 23	28.0	6	3426	3084	1370
470.0	H	30	LSR470 / 6H _ 30	28.0	6	3000	2700	1200
470.0	Н	45	LSR470 / 6H _ 45	29.6	10	1915	1723	766
470.0	H	50	LSR470 / 6H _ 50	29.6	10	1817	1635	727
470.0	H	60	LSR470 / 6H _ 60	29.6	10	1658	1492	663
470.0 470.0	H H	100 200	LSR470 / 6H _ 100 LSR470 / 6H _ 200	29.6 29.6	10 10	1285 908	1156	514 363
470.0 470.0	Z	40	LSR470 / 6H _ 200 LSR470 / 6Z 40	29.6	10	2500	817 2250	1000
470.0	Z	55	LSR470 / 6Z _ 55	29.6	10	2132	1919	853
470.0	Z	100	LSR470 / 6Z _ 100	29.6	10	1581	1423	632
680.0	Н	18	LSR680 / 6H _ 18	41.0	6	3873	3486	1549
680.0	Н	23	LSR680 / 6H _ 23	41.0	6	3426	3084	1370
680.0	H	45	LSR680 / 6H _ 45	42.8	10	1915	1723	766
680.0	H	60	LSR680 / 6H _ 60	42.8	10	1658	1492	663
680.0	H	100	LSR680 / 6H _ 100	42.8	10	1284	1156	514
680.0 680.0	Z Z	23 35	LSR680 / 6Z _ 23 LSR680 / 6Z 35	41.0 42.8	6 14	3520 2673	3168 2405	1408 1069
680.0	Z	40	LSR680 / 6Z _ 35 LSR680 / 6Z _ 40	42.8	10	2500	2405	1009
680.0	Z	50	LSR680 / 6Z _ 50	42.8	10	2236	2012	894
1000.0	Z	40	LSR1000/6Z 40	60.0	16	2500	2250	1000
1000.0	Z	50	LSR1000/ 6Z _ 50	60.0	16	2236	2012	894
V DC @ 8					,			
2.2	A	1800	LSR2.2 / 10A _1800	0.5	6	204	184	82
4.7	A	1400	LSR4.7 / 10A _ 1400	0.5	6	231	208	93
6.8	A	1800	LSR6.8 / 10A _ 1800	0.7	6	204	184	82
10.0	Α	900	LSR10 / 10A _ 900	1.0	6	289	260	115
10.0	Α	1800	LSR10 / 10A _1800	1.0	6	204	183	82

PART NUMBERS & SPECIFICATIONS

Capacitance Case μF Size		ESR @ 100Khz max. mΩ	Nemco Part No.	DCL μA max.	tan δ max. (%)		x. Ripple Cui 20 100kHz m. (milliamps)	
(microfarads)		(milliohms)		(microamps)	` ′	25°C	85°C	125°C
10 V DC @ 8	5°C con	t.						
15.0 15.0	A B	1000 450	LSR15 / 10A _1000 LSR15 / 10B _ 450	1.5 1.5	6 6	274 435	246 391	110 174
15.0	В	600	LSR15 / 10B _ 450 LSR15 / 10B _ 600	1.5	6	376	339	151
22.0	В	400	LSR22 / 10B 400	2.2	6	461	415	184
22.0	В	500	LSR22 / 10B _ 500	2.2	6	412	371	165
22.0	В	700	LSR22 / 10B _ 700	2.2	6	348	312	139
22.0	C A	300 700	LSR22 / 10C _ 300 LSR33 / 10A 700	2.2 3.3	6 8	606	545	242
33.0 33.0	B	250	LSR33 / 10A _ 700 LSR33 / 10B 250	3.3	6	327 583	295 525	131 233
33.0	В	425	LSR33 / 10B 425	3.3	6	447	402	179
33.0	В	500	LSR33 / 10B _ 500	3.3	6	412	371	165
33.0	В	650	LSR33 / 10B _ 650	3.3	6	362	325	145
33.0	C	150	LSR33 / 10C _ 150	3.3	6	856	771	343
33.0	C	375 500	LSR33 / 10C _ 375 LSR33 / 10C 500	3.3	6 6	542	484	217
33.0 47.0	C B	500 250	LSR33 / 10C _ 500 LSR47 / 10B _ 250	3.3 4.7	8	469 583	422 525	188 233
47.0	В	350	LSR47 / 10B _ 230 LSR47 / 10B _ 350	4.7	8	493	444	197
47.0	В	500	LSR47 / 10B _ 500	4.7	8	412	371	165
47.0	В	650	LSR47 / 10B _ 650	4.7	8	362	325	145
47.0	C	200	LSR47 / 10C _ 200	4.7	6	742	667	297
47.0 47.0	C D	350 100	LSR47 / 10C _ 350 LSR47 / 10D 100	4.7	6 6	561 1225	505	224 490
68.0	В	600	LSR47 / 10D _ 100 LSR68 / 10B 600	4.7 6.8	8	376	1102 339	151
68.0	C	80	LSR68 / 10C 80	6.8	6	1173	1055	469
68.0	Č	100	LSR68 / 10C 100	6.8	6	1049	944	420
68.0	С	200	LSR68 / 10C _ 200	6.8	6	742	667	297
68.0	C	300	LSR68 / 10C _ 300	6.8	6	605	544	242
68.0	D D	100	LSR68 / 10D _ 100	6.8	6	1225	1102	490
68.0 100.0	В	150 400	LSR68 / 10D _ 150 LSR100 / 10B 400	6.8 10.0	6 8	1000 461	900 415	400 184
100.0	C	75	LSR100 / 10D _ 400 LSR100 / 10C 75	10.0	8	1211	1090	484
100.0	Č	100	LSR100 / 10C 100	10.0	8	1049	944	420
100.0	С	150	LSR100 / 10C _ 150	10.0	8	856	771	343
100.0	C	200	LSR100 / 10C _ 200	10.0	8	742	667	297
100.0	D D	50 65	LSR100 / 10D _ 50 LSR100 / 10D 65	10.0	6 6	1732 1519	1559 1367	693
100.0 100.0	D	80	LSR100 / 10D _ 65 LSR100 / 10D 80	10.0 10.0	6	1369	1232	608 548
100.0	D	100	LSR100 / 10D _ 100	10.0	6	1225	1102	490
100.0	D	125	LSR100 / 10D _ 125	10.0	6	1095	986	438
100.0	D	150	LSR100 / 10D _ 150	10.0	6	1000	900	400
100.0	H	125	LSR100 / 10H _ 125	10.0	6	1149	1034	460
150.0 150.0	D D	50 85	LSR150 / 10D _ 50 LSR150 / 10D 85	15.0 15.0	6 8	1732 1328	1559 1195	693 531
150.0	D	100	LSR150 / 10D _ 85 LSR150 / 10D _ 100	15.0	6	1225	1102	490
150.0	H	100	LSR150 / 10H _ 100	15.0	8	1285	1156	514
220.0	D	50	LSR220 / 10D _ 50	22.0	8	1732	1559	693
220.0	D	100	LSR220 / 10D _ 100	22.0	8	1225	1102	490
220.0	D	150	LSR220 / 10D _ 150	22.0	8	1000	900	400
220.0 220.0	H H	50 60	LSR220 / 10H _ 50 LSR220 / 10H 60	22.0 22.0	8 8	1817 1658	1635 1492	727 663
220.0		70	LSR220 / 10H _ 60 LSR220 / 10H 70	22.0	8	1535	1382	614
220.0	H	100	LSR220 / 10H _ 100	22.0	8	1285	1156	514
220.0	Н	125	LSR220 / 10H _ 125	22.0	8	1149	1034	460
220.0	H	150	LSR220 / 10H _ 150	22.0	8	1049	944	420
330.0	D	50	LSR330 / 10D _ 50	33.0	8	1732	1559	693
330.0 330.0	D D	65 100	LSR330 / 10D _ 65 LSR330 / 10D 100	33.0 33.0	8 8	1519 1225	1367 1102	608 490
330.0	6	150	LSR330 / 10D _ 100 LSR330 / 10D _ 150	33.0	8	1000	900	400
330.0	H	23	LSR330 / 10H _ 23	33.0	6	3426	3084	1370
330.0	Н	35	LSR330 / 10H _ 35	33.0	6	2777	2500	1111
330.0	Н Н	40	LSR330 / 10H _ 40	33.0	8	2031	1828	812
330.0	H	50 60	LSR330 / 10H _ 50	33.0	8	1817	1635	727
330.0	н	60	LSR330 / 10H _ 60	33.0	8	1658	1492	663

60 LSR330 / 10H _ 60 33.0 8

_ Insert tolerance M (±20%) or K(±10%) to complete the Nemco part number

PART NUMBERS & SPECIFICATIONS

Capacitance μF	Case Size	ESR @ 100Khz max. m Ω	Nemco Part No.	DCL μA max.	tan δ max. (%)	ı	. Ripple Cur 100kHz m. (milliamps)	
(microfarads)		(milliohms)		(microamps)		25°C	85°C	125°C

10 V DC @ 85°C cont.

330.0	Н	100	LSR330 / 10H _ 100	33.0	8	1285	1156	514
330.0	Z	40	LSR330 / 10Z _ 40	33.0	10	2500	1250	1000
330.0	Z	60	LSR330 / 10Z _ 60	33.0	10	2041	1837	816
330.0	Z	100	LSR330 / 10Z _ 100	33.0	10	1581	1423	632
470.0	Н	23	LSR470 / 10H _ 23	47.0	6	3426	3084	1370
470.0	Н	30	LSR470 / 10H _ 30	47.0	6	3000	2700	1200
470.0	Н	45	LSR470 / 10H _ 45	47.0	10	1915	1723	766
470.0	Н	50	LSR470 / 10H _ 50	47.0	10	1817	1635	727
470.0	Н	60	LSR470 / 10H _ 60	47.0	10	1658	1492	663
470.0	Н	100	LSR470 / 10H _ 100	47.0	10	1285	1156	514
470.0	Н	200	LSR470 / 10H _ 200	47.0	10	908	817	363
470.0	Z	40	LSR470 / 10Z 40	47.0	10	2500	2250	1000
470.0	Z	60	LSR470 / 10Z _ 60	47.0	10	2041	1837	816
470.0	Z	100	LSR470 / 10Z _ 100	47.0	10	1581	1423	632

16 V DC @ 85°C cont.

2.2 A 1800 LSR2.2 / 16A _ 1800 0.5 6 204 2.2 A 3500 LSR2.2 / 16A _ 3500 0.5 6 146 3.3 A 3500 LSR3.3 / 16A _ 3500 0.5 6 146 4.7 A 2000 LSR4.7 / 16A _ 2000 0.8 6 194 4.7 B 800 LSR4.7 / 16B _ 800 0.8 6 326 4.7 B 1500 LSR4.7 / 16B _ 1500 0.8 6 238 6.8 A 1500 LSR6.8 / 16A _ 1500 1.1 6 224 6.8 B 600 LSR6.8 / 16B _ 600 1.1 6 376 6.8 B 1200 LSR6.8 / 16B _ 1200 1.1 6 266 10.0 B 500 LSR10 / 16B _ 500 1.6 6 412 10.0 B 800 LSR10 / 16B _ 800 1.6 6 326	183 131 131 174	81 59 59
2.2 A 3500 LSR2.2 / 16A _ 3500 0.5 6 146 3.3 A 3500 LSR3.3 / 16A _ 3500 0.5 6 146 4.7 A 2000 LSR4.7 / 16A _ 2000 0.8 6 194 4.7 B 800 LSR4.7 / 16B _ 800 0.8 6 326 4.7 B 1500 LSR4.7 / 16B _ 1500 0.8 6 238 6.8 A 1500 LSR6.8 / 16A _ 1500 1.1 6 224 6.8 B 600 LSR6.8 / 16B _ 600 1.1 6 376 6.8 B 1200 LSR6.8 / 16B _ 1200 1.1 6 266 10.0 B 500 LSR10 / 16B _ 500 1.6 6 412 10.0 B 800 LSR10 / 16B _ 800 1.6 6 326	131 131 174	59 59
3.3 A 3500 LSR3.3 / 16A _ 3500 0.5 6 146 4.7 A 2000 LSR4.7 / 16A _ 2000 0.8 6 194 4.7 B 800 LSR4.7 / 16B _ 800 0.8 6 326 4.7 B 1500 LSR4.7 / 16B _ 1500 0.8 6 238 6.8 A 1500 LSR6.8 / 16A _ 1500 1.1 6 224 6.8 B 600 LSR6.8 / 16B _ 600 1.1 6 376 6.8 B 1200 LSR6.8 / 16B _ 1200 1.1 6 266 10.0 B 500 LSR10 / 16B _ 500 1.6 6 412 10.0 B 800 LSR10 / 16B _ 500 1.6 6 326	131 174	59
4.7 A 2000 LSR4.7 / 16A _ 2000 0.8 6 194 4.7 B 800 LSR4.7 / 16B _ 800 0.8 6 326 4.7 B 1500 LSR4.7 / 16B _ 1500 0.8 6 238 6.8 A 1500 LSR6.8 / 16A _ 1500 1.1 6 224 6.8 B 600 LSR6.8 / 16B _ 600 1.1 6 376 6.8 B 1200 LSR6.8 / 16B _ 1200 1.1 6 266 10.0 B 500 LSR10 / 16B _ 500 1.6 6 412 10.0 B 800 LSR10 / 16B _ 800 1.6 6 326	174	
4.7 B 800 LSR4.7 / 16B _ 800 0.8 6 326 4.7 B 1500 LSR4.7 / 16B _ 1500 0.8 6 238 6.8 A 1500 LSR6.8 / 16A _ 1500 1.1 6 224 6.8 B 600 LSR6.8 / 16B _ 600 1.1 6 376 6.8 B 1200 LSR6.8 / 16B _ 1200 1.1 6 266 10.0 B 500 LSR10 / 16B _ 500 1.6 6 412 10.0 B 800 LSR10 / 16B _ 800 1.6 6 326		77
4.7 B 1500 LSR4.7 / 16B _ 1500 0.8 6 238 6.8 A 1500 LSR6.8 / 16A _ 1500 1.1 6 224 6.8 B 600 LSR6.8 / 16B _ 600 1.1 6 376 6.8 B 1200 LSR6.8 / 16B _ 1200 1.1 6 266 10.0 B 500 LSR10 / 16B _ 500 1.6 6 412 10.0 B 800 LSR10 / 16B _ 800 1.6 6 326	293	130
6.8 A 1500 LSR6.8 / 16A _ 1500 1.1 6 224 6.8 B 600 LSR6.8 / 16B _ 600 1.1 6 376 6.8 B 1200 LSR6.8 / 16B _ 1200 1.1 6 266 10.0 B 500 LSR10 / 16B _ 500 1.6 6 412 10.0 B 800 LSR10 / 16B _ 800 1.6 6 326	214	95
6.8 B 600 LSR6.8 / 16B _ 600 1.1 6 376 6.8 B 1200 LSR6.8 / 16B _ 1200 1.1 6 266 10.0 B 500 LSR10 / 16B _ 500 1.6 6 412 10.0 B 800 LSR10 / 16B _ 800 1.6 6 326	201	89
6.8 B 1200 LSR6.8 / 16B _ 1200 1.1 6 266 10.0 B 500 LSR10 / 16B _ 500 1.6 6 412 10.0 B 800 LSR10 / 16B _ 800 1.6 6 326	339	151
10.0 B 500 LSR10 / 16B 500 1.6 6 412 10.0 B 800 LSR10 / 16B 800 1.6 6 326	240	106
10.0 B 800 LSR10 / 16B _ 800 1.6 6 326		
	371	165
	293	130
10.0 C 500 LSR10 / 16C _ 500 1.6 6 469	422	188
15.0 B 500 LSR15 / 16B _ 500 2.4 6 412	371	165
15.0 B 800 LSR15 / 16B _ 800 2.4 6 326	292	130
22.0 B 400 LSR22 / 16B _ 400 3.5 6 461	415	184
22.0 B 600 LSR22 / 16B _ 600 3.5 6 376	338	150
22.0 C 150 LSR22 / 16C _ 150 3.5 6 856	771	343
22.0 C 250 LSR22 / 16C _ 250 3.5 6 663	597	265
22.0 C 300 LSR22 / 16C _ 300 3.5 6 605	545	242
22.0 C 375 LSR22 / 16C _ 375 3.5 6 542	487	217
33.0 B 350 LSR33 / 16B _ 350 5.3 8 493	444	197
33.0 B 500 LSR33 / 16B 500 5.3 8 412	371	165
33.0 C 100 LSR33 / 16C 100 5.3 6 1049	944	420
33.0 C 150 LSR33 / 16C 150 5.3 6 856 L	771	343
33.0 C 225 LSR33 / 16C 225 5.3 6 699 L	629	279
33.0 C 300 LSR33 / 16C 300 5.3 6 606 L	545	242
33.0 D 200 LSR33 / 16D 200 5.3 6 866	779	346
47.0 C 110 LSR47 / 16C - 110 7.5 6 1000 L	900	400
47.0 C 350 LSR47 / 16C 350 7.5 6 561	505	224
47.0 D 80 LSR47 / 16D 80 7.5 6 1369	1232	548
47.0 D 100 LSR47 / 16D 100 7.5 6 1225	1103	490
47.0 D 150 LSR47 / 16D 150 7.5 6 1000	900	400
47.0 D 200 LSR47 / 16D 200 7.5 6 866	775	346
68.0 C 125 LSR68 / 16C 125 10.9 6 938	844	375
68.0 C 200 LSR68 / 16C 200 10.9 6 741	667	296
68.0 D 70 LSR68 / 16D 70 10.9 6 1464	1317	586
68.0 D 100 LSR68 / 16D _ 100 10.9 6 1225	1102	490
68.0 D 150 LSR68 / 16D 150 10.9 6 1000	900	400
100.0 D 60 LSR100 / 16D 60 16.0 6 1581	1423	632
100.0 D 100 LSR100 / 16D 100 16.0 6 1225	1102	490
100.0 D 125 LSR100 / 16D 125 16.0 6 1095	986	438
100.0 D 150 LSR100 / 16D 150 16.0 6 1000	900	400
100.0 H 55 LSR100 / 16H 55 16.0 6 1732	1559	693
100.0 H 100 LSR100 / 16H 100 16.0 6 1732 100.0 6 1285	1156	514
	1034	460
100.0 H 125 LSR100 / 16H _ 125 16.0 6 1149	1034	460
Insert tolerance M (+20%) or K(+10%) to complete the Nemco part number		

_ Insert tolerance M (±20%) or K(±10%) to complete the Nemco part number

PART NUMBERS & SPECIFICATIONS

Capacitance μF	Case Size	ESR @ 100Khz max. mΩ (milliohms) Nemco Part No.	DCL μA max.	tan δ max. (%)	Max. Ripple Current @ 100kHz mA (milliamps)			
(microfarads)		(milliohms)		(microamps)	(,,,,	25°C	85°C	125°C
16 V DC @ 8	5°C con	t.			•	•		•
100.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0 150.0 220.0 220.0 220.0 220.0 220.0 220.0 220.0 220.0 220.0	H D D D D H H Z Z H H H Z Z Z Z Z	150 60 85 100 125 150 30 40 100 45 75 25 40 100 150 50 75 100	LSR100 / 16H _ 150 LSR150 / 16D _ 60 LSR150 / 16D _ 85 LSR150 / 16D _ 100 LSR150 / 16D _ 125 LSR150 / 16D _ 150 LSR150 / 16H _ 30 LSR150 / 16H _ 40 LSR150 / 16Z _ 45 LSR150 / 16Z _ 75 LSR220 / 16H _ 25 LSR220 / 16H _ 100 LSR220 / 16H _ 100 LSR220 / 16H _ 150 LSR220 / 16H _ 150 LSR220 / 16Z _ 50 LSR220 / 16Z _ 75 LSR220 / 16Z _ 50 LSR220 / 16Z _ 75 LSR220 / 16Z _ 50 LSR220 / 16Z _ 100 LSR220 / 16Z _ 100 LSR220 / 16Z _ 150	16.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24	6 6 6 6 6 6 6 6 8 6 6 10 10 8 8 8 8	1049 1581 1328 1225 1095 1000 3000 2598 1285 2357 1826 3286 2598 1285 1049 2236 1825 1581 1290	944 1423 1196 1103 986 900 2700 2338 1156 2121 1643 2958 2338 1156 944 2012 1643 1423 1162	420 632 531 490 438 400 1200 1039 514 943 730 1315 1039 514 420 894 730 632 516
20 V DC @ 8	5°C				•	•	•	•
1.0 2.2 3.3 3.3 4.7 4.7 4.7 6.8 6.8 6.8 6.8 10.0 10.0 10.0 15.0 15.0 22.0 22.0 22.0 22.0 22.0 22.0 22.0 33.0 33	А А А В А В В А В В С В В С С В В С С С О О С О О О О О	3000 3000 3000 2500 1300 1800 750 1000 1000 600 1000 500 700 500 400 450 400 600 100 150 400 200 300 300 300 100 200 75 1100 200 70 125 150 200 250 70 150 200	LSR1	0.5 0.5 0.7 0.7 0.9 0.9 0.9 1.4 1.4 1.4 2.0 2.0 2.0 2.0 3.0 3.0 3.0 4.4 4.4 4.4 4.4 4.4 4.4 4.4 4.4 4.4 4	466666666666666666666666666666666666666	158 158 158 173 256 204 337 292 274 376 292 396 412 292 469 396 412 524 494 461 376 1049 856 524 866 707 606 1225 866 1414 1225 866 1535 1149 1049 908 812 1464 1000 866	142 142 156 230 183 303 262 246 339 262 246 339 262 357 371 261 422 357 371 472 442 415 339 944 771 472 779 636 545 1102 779 1273 1102 779 1382 1034 944 817 731 1317 900 779	63 63 69 102 82 135 117 110 151 117 159 165 117 188 159 165 210 198 184 151 420 343 210 346 283 242 490 346 566 490 346 614 460 420 363 325 586 400 346

_ Insert tolerance M (\pm 20%) or K(\pm 10%) to complete the Nemco part number

Capacitance Case μF Size		ESR @ 100Khz max. mΩ	Nemco Part No.	DCL μA max.	max. max. (%)	1	Max. Ripple Current @ 100kHz mA (milliamps)			
(microfarads)		(milliohms)		(microamps)	(**/	25°C	85°C	125°C		
20 V DC @ 8	5°C con	t.								
68.0	D	300	LSR68 / 20D _ 300	13.6	6	707	636	283		
68.0 68.0	l н l н	125 150	LSR68 / 20H _ 125 LSR68 / 20H 150	13.6 13.6	6	1149 1049	1034 944	460 420		
68.0	H	200	LSR68 / 20H _ 200	13.6	6	908	817	363		
100.0	D	85	LSR100/ 20D _ 85	20.0	6	1328	1196	531		
100.0 100.0	D D	100 150	LSR100 / 20D _ 100 LSR100 / 20D _ 150	20.0 20.0	6	1225 1000	1102 900	490 400		
100.0	H	35	LSR100/ 20B _ 130 LSR100/ 20H 35	20.0	6	2777	2500	1111		
100.0	H	45	LSR100/ 20H _ 45	20.0	6	2449	2205	980		
100.0	H	100	LSR100/ 20H _ 100	20.0	6	1285	1156	514		
100.0 100.0	H H	150 200	LSR100/ 20H _ 150 LSR100/ 20H _ 200	20.0 20.0	6	1049 908	944 817	420 363		
100.0	Z	60	LSR100/ 20Z 60	20.0	8	2041	1837	816		
100.0	Z	85	LSR100/ 20Z _ 85	20.0	8	1715	1543	686		
100.0	Z	100	LSR100/ 20Z _ 100	20.0	8	1581	1423	632		
100.0 150.0	Z Z	200 80	LSR100 / 20Z _ 200 LSR150 / 20Z 80	20.0 30.0	8 8	1118 1768	1005 1591	447 707		
]		1 33.5		1	1.00.	1		
25 V DC @ 8	A A	7000	LSR.47 / 25A _ 7000	0.5	4	103	93	41		
0.68	Α	6000	LSR.68 / 25A _ 6000	0.5	4	112	101	45		
1.5	A	3000	LSR1.5 / 25A _ 3000	0.4	6	158	141	63		
1.5 2.2	B B	1800 900	LSR1.5 / 25B _ 1800 LSR2.2 / 25B _ 900	0.5 0.6	6	217 307	196 277	87 123		
2.2	В	1200	LSR2.2 / 25B _ 1200	0.6	6	266	240	106		
2.2	В	2500	LSR2.2 / 25B _ 2500	0.6	6	184	166	74		
3.3 3.3	A A	1000	LSR3.3 / 25A _ 1000 LSR3.3 / 25A _ 1500	0.8 0.8	6	274 224	246 201	110 89		
3.3	B	1500 750	LSR3.3 / 25A _ 1500 LSR3.3 / 25B 750	0.8	6	337	303	135		
3.3	В	1500	LSR3.3 / 25B _ 1500	0.8	6	238	214	95		
3.3	В	2000	LSR3.3 / 25B _ 2000	0.8	6	206	186	82		
4.7 4.7	B B	700 900	LSR4.7 / 25B _ 700 LSR4.7 / 25B _ 900	1.2 1.2	6	348 307	314 277	139 123		
4.7	В	1500	LSR4.7 / 25B _ 1500	1.2	6	238	213	95		
6.8	В	700	LSR6.8 / 25B _ 700	1.7	6	348	314	139		
6.8	C	500 600	LSR6.8 / 25C _ 500 LSR6.8 / 25C _ 600	1.7 1.7	6	469 428	422	188 171		
6.8 6.8	C	700	LSR6.8 / 25C _ 600 LSR6.8 / 25C _ 700	1.7	6	396	385 357	159		
10.0	C	300	LSR10 / 25C _ 300	2.5	6	606	545	242		
10.0	С	500	LSR10 / 25C _ 500	2.5	6	469	420	188		
15.0 15.0	C	220 300	LSR15 / 25C _ 220 LSR15 / 25C _ 300	3.8 3.8	6	707 606	636 545	283 242		
15.0	Ď	100	LSR15 / 25D _ 100	3.8	6	1225	1102	490		
15.0	D	300	LSR15 / 25D _ 300	3.8	6	707	636	283		
22.0 22.0	C	275 400	LSR22 / 25C _ 275 LSR22 / 25C _ 400	5.5 5.5	6	632 524	569 472	253		
22.0	D	100	LSR22 / 25C _ 400 LSR22 / 25D 100	5.5	6	1225	1102	210 490		
22.0	D	200	LSR22 / 25D _ 200	5.5	6	866	779	346		
22.0	D	300	LSR22 / 25D _ 300	5.5	6	707	636	283		
33.0 33.0	D D	100 200	LSR33 / 25D _ 100 LSR33 / 25D _ 200	8.3 8.3	6	1225 866	1102 779	490 346		
33.0	D	300	LSR33 / 25D _ 300	8.3	6	707	636	283		
33.0	Н	100	LSR33 / 25H _ 100	8.3	6	1285	1156	514		
33.0	H	175 200	LSR33 / 25H _ 175 LSR33 / 25H _ 200	8.3 8.3	6	971 908	874 817	388 363		
33.0 33.0	H H	300	LSR33 / 25H _ 200 LSR33 / 25H _ 300	8.3	6	742	665	297		
47.0	D	125	LSR47 / 25D _ 125	11.8	6	1095	986	438		
47.0	D	150	LSR47 / 25D _ 150	8.3	6	1000	900	400		
47.0 47.0	D H	250 80	LSR47 / 25D _ 250 LSR47 / 25H _ 80	8.3 8.3	6	775 1436	697 1293	310 574		
47.0 47.0	H	100	LSR47 / 25H _ 60 LSR47 / 25H 100	8.3	6	1285	1156	514		
47.0	H	125	LSR47 / 25H _ 125	8.3	6	1149	1034	460		
		Insert tole	rance M (+20%) or K(+10%) to com	lete the Nemco r	art number					

•	Case Size	Size $000000000000000000000000000000000000$	Nemco Part No.	DCL μA max.	tan δ max. (%)	Max. Ripple Current @ 100kHz mA (milliamps)			
(microfarads)		(milliohms)		(microamps)		25°C	85°C	125°C	
25 V DC @ 8	5°C con	ıt			-	-			
68.0	Н	45	LSR68 / 25H 45	17.0	6	2449	2205	980	
68.0	Н	55	LSR68 / 25H _ 55	17.0	6	2216	1994	886	
68.0	H	125	LSR68 / 25H _ 125	17.0	6	1149	1034	459	
68.0 68.0	H Z	200 80	LSR68 / 25H _ 200 LSR68 / 25Z 80	17.0 17.0	6	908 1768	817 1591	363 707	
68.0	z	95	LSR68 / 25Z 95	17.0	8	1622	1460	649	
68.0	Z	150	LSR68 / 25Z _ 150	17.0	8	1291	1162	516	
68.0 100.0	Z Z	200 100	LSR68 / 25Z _ 200 LSR100/ 25Z _ 100	17.0 25.0	6 8	1118 1581	1006 1423	447 632	
5 V DC @ 8		100	251(100) 252 _ 100	20.0		1001	1120	002	
0.22	A A	6000	LSR.22 / 35A 6000	0.5	4	112	101	45	
0.33	Α	6000	LSR.33 / 35A _ 6000	0.5	4	112	101	45	
0.47	A	6000	LSR.47 / 35A _ 6000	0.5	4	112	101	45	
0.47 0.68	B A	4000 6000	LSR.47 / 35B _ 4000 LSR.68 / 35A 6000	0.5 0.5	4 4	146 112	131 101	58 45	
1.0	A	3000	LSR1 / 35A _ 3000	0.5	4	158	142	63	
1.0	В	2000	LSR1 / 35B _ 2000	0.5	4	206	186	82	
1.5	В	2500	LSR1.5 / 35B _ 2500	0.5	6	184	166	74	
2.2 2.2	A B	1500 750	LSR2.2 / 35A _ 1500 LSR2.2 / 35B _ 750	0.8 0.8	6 6	224 337	201 303	89 135	
2.2	В	1500	LSR2.2 / 35B _ 750 LSR2.2 / 35B 1500	0.8	6	238	214	95	
2.2	В	2000	LSR2.2 / 35B 2000	0.8	6	206	186	82	
2.2	С	1000	LSR2.2 / 35C _ 1000	0.8	6	332	298	133	
3.3	В	1000	LSR3.3 / 35B _ 1000	1.2	6	292	262	117	
3.3	C	700	LSR3.3 / 35C _ 700	1.2 1.2	6	396	357	159	
4.7 4.7	B B	700 1500	LSR4.7 / 35B _ 700 LSR4.7 / 35B _ 1500	1.6	6 6	348 238	314 213	139 95	
4.7	C	600	LSR4.7 / 35C 600	1.6	6	428	383	171	
6.8	С	350	LSR6.8 / 35C _ 350	2.4	6	561	505	224	
6.8	D	150	LSR6.8 / 35D _ 150	2.4	6	1000	900	400	
6.8 6.8	D D	400	LSR6.8 / 35D _ 400 LSR6.8 / 35D _ 500	2.4 2.4	6 6	612	551	245 219	
10.0	D	500 125	LSR10 / 35D _ 500 LSR10 / 35D _ 125	3.5	6	548 1095	493 986	438	
10.0	D	300	LSR10 / 35D 300	3.5	6	707	636	283	
10.0	Н	200	LSR10 / 35H _ 200	3.5	6	908	817	363	
15.0	С	350	LSR15 / 35C _ 350	5.3	6	561	505	224	
15.0 15.0	C	450 100	LSR15 / 35C _ 450 LSR15 / 35D _ 100	5.3 5.3	6 6	494 1225	445 1102	198 490	
15.0	D	300	LSR15 / 35D _ 100 LSR15 / 35D _ 300	5.3	6	707	636	283	
22.0	D	125	LSR22 / 35D _ 125	7.7	6	1095	986	438	
22.0	D	200	LSR22 / 35D _ 200	7.7	6	866	779	346	
22.0	D	300	LSR22 / 35D _ 300	7.7	6	707	636	283	
22.0 22.0	D H	400 60	LSR22 / 35D _ 400 LSR22 / 35H 60	7.7 8.0	6	612 2121	551 1909	245 849	
22.0	H	100	LSR22 / 35H _ 100	7.7	6	1643	1479	657	
22.0	Н	125	LSR22 / 35H _ 125	7.7	6	1149	1034	460	
22.0	Н	200	LSR22 / 35H _ 200	7.7	6	908	817	363	
22.0	H	300	LSR22 / 35H _ 300	7.7	6	742	665	297	
33.0	D	200	LSR33 / 35D _ 200	11.6	6	866	779	346	
33.0 33.0	D H	300 50	LSR33 / 35D _ 300 LSR33 / 35H _ 50	11.6 12.0	6 6	707 2324	636 2091	283 930	
33.0	H	65	LSR33 / 35H _ 65	12.0	6	2038	1834	815	
33.0	H	100	LSR33 / 35H _ 100	11.6	6	1285	1156	514	
33.0	H	250	LSR33 / 35H _ 250	11.6	6	812	731	325	
33.0	H	300	LSR33 / 35H _ 300	11.6	6	742	667	297	
33.0	Z	200	LSR33 / 35Z _ 200	11.6	6	1118	1006	447	

Capacitance μF	•	E Sizo (1 (A) 1111K D7 1	DCL μA max.	tan δ max. (%)	Max. Ripple Current @ 100kHz mA (milliamps)		
(microfarads)		(milliohms)		(microamps)		25°C	85°C	125°C
5 V DC @ 8	5°C con	ıt.						
47.0 47.0 47.0 47.0 47.0 47.0 68.0 68.0	H H H Z Z Z Z Z	55 65 200 250 150 200 150 200	LSR47 / 35H _ 55 LSR47 / 35H _ 65 LSR47 / 35H _ 200 LSR47 / 35H _ 250 LSR47 / 35Z _ 150 LSR47 / 35Z _ 200 LSR68 / 35Z _ 150 LSR68 / 35Z _ 200	16.0 16.0 16.5 16.5 16.5 23.8 23.8	6 6 6 6 6 6 6	2216 2038 908 812 1291 1118 1291 1118	1994 1834 817 731 1162 1006 1162 1006	886 815 363 325 516 447 516 447
60 V DC @ 8	5°C							
0.15 0.22 1.0 1.5 1.5 1.5 2.2 3.3 4.7 4.7 6.8 6.8 6.8 6.8 10.0 10.0 15.0 15.0 22.0 22.0	ААСССОООООООННННН	9000 7000 2500 1500 2000 1200 800 300 500 600 120 400 500 100 250 75 100	LSR.15 / 50A _ 9000 LSR.22 / 50A _ 7000 LSR1 / 50C _ 2500 LSR1.5 / 50C _ 1500 LSR1.5 / 50C _ 2000 LSR2.2 / 50D _ 1200 LSR3.3 / 50D _ 800 LSR4.7 / 50D _ 500 LSR4.7 / 50D _ 700 LSR6.8 / 50D _ 200 LSR6.8 / 50D _ 500 LSR6.8 / 50D _ 500 LSR6.8 / 50D _ 500 LSR10 / 50H _ 120 LSR10 / 50H _ 120 LSR15 / 50H _ 100 LSR15 / 50H _ 100 LSR15 / 50H _ 100 LSR22 / 50H _ 75 LSR22 / 50H _ 100	0.5 0.5 0.8 0.8 1.1 1.7 2.4 2.4 2.4 3.4 3.4 3.0 5.0 5.0 7.5 7.5 11.0 11.0	4 4 4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 8 8	91 103 210 271 234 354 433 707 548 463 866 707 548 500 1500 642 574 1643 812 1897 1643	82 93 189 243 211 318 390 636 493 417 779 636 493 450 1350 578 517 1479 731 1708 1479	36 41 84 108 94 141 173 283 219 200 600 257 230 657 325 759 657