# Type 947D Polypropylene, High Energy Density, DC Link Capacitors

## High Current, High Capacitance for Inverter Applications

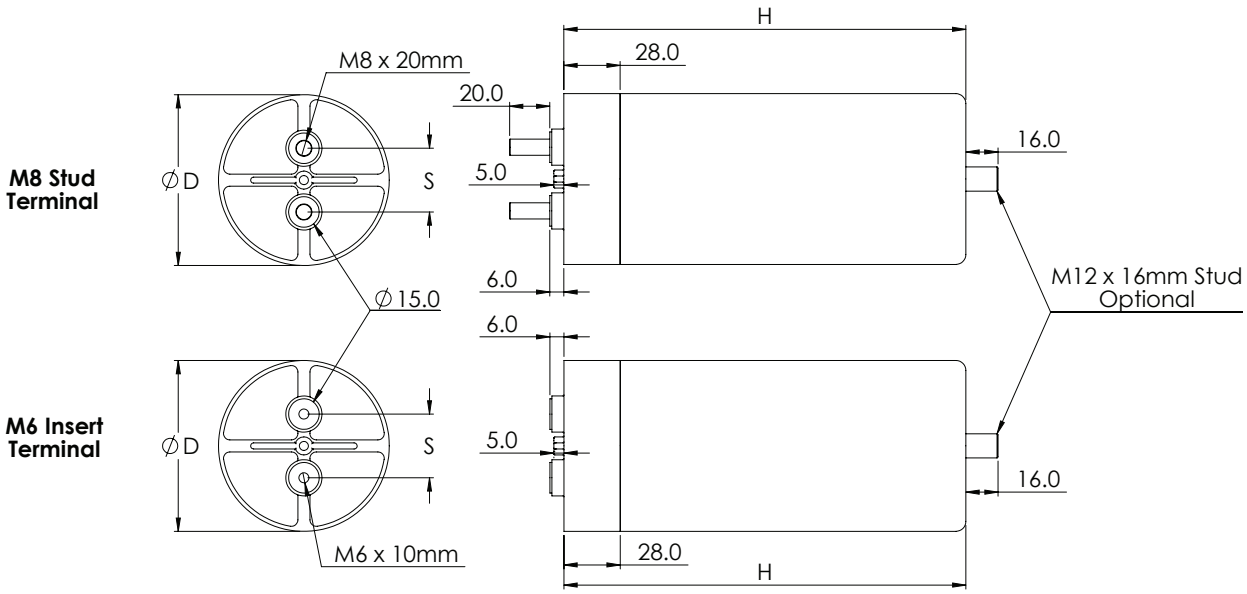
Type 947D series uses the most advanced metallized film technology for long life and high reliability in DC Link applications. This series combines high capacitance and very high ripple current capability needed for today's inverter designs for wind, solar, fuel cells, UPS systems and more.

## Specifications

| | |
|---|---|
| Capacitance Range | 130 to 1500 µF |
| Capacitance Tolerance | ±10% standard |
| Rated Voltage | 900 to 1300 Vdc |
| Operating Temperature Range | -45 °C to 85 °C (ambient) |
| Maximum rms Current | see data tables |
| Maximum rms Voltage | 230 Vac |
| Test Voltage between Terminals @ 25 °C | 150% rated DC voltage for 10 s |
| Test Voltage between Terminals and Case @ 25°C | 4 kVac @ 50/60 Hz for 10 s |
| Life Test | 7000 h @ 85 °C, rated voltage |
| Life Expectancy | 350,000 h @ 60 °C Core, rated voltage |
| RoHS Compliant | |

## Dimensions

| Construction Details | |
|---|---|
| Case Material | Aluminum Can |
| Resin Material | Dry Resin UL94V-0 |
| Terminal Material | Tin Plated Brass |
| Insulator Cap Material | Polypropylene UL94V-0 |




All dimensions have a ±1 mm tolerance
Consult factory for mounting options

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## High Current, High Capacitance for Inverter Applications

## Part Numbering System

| 947D | 391 | K | 112 | C | E | R | S | N |
|---|---|---|---|---|---|---|---|---|
| Type | Capacitance | Tolerance | Voltage | Diameter ±1mm | Height ±1mm | Terminal | Mounting | Sleeve |
| **947D** | **391** = 390 µF<br>**152** = 1500 µF | **K** = ±10% | **901** = 900 Vdc<br>**102** =1000 Vdc<br>**112** = 1100 Vdc<br>**122** = 1200 Vdc<br>**132** = 1300 Vdc | **A** = 85 mm<br>**B** = 90 mm<br>**C** = 100 mm<br>**D** = 116 mm | **C** = 75 mm<br>**D** = 87 mm<br>**E** = 100 mm<br>**F** = 112 mm<br>**G** = 126 mm<br>**H** = 136 mm<br>**J** = 150 mm<br>**L** = 162 mm | **G** = M6 Insert (32 mm)<br>**N** = M8 Stud (32 mm)<br>**J** = M8 Stud (45 mm)<br>**M** = M6 Insert (45 mm)<br>**P** = M8 Stud (50 mm)<br>**R** = M6 Insert (50 mm) | **F** = Flat Base<br>**S** = Stud Base | **N** = No Sleeve<br>**S** = Black PVC |

## Ratings

| | | Rated | Can | Can | Lead | | Current | | | Thermal | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cap | Voltage | Diameter | Height | Spacing | Case | $T_A$=55 °C | Typ | Typ | Resistance | | Max |
| | C | $V_R$ | D | H | S | Area | Irms | ESR | ESL | Θcc | Θca | Mass |
| PartNumber | (µF) | ($V_{DC}$) | (mm) | (mm) | (mm) | ($mm^2$) | (A) | (mΩ) | (nH) | (°C/W) | (°C/W) | (kg) |
| 947D311K901ACGSN | 310 | 900 | 85 | 75 | 32 | 31400 | 67 | 1.4 | 30 | 1.4 | 3.8 | 0.5 |
| 947D351K901BCMSN | 350 | 900 | 90 | 75 | 45 | 33900 | 73 | 1.2 | 30 | 1.3 | 3.5 | 0.6 |
| 947D371K901ADGSN | 370 | 900 | 85 | 87 | 32 | 34600 | 66 | 1.5 | 34 | 1.3 | 3.5 | 0.6 |
| 947D421K901BDMSN | 420 | 900 | 90 | 87 | 45 | 37300 | 75 | 1.2 | 33 | 1.3 | 3.2 | 0.6 |
| 947D441K901AEGSN | 440 | 900 | 85 | 100 | 32 | 38100 | 65 | 1.7 | 38 | 1.2 | 3.2 | 0.6 |
| 947D441K901CCRSN | 440 | 900 | 100 | 75 | 50 | 39300 | 85 | 1.0 | 30 | 1.1 | 3.1 | 0.7 |
| 947D501K901BEMSN | 500 | 900 | 90 | 100 | 45 | 41000 | 74 | 1.3 | 37 | 1.3 | 2.9 | 0.7 |
| 947D511K901AFGSN | 510 | 900 | 85 | 112 | 32 | 41300 | 64 | 1.9 | 42 | 1.2 | 2.9 | 0.7 |
| 947D541K901CDRSN | 540 | 900 | 100 | 87 | 50 | 43000 | 83 | 1.2 | 34 | 1.1 | 2.8 | 0.8 |
| 947D571K901AGGSN | 570 | 900 | 85 | 126 | 32 | 45000 | 63 | 2.1 | 46 | 1.1 | 2.7 | 0.8 |
| 947D581K901BFMSN | 580 | 900 | 90 | 112 | 45 | 44400 | 72 | 1.5 | 41 | 1.3 | 2.7 | 0.8 |
| 947D601K901DCRSN | 600 | 900 | 116 | 75 | 50 | 48500 | 102 | 0.9 | 35 | 0.8 | 2.5 | 0.9 |
| 947D631K901CERSN | 630 | 900 | 100 | 100 | 50 | 47100 | 82 | 1.3 | 38 | 1.0 | 2.5 | 0.9 |
| 947D641K901AHGSN | 640 | 900 | 85 | 136 | 32 | 47700 | 62 | 2.3 | 50 | 1.1 | 2.5 | 0.8 |
| 947D651K901BGMSN | 650 | 900 | 90 | 126 | 45 | 48300 | 71 | 1.6 | 45 | 1.2 | 2.5 | 0.9 |
| 947D711K901AJGSN | 710 | 900 | 85 | 150 | 32 | 51400 | 62 | 2.5 | 54 | 1.1 | 2.3 | 0.9 |
| 947D731K901BHMSN | 730 | 900 | 90 | 136 | 45 | 51200 | 69 | 1.8 | 49 | 1.2 | 2.3 | 0.9 |
| 947D731K901CFRSN | 730 | 900 | 100 | 112 | 50 | 50900 | 81 | 1.4 | 42 | 1.0 | 2.4 | 1.0 |
| 947D731K901DDRSN | 730 | 900 | 116 | 87 | 50 | 52800 | 101 | 1.0 | 40 | 0.8 | 2.3 | 1.1 |
| 947D781K901ALGSN | 780 | 900 | 85 | 162 | 32 | 54600 | 61 | 2.7 | 59 | 1.0 | 2.2 | 1.0 |
| 947D811K901BJMSN | 810 | 900 | 90 | 150 | 45 | 55100 | 68 | 1.9 | 53 | 1.2 | 2.2 | 1.0 |
| 947D821K901CGRSN | 820 | 900 | 100 | 126 | 50 | 55300 | 80 | 1.6 | 46 | 1.0 | 2.2 | 1.1 |
| 947D861K901DERSN | 860 | 900 | 116 | 100 | 50 | 57600 | 100 | 1.1 | 45 | 0.8 | 2.1 | 1.2 |
| 947D881K901BLMSN | 880 | 900 | 90 | 162 | 45 | 58500 | 67 | 2.1 | 58 | 1.2 | 2.1 | 1.1 |
| 947D921K901CHRSN | 920 | 900 | 100 | 136 | 50 | 58400 | 79 | 1.7 | 50 | 1.0 | 2.1 | 1.2 |
| 947D991K901DFRSN | 990 | 900 | 116 | 112 | 50 | 62000 | 99 | 1.2 | 50 | 0.8 | 1.9 | 1.3 |
| 947D102K901CJRSN | 1000 | 900 | 100 | 150 | 50 | 62800 | 78 | 1.9 | 54 | 0.9 | 1.9 | 1.3 |
| 947D112K901CLRSN | 1100 | 900 | 100 | 162 | 50 | 66600 | 77 | 2.0 | 59 | 0.9 | 1.8 | 1.4 |
| 947D112K901DGRSN | 1100 | 900 | 116 | 126 | 50 | 67100 | 98 | 1.3 | 55 | 0.8 | 1.8 | 1.5 |
| 947D122K901DHRSN | 1200 | 900 | 116 | 136 | 50 | 70700 | 96 | 1.4 | 60 | 0.8 | 1.7 | 1.6 |
| 947D132K901DJRSN | 1300 | 900 | 116 | 150 | 50 | 75800 | 95 | 1.5 | 65 | 0.8 | 1.6 | 1.7 |
| 947D152K901DLRSN | 1500 | 900 | 116 | 162 | 50 | 80200 | 94 | 1.6 | 70 | 0.7 | 1.5 | 1.8 |
| 947D241K102ACGSN | 240 | 1000 | 85 | 75 | 32 | 31400 | 63 | 1.5 | 30 | 1.4 | 3.8 | 0.5 |

# Type 947D Polypropylene, High Energy Density, DC Link Capacitors

## High Current, High Capacitance for Inverter Applications

| | | Rated | Can | Can | Lead | | Current | | | Thermal | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cap | Voltage | Dia | Height | Spacing | Case | $T_A$=55 °C | Typ | Typ | Resistance | | Max |
| | C | $V_R$ | D | H | S | Area | Irms | ESR | ESL | Θcc | Θca | Mass |
| PartNumber | (µF) | ($V_{DC}$) | (mm) | (mm) | (mm) | ($mm^2$) | (A) | (mΩ) | (nH) | (°C/W) | (°C/W) | (kg) |
| 947D271K102BCMSN | 270 | 1000 | 90 | 75 | 45 | 33900 | 69 | 1.3 | 30 | 1.3 | 3.5 | 0.6 |
| 947D291K102ADGSN | 290 | 1000 | 85 | 87 | 32 | 34600 | 62 | 1.7 | 34 | 1.4 | 3.5 | 0.6 |
| 947D331K102BDMSN | 330 | 1000 | 90 | 87 | 45 | 37300 | 71 | 1.3 | 33 | 1.3 | 3.2 | 0.6 |
| 947D341K102AEGSN | 340 | 1000 | 85 | 100 | 32 | 38100 | 61 | 1.9 | 38 | 1.3 | 3.2 | 0.6 |
| 947D341K102CCRSN | 340 | 1000 | 100 | 75 | 50 | 39300 | 81 | 1.1 | 30 | 1.2 | 3.1 | 0.7 |
| 947D391K102BEMSN | 390 | 1000 | 90 | 100 | 45 | 41000 | 70 | 1.5 | 37 | 1.2 | 2.9 | 0.7 |
| 947D401K102AFGSN | 400 | 1000 | 85 | 112 | 32 | 41300 | 60 | 2.1 | 42 | 1.2 | 2.9 | 0.7 |
| 947D421K102CDRSN | 420 | 1000 | 100 | 87 | 50 | 43000 | 79 | 1.3 | 34 | 1.1 | 2.8 | 0.8 |
| 947D451K102AGGSN | 450 | 1000 | 85 | 126 | 32 | 45000 | 60 | 2.3 | 46 | 1.2 | 2.7 | 0.8 |
| 947D451K102BFMSN | 450 | 1000 | 90 | 112 | 45 | 44400 | 68 | 1.7 | 41 | 1.2 | 2.7 | 0.8 |
| 947D471K102DCRSN | 470 | 1000 | 116 | 75 | 50 | 48500 | 98 | 0.9 | 35 | 0.9 | 2.5 | 0.9 |
| 947D491K102CERSN | 490 | 1000 | 100 | 100 | 50 | 47100 | 78 | 1.4 | 38 | 1.1 | 2.5 | 0.9 |
| 947D501K102AHGSN | 500 | 1000 | 85 | 136 | 32 | 47700 | 58 | 2.5 | 50 | 1.1 | 2.5 | 0.8 |
| 947D511K102BGMSN | 510 | 1000 | 90 | 126 | 45 | 48300 | 67 | 1.8 | 45 | 1.2 | 2.5 | 0.9 |
| 947D551K102AJGSN | 550 | 1000 | 85 | 150 | 32 | 51400 | 58 | 2.7 | 54 | 1.1 | 2.3 | 0.9 |
| 947D571K102BHMSN | 570 | 1000 | 90 | 136 | 45 | 51200 | 66 | 2.0 | 49 | 1.2 | 2.3 | 0.9 |
| 947D571K102CFRSN | 570 | 1000 | 100 | 112 | 50 | 50900 | 77 | 1.6 | 42 | 1.0 | 2.4 | 1.0 |
| 947D571K102DDRSN | 570 | 1000 | 116 | 87 | 50 | 52800 | 96 | 1.0 | 40 | 0.8 | 2.3 | 1.1 |
| 947D601K102ALGSN | 600 | 1000 | 85 | 162 | 32 | 54600 | 57 | 3.0 | 59 | 1.1 | 2.2 | 1.0 |
| 947D631K102BJMSN | 630 | 1000 | 90 | 150 | 45 | 55100 | 65 | 2.2 | 53 | 1.1 | 2.2 | 1.0 |
| 947D641K102CGRSN | 640 | 1000 | 100 | 126 | 50 | 55300 | 76 | 1.7 | 46 | 1.0 | 2.2 | 1.1 |
| 947D671K102DERSN | 670 | 1000 | 116 | 100 | 50 | 57600 | 95 | 1.2 | 45 | 0.8 | 2.1 | 1.2 |
| 947D691K102BLMSN | 690 | 1000 | 90 | 162 | 45 | 58500 | 64 | 2.3 | 58 | 1.1 | 2.1 | 1.1 |
| 947D721K102CHRSN | 720 | 1000 | 100 | 136 | 50 | 58400 | 74 | 1.9 | 50 | 1.0 | 2.1 | 1.2 |
| 947D771K102DFRSN | 770 | 1000 | 116 | 112 | 50 | 62000 | 94 | 1.3 | 50 | 0.8 | 1.9 | 1.3 |
| 947D791K102CJRSN | 790 | 1000 | 100 | 150 | 50 | 62800 | 74 | 2.1 | 54 | 1.0 | 1.9 | 1.3 |
| 947D871K102CLRSN | 870 | 1000 | 100 | 162 | 50 | 66600 | 73 | 2.2 | 59 | 0.9 | 1.8 | 1.4 |
| 947D871K102DGRSN | 870 | 1000 | 116 | 126 | 50 | 67100 | 93 | 1.4 | 55 | 0.8 | 1.8 | 1.5 |
| 947D971K102DHRSN | 970 | 1000 | 116 | 136 | 50 | 70700 | 91 | 1.5 | 60 | 0.8 | 1.7 | 1.6 |
| 947D102K102DJRSN | 1000 | 1000 | 116 | 150 | 50 | 75800 | 90 | 1.7 | 65 | 0.8 | 1.6 | 1.7 |
| 947D112K102DLRSN | 1100 | 1000 | 116 | 162 | 50 | 80200 | 89 | 1.8 | 70 | 0.8 | 1.5 | 1.8 |
| 947D191K112ACGSN | 190 | 1100 | 85 | 75 | 32 | 31400 | 60 | 1.6 | 30 | 1.5 | 3.8 | 0.5 |
| 947D221K112BCMSN | 220 | 1100 | 90 | 75 | 45 | 33900 | 65 | 1.5 | 30 | 1.4 | 3.5 | 0.6 |
| 947D231K112ADGSN | 230 | 1100 | 85 | 87 | 32 | 34600 | 59 | 1.9 | 34 | 1.4 | 3.5 | 0.6 |
| 947D261K112BDMSN | 260 | 1100 | 90 | 87 | 45 | 37300 | 68 | 1.5 | 33 | 1.2 | 3.2 | 0.6 |
| 947D271K112AEGSN | 270 | 1100 | 85 | 100 | 32 | 38100 | 58 | 2.1 | 38 | 1.3 | 3.2 | 0.6 |
| 947D271K112CCRSN | 270 | 1100 | 100 | 75 | 50 | 39300 | 77 | 1.2 | 30 | 1.2 | 3.1 | 0.7 |
| 947D311K112BEMSN | 310 | 1100 | 90 | 100 | 45 | 41000 | 67 | 1.7 | 37 | 1.2 | 2.9 | 0.7 |
| 947D321K112AFGSN | 320 | 1100 | 85 | 112 | 32 | 41300 | 57 | 2.3 | 42 | 1.3 | 2.9 | 0.7 |
| 947D331K112CDRSN | 330 | 1100 | 100 | 87 | 50 | 43000 | 75 | 1.4 | 34 | 1.1 | 2.8 | 0.8 |
| 947D361K112AGGSN | 360 | 1100 | 85 | 126 | 32 | 45000 | 56 | 2.5 | 46 | 1.2 | 2.7 | 0.8 |
| 947D361K112BFMSN | 360 | 1100 | 90 | 112 | 45 | 44400 | 65 | 1.8 | 41 | 1.2 | 2.7 | 0.8 |

# Type 947D Polypropylene, High Energy Density, DC Link Capacitors

## High Current, High Capacitance for Inverter Applications

| | | Rated | Can | Can | Lead | | Current | | | Thermal | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cap | Voltage | Dia | Height | Spacing | Case | $T_A$=55 °C | Typ | Typ | Resistance | | Max |
| | C | $V_R$ | D | H | S | Area | Irms | ESR | ESL | Θcc | Θca | Mass |
| PartNumber | (µF) | ($V_{DC}$) | (mm) | (mm) | (mm) | ($mm^2$) | (A) | (mΩ) | (nH) | (°C/W) | (°C/W) | (kg) |
| 947D371K112DCRSN | 370 | 1100 | 116 | 75 | 50 | 48500 | 94 | 1.0 | 35 | 0.9 | 2.5 | 0.9 |
| 947D391K112CERSN | 390 | 1100 | 100 | 100 | 50 | 47100 | 74 | 1.6 | 38 | 1.1 | 2.5 | 0.9 |
| 947D411K112BGMSN | 410 | 1100 | 90 | 126 | 45 | 48300 | 64 | 2.0 | 45 | 1.1 | 2.5 | 0.9 |
| 947D421K112AHGSN | 420 | 1100 | 85 | 136 | 32 | 47700 | 55 | 2.8 | 50 | 1.2 | 2.5 | 0.8 |
| 947D441K112AJGSN | 440 | 1100 | 85 | 150 | 32 | 51400 | 55 | 3.0 | 54 | 1.1 | 2.3 | 0.9 |
| 947D451K112CFRSN | 450 | 1100 | 100 | 112 | 50 | 50900 | 73 | 1.7 | 42 | 1.1 | 2.4 | 1.0 |
| 947D451K112DDRSN | 450 | 1100 | 116 | 87 | 50 | 52800 | 92 | 1.1 | 40 | 0.9 | 2.3 | 1.1 |
| 947D461K112BHMSN | 460 | 1100 | 90 | 136 | 45 | 51200 | 63 | 2.2 | 49 | 1.1 | 2.3 | 0.9 |
| 947D481K112ALGSN | 480 | 1100 | 85 | 162 | 32 | 54600 | 54 | 3.2 | 59 | 1.1 | 2.2 | 1.0 |
| 947D501K112BJMSN | 500 | 1100 | 90 | 150 | 45 | 55100 | 62 | 2.4 | 53 | 1.1 | 2.2 | 1.0 |
| 947D521K112CGRSN | 520 | 1100 | 100 | 126 | 50 | 55300 | 72 | 1.9 | 46 | 1.0 | 2.2 | 1.1 |
| 947D541K112DERSN | 540 | 1100 | 116 | 100 | 50 | 57600 | 91 | 1.3 | 45 | 0.8 | 2.1 | 1.2 |
| 947D551K112BLMSN | 550 | 1100 | 90 | 162 | 45 | 58500 | 61 | 2.6 | 58 | 1.1 | 2.1 | 1.1 |
| 947D581K112CHRSN | 580 | 1100 | 100 | 136 | 50 | 58400 | 71 | 2.1 | 50 | 1.0 | 2.1 | 1.2 |
| 947D621K112DFRSN | 620 | 1100 | 116 | 112 | 50 | 62000 | 90 | 1.4 | 50 | 0.8 | 1.9 | 1.3 |
| 947D641K112CJRSN | 640 | 1100 | 100 | 150 | 50 | 62800 | 70 | 2.2 | 54 | 1.0 | 1.9 | 1.3 |
| 947D701K112CLRSN | 700 | 1100 | 100 | 162 | 50 | 66600 | 69 | 2.4 | 59 | 1.0 | 1.8 | 1.4 |
| 947D701K112DGRSN | 700 | 1100 | 116 | 126 | 50 | 67100 | 89 | 1.5 | 55 | 0.8 | 1.8 | 1.5 |
| 947D781K112DHRSN | 780 | 1100 | 116 | 136 | 50 | 70700 | 87 | 1.7 | 60 | 0.8 | 1.7 | 1.6 |
| 947D861K112DJRSN | 860 | 1100 | 116 | 150 | 50 | 75800 | 86 | 1.8 | 65 | 0.8 | 1.6 | 1.7 |
| 947D941K112DLRSN | 940 | 1100 | 116 | 162 | 50 | 80200 | 85 | 1.9 | 70 | 0.8 | 1.5 | 1.8 |
| 947D151K122ACGSN | 150 | 1200 | 85 | 75 | 32 | 31400 | 57 | 1.8 | 30 | 1.5 | 3.8 | 0.5 |
| 947D181K122BCMSN | 180 | 1200 | 90 | 75 | 45 | 33900 | 62 | 1.6 | 30 | 1.4 | 3.5 | 0.6 |
| 947D191K122ADGSN | 190 | 1200 | 85 | 87 | 32 | 34600 | 56 | 2.0 | 34 | 1.4 | 3.5 | 0.6 |
| 947D221K122AEGSN | 220 | 1200 | 85 | 100 | 32 | 38100 | 55 | 2.3 | 38 | 1.4 | 3.2 | 0.6 |
| 947D221K122BDMSN | 220 | 1200 | 90 | 87 | 45 | 37300 | 65 | 1.6 | 33 | 1.2 | 3.2 | 0.6 |
| 947D221K122CCRSN | 220 | 1200 | 100 | 75 | 50 | 39300 | 73 | 1.3 | 30 | 1.2 | 3.1 | 0.7 |
| 947D251K122BEMSN | 250 | 1200 | 90 | 100 | 45 | 41000 | 64 | 1.8 | 37 | 1.1 | 2.9 | 0.7 |
| 947D261K122AFGSN | 260 | 1200 | 85 | 112 | 32 | 41300 | 54 | 2.5 | 42 | 1.3 | 2.9 | 0.7 |
| 947D271K122CDRSN | 270 | 1200 | 100 | 87 | 50 | 43000 | 72 | 1.5 | 34 | 1.2 | 2.8 | 0.8 |
| 947D291K122AGGSN | 290 | 1200 | 85 | 126 | 32 | 45000 | 54 | 2.8 | 46 | 1.2 | 2.7 | 0.8 |
| 947D291K122BFMSN | 290 | 1200 | 90 | 112 | 45 | 44400 | 62 | 2.0 | 41 | 1.1 | 2.7 | 0.8 |
| 947D311K122DCRSN | 310 | 1200 | 116 | 75 | 50 | 48500 | 90 | 1.1 | 35 | 0.9 | 2.5 | 0.9 |
| 947D321K122CERSN | 320 | 1200 | 100 | 100 | 50 | 47100 | 71 | 1.7 | 38 | 1.1 | 2.5 | 0.9 |
| 947D331K122AHGSN | 330 | 1200 | 85 | 136 | 32 | 47700 | 53 | 3.0 | 50 | 1.2 | 2.5 | 0.8 |
| 947D331K122BGMSN | 330 | 1200 | 90 | 126 | 45 | 48300 | 61 | 2.2 | 45 | 1.1 | 2.5 | 0.9 |
| 947D361K122AJGSN | 360 | 1200 | 85 | 150 | 32 | 51400 | 52 | 3.3 | 54 | 1.2 | 2.3 | 0.9 |
| 947D371K122BHMSN | 370 | 1200 | 90 | 136 | 45 | 51200 | 60 | 2.4 | 49 | 1.1 | 2.3 | 0.9 |
| 947D371K122CFRSN | 370 | 1200 | 100 | 112 | 50 | 50900 | 69 | 1.9 | 42 | 1.1 | 2.4 | 1.0 |
| 947D371K122DDRSN | 370 | 1200 | 116 | 87 | 50 | 52800 | 88 | 1.2 | 40 | 0.9 | 2.3 | 1.1 |
| 947D401K122ALGSN | 400 | 1200 | 85 | 162 | 32 | 54600 | 52 | 3.5 | 59 | 1.1 | 2.2 | 1.0 |
| 947D411K122BJMSN | 410 | 1200 | 90 | 150 | 45 | 55100 | 59 | 2.6 | 53 | 1.1 | 2.2 | 1.0 |

# Type 947D Polypropylene, High Energy Density, DC Link Capacitors

## High Current, High Capacitance for Inverter Applications

| PartNumber | Cap C (µF) | Rated Voltage $V_R$ ($V_{DC}$) | Can Dia D (mm) | Can Height H (mm) | Lead Spacing S (mm) | Case Area (mm²) | Current $T_A$=55 °C Irms (A) | Typ ESR (mΩ) | Typ ESL (nH) | Thermal Resistance Θcc (°C/W) | Thermal Resistance Θca (°C/W) | Max Mass (kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 947D421K122CGRSN | 420 | 1200 | 100 | 126 | 50 | 55300 | 69 | 2.1 | 46 | 1.1 | 2.2 | 1.1 |
| 947D441K122DERSN | 440 | 1200 | 116 | 100 | 50 | 57600 | 87 | 1.4 | 45 | 0.9 | 2.1 | 1.2 |
| 947D451K122BLMSN | 450 | 1200 | 90 | 162 | 45 | 58500 | 58 | 2.8 | 58 | 1.0 | 2.1 | 1.1 |
| 947D471K122CHRSN | 470 | 1200 | 100 | 136 | 50 | 58400 | 67 | 2.2 | 50 | 1.0 | 2.1 | 1.2 |
| 947D511K122DFRSN | 510 | 1200 | 116 | 112 | 50 | 62000 | 86 | 1.5 | 50 | 0.8 | 1.9 | 1.3 |
| 947D521K122CJRSN | 520 | 1200 | 100 | 150 | 50 | 62800 | 67 | 2.4 | 54 | 1.0 | 1.9 | 1.3 |
| 947D571K122CLRSN | 570 | 1200 | 100 | 162 | 50 | 66600 | 66 | 2.6 | 59 | 1.0 | 1.8 | 1.4 |
| 947D571K122DGRSN | 570 | 1200 | 116 | 126 | 50 | 67100 | 85 | 1.6 | 55 | 0.8 | 1.8 | 1.5 |
| 947D641K122DHRSN | 640 | 1200 | 116 | 136 | 50 | 70700 | 83 | 1.8 | 60 | 0.8 | 1.7 | 1.6 |
| 947D711K122DJRSN | 710 | 1200 | 116 | 150 | 50 | 75800 | 82 | 1.9 | 65 | 0.8 | 1.6 | 1.7 |
| 947D771K122DLRSN | 770 | 1200 | 116 | 162 | 50 | 80200 | 81 | 2.1 | 70 | 0.8 | 1.5 | 1.8 |
| 947D131K132ACGSN | 130 | 1300 | 85 | 75 | 32 | 31400 | 54 | 1.9 | 30 | 1.6 | 3.8 | 0.5 |
| 947D151K132BCMSN | 150 | 1300 | 90 | 75 | 45 | 33900 | 60 | 1.7 | 30 | 1.5 | 3.5 | 0.6 |
| 947D161K132ADGSN | 160 | 1300 | 85 | 87 | 32 | 34600 | 53 | 2.2 | 34 | 1.5 | 3.5 | 0.6 |
| 947D181K132BDMSN | 180 | 1300 | 90 | 87 | 45 | 37300 | 62 | 1.8 | 33 | 1.1 | 3.2 | 0.6 |
| 947D191K132AEGSN | 190 | 1300 | 85 | 100 | 32 | 38100 | 53 | 2.5 | 38 | 1.4 | 3.2 | 0.6 |
| 947D191K132CCRSN | 190 | 1300 | 100 | 75 | 50 | 39300 | 70 | 1.4 | 30 | 1.2 | 3.1 | 0.7 |
| 947D211K132AFGSN | 210 | 1300 | 85 | 112 | 32 | 41300 | 52 | 2.7 | 42 | 1.3 | 2.9 | 0.7 |
| 947D211K132BEMSN | 210 | 1300 | 90 | 100 | 45 | 41000 | 61 | 2.0 | 37 | 1.1 | 2.9 | 0.7 |
| 947D231K132CDRSN | 230 | 1300 | 100 | 87 | 50 | 43000 | 69 | 1.6 | 34 | 1.2 | 2.8 | 0.8 |
| 947D241K132AGGSN | 240 | 1300 | 85 | 126 | 32 | 45000 | 51 | 3.0 | 46 | 1.3 | 2.7 | 0.8 |
| 947D241K132BFMSN | 240 | 1300 | 90 | 112 | 45 | 44400 | 60 | 2.2 | 41 | 1.1 | 2.7 | 0.8 |
| 947D251K132DCRSN | 250 | 1300 | 116 | 75 | 50 | 48500 | 87 | 1.2 | 35 | 0.9 | 2.5 | 0.9 |
| 947D271K132AHGSN | 270 | 1300 | 85 | 136 | 32 | 47700 | 50 | 3.3 | 50 | 1.2 | 2.5 | 0.8 |
| 947D271K132CERSN | 270 | 1300 | 100 | 100 | 50 | 47100 | 68 | 1.8 | 38 | 1.2 | 2.5 | 0.9 |
| 947D281K132BGMSN | 280 | 1300 | 90 | 126 | 45 | 48300 | 59 | 2.4 | 45 | 1.0 | 2.5 | 0.9 |
| 947D301K132AJGSN | 300 | 1300 | 85 | 150 | 32 | 51400 | 50 | 3.5 | 54 | 1.2 | 2.3 | 0.9 |
| 947D311K132BHMSN | 310 | 1300 | 90 | 136 | 45 | 51200 | 58 | 2.7 | 49 | 1.0 | 2.3 | 0.9 |
| 947D311K132CFRSN | 310 | 1300 | 100 | 112 | 50 | 50900 | 66 | 2.0 | 42 | 1.1 | 2.4 | 1.0 |
| 947D311K132DDRSN | 310 | 1300 | 116 | 87 | 50 | 52800 | 85 | 1.3 | 40 | 0.9 | 2.3 | 1.1 |
| 947D331K132ALGSN | 330 | 1300 | 85 | 162 | 32 | 54600 | 49 | 3.8 | 59 | 1.2 | 2.2 | 1.0 |
| 947D341K132BJMSN | 340 | 1300 | 90 | 150 | 45 | 55100 | 57 | 2.9 | 53 | 1.0 | 2.2 | 1.0 |
| 947D351K132CGRSN | 350 | 1300 | 100 | 126 | 50 | 55300 | 66 | 2.2 | 46 | 1.1 | 2.2 | 1.1 |
| 947D371K132DERSN | 370 | 1300 | 116 | 100 | 50 | 57600 | 84 | 1.5 | 45 | 0.9 | 2.1 | 1.2 |
| 947D381K132BLMSN | 380 | 1300 | 90 | 162 | 45 | 58500 | 56 | 3.1 | 58 | 1.0 | 2.1 | 1.1 |
| 947D391K132CHRSN | 390 | 1300 | 100 | 136 | 50 | 58400 | 64 | 2.4 | 50 | 1.1 | 2.1 | 1.2 |
| 947D421K132DFRSN | 420 | 1300 | 116 | 112 | 50 | 62000 | 82 | 1.6 | 50 | 0.9 | 1.9 | 1.3 |
| 947D431K132CJRSN | 430 | 1300 | 100 | 150 | 50 | 62800 | 64 | 2.6 | 54 | 1.0 | 1.9 | 1.3 |
| 947D471K132CLRSN | 470 | 1300 | 100 | 162 | 50 | 66600 | 63 | 2.8 | 59 | 1.0 | 1.8 | 1.4 |
| 947D481K132DGRSN | 480 | 1300 | 116 | 126 | 50 | 67100 | 82 | 1.8 | 55 | 0.9 | 1.8 | 1.5 |
| 947D531K132DHRSN | 530 | 1300 | 116 | 136 | 50 | 70700 | 80 | 1.9 | 60 | 0.8 | 1.7 | 1.6 |
| 947D591K132DJRSN | 590 | 1300 | 116 | 150 | 50 | 75800 | 79 | 2.1 | 65 | 0.8 | 1.6 | 1.7 |
| 947D641K132DLRSN | 640 | 1300 | 116 | 162 | 50 | 80200 | 78 | 2.2 | 70 | 0.8 | 1.5 | 1.8 |

# Type 947D Polypropylene, High Energy Density, DC Link Capacitors

## High Current, High Capacitance for Inverter Applications

## Expected Lifetime Predictions

| | |
|---|---|
| Capacitance: | C (µF) |
| Equivalent Series Resistance: | ESR (mΩ) |
| Frequency: | f (kHz) |
| Ripple Current: | I ($A_{rms}$) |
| Ambient Temperature: | $T_A$ (°C) |
| Core Temperature: | $T_C$ (°C) |
| Total Thermal Resistance: | Θ (°C/W) |
| Thermal Resistance case-to-ambient: | $Θ_{CA}$ (°C/W) |
| Thermal Resistance core-to-case: | $Θ_{CC}$ (°C/W) |
| Airflow Speed: | v (m/s) |
| Applied Voltage: | $V_A$ ($V_{DC}$) |
| Rated Voltage: | $V_R$ ($V_{DC}$) |

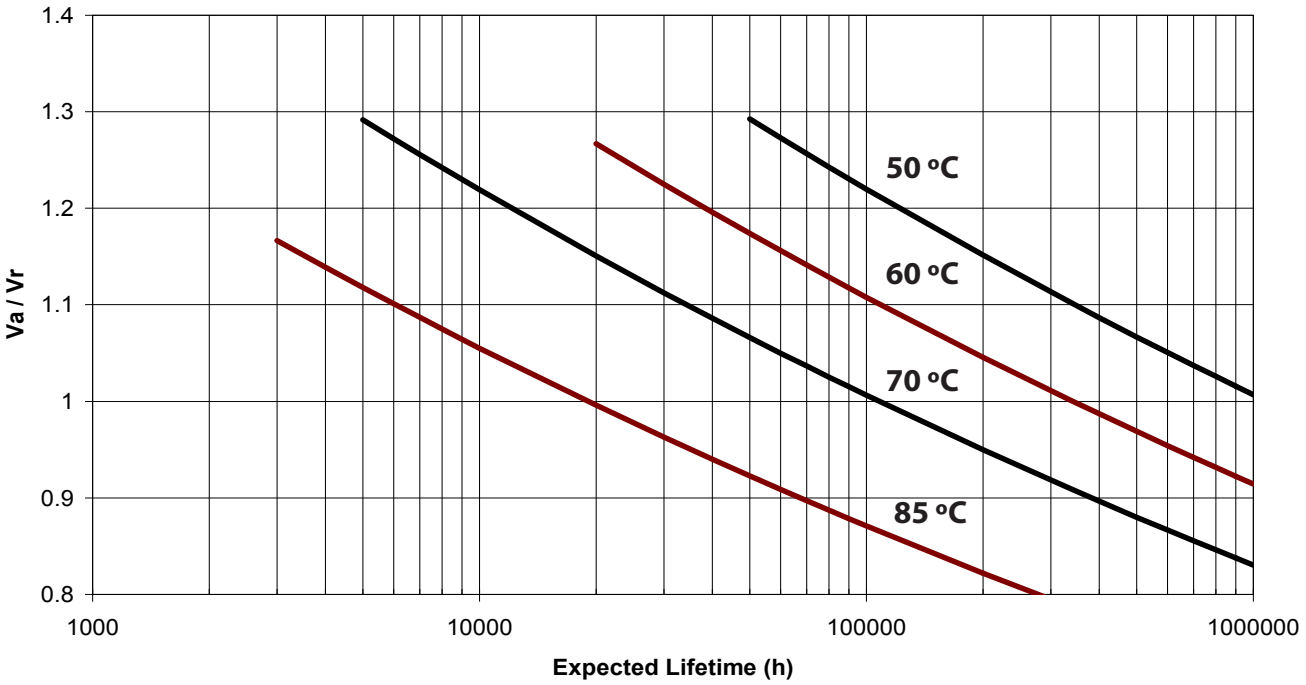
Use the 10 kHz ESR from the ratings tables.
For operation below 10 kHz, the ESR will need to be adjusted using the following equation: ESR - 31.83/(10C) + 31.83/(fC).

Compute Θ = ΘCC + ΘCA. In the ratings tables, ΘCA is for still air. For moving air use the capacitor surface area A and airflow speed v to calculate θca = 1/[A(5+17(v+0.1)0.66)].

Look up Expected Lifetime on the graph using $V_A/V_R$ and $T_C = T_A + I^2$ (ESR/1000) Θ

The maximum allowed temperature rise is 40 °C and the maximum allowed core temperature is 95 °C.

**Expected Lifetime vs Core Temperature and Applied DC Voltage**

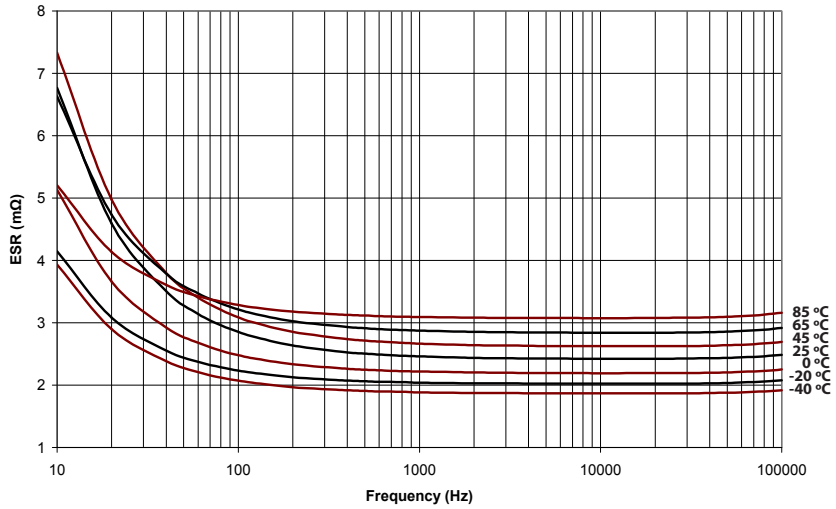


# Type 947D Polypropylene, High Energy Density, DC Link Capacitors

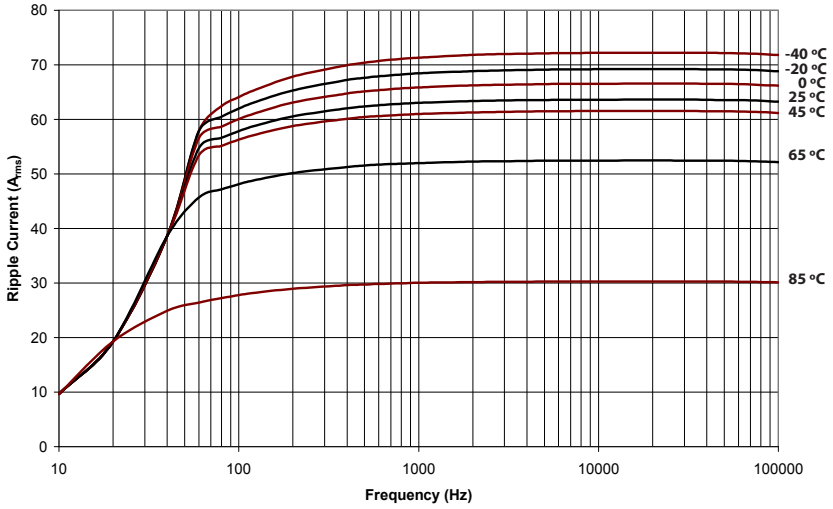
## High Current, High Capacitance for Inverter Applications

## Typical Performance Curves

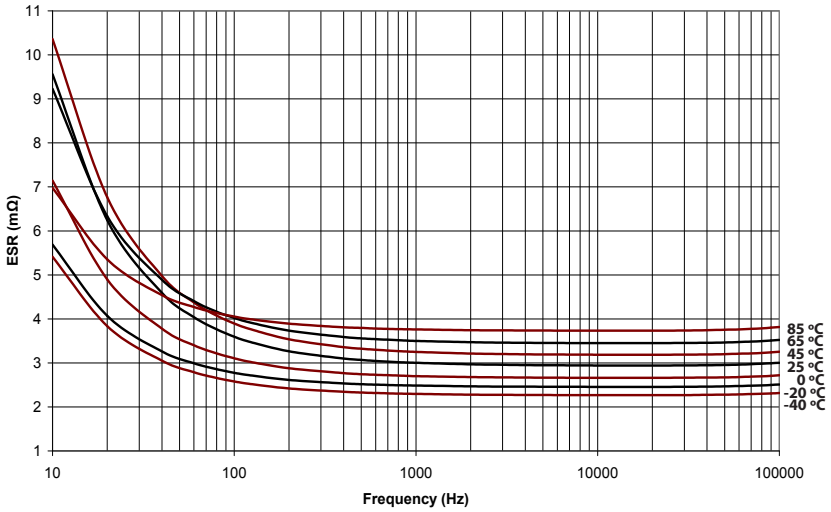
947D641K901AHGSN ESR vs Frequency and Temperature




947D641K901AHGSN Rated Ripple Current, Still Air, 7kh Life



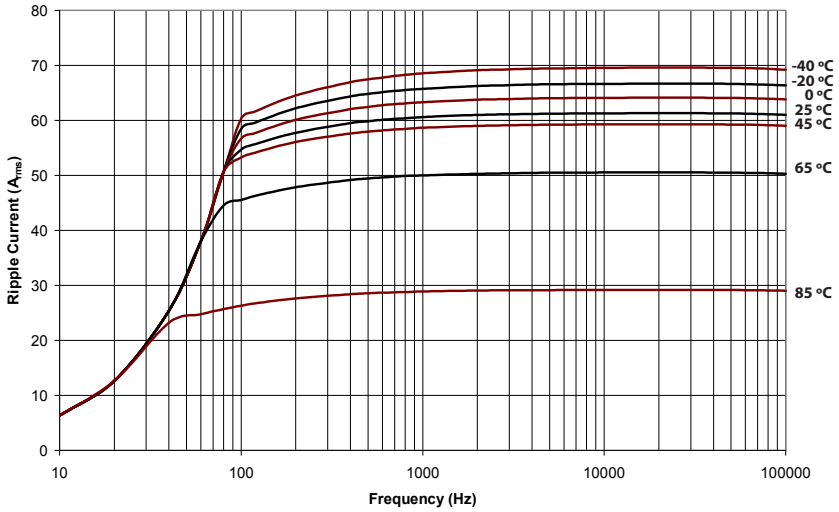

947D421K112AHGSN ESR vs Frequency and Temperature



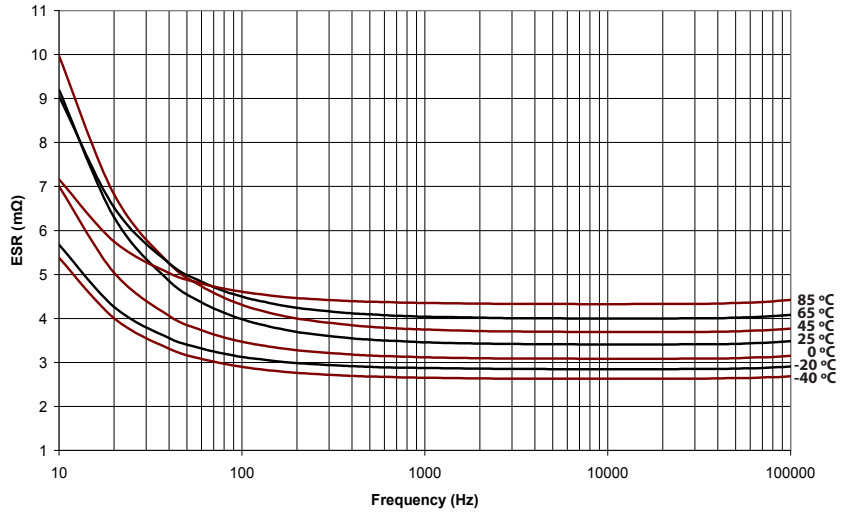
# Type 947D Polypropylene, High Energy Density, DC Link Capacitors

## High Current, High Capacitance for Inverter Applications

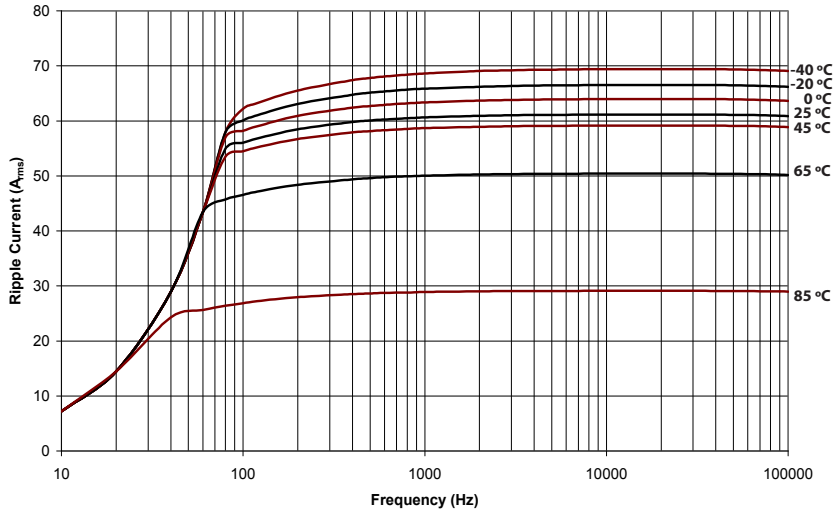
**947D421K112AHGSN Rated Ripple Current, Still Air, 7kh Life**




**947D481K112ALGSN ESR vs Frequency and Temperature**




**947D481K112ALGSN Rated Ripple Current, Still Air, 7kh Life**



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