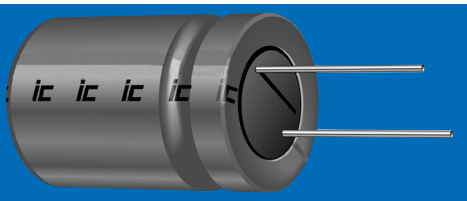
# BPS

# +85°C Non-Polar Radial Lead Aluminum Electrolytic Capacitors



*For all applications with unknown/reversed polarity*

## FEATURES

- *Audio Coupling*
- *Crossover Networks*
- *Capacitance Range: .47 µF to 4,700 µF*
- *Voltage Range: 10 WVDC to 100 WVDC*
- *Solvent Tolerant End Seals Standard*

## SPECIFICATIONS

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Capacitance Tolerance** | | **±20% at 120Hz, 25°C** | | | | | | |
| **Operating Temperature Range** | | **-40°C to + 85°C** | | | | | | |
| **Dissipation Factor 120Hz, 25°C** | **WVDC** | **10** | **16** | **25** | **35** | **50** | **63** | **100** |
| | **tan δ** | .24 | .22 | .20 | .16 | .14 | .12 | .10 |
| **Impedance Ratio (Max.) @120Hz** | **WVDC** | **10** | **16** | **25** | **35** | **50** | **63** | **100** |
| | **-25°C/25°C** | 3 | 2 | 2 | 2 | 2 | 2 | 2 |
| | **-40°C/25°C** | 8 | 6 | 5 | 4 | 4 | 3 | 3 |
| **Leakage Current** | **WVDC** | **≤ 100 WVDC** | | | | | | |
| | **Time** | **5 minutes** | | | | | | |
| | | .03 CV or 3µA whichever is greater | | | | | | |
| **Load Life** | | **2,000 hours at +85°C, with rated WVDC reversing polarity every 250 hours** | | | | | | |
| | | Capacitance change<br>Dissipation factor<br>Leakage current | | | ≤ 20% of initial measured value<br>≤ 200% of initial specified value<br>≤ initial specified value | | | |
| **Shelf Life** | | 1,000 hours at +85°C with no voltage applied.<br>Units will meet load life specifications | | | | | | |

**Ripple Current Multipliers**

| | Frequency (Hz) | | | | | | Temperature (°C) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Capacitance (µF) | 50 | 120 | 400 | 1K | 10K | 100K | +85 | +70 | +60 | +45 |
| C≤10 | .72 | 1.0 | 1.25 | 1.45 | 1.65 | 1.7 | 1.0 | 1.3 | 1.5 | 1.8 |
| 10<C≤100 | .75 | 1.0 | 1.19 | 1.36 | 1.53 | 1.57 | 1.0 | 1.3 | 1.5 | 1.8 |
| C>1000 | .79 | 1.0 | 1.15 | 1.30 | 1.45 | 1.49 | 1.0 | 1.3 | 1.5 | 1.8 |

## SPECIAL ORDER OPTIONS

**(See pages 33 thru 37)**

- *Special tolerances: ±10% (K), -10% + 30% (Q)*
- *Tape and Reel/Ammo-Pack*
- *Cut, Formed, Cut and Formed, and Snap In Leads*
- *Epoxy end seal*
- *Polyester sleeve*

ILLINOIS CAPACITOR, INC. *3757 W. Touhy Ave., Lincolnwood, IL 60712 • (847) 675-1760 • Fax (847) 673-2850 • www.illcap.com*

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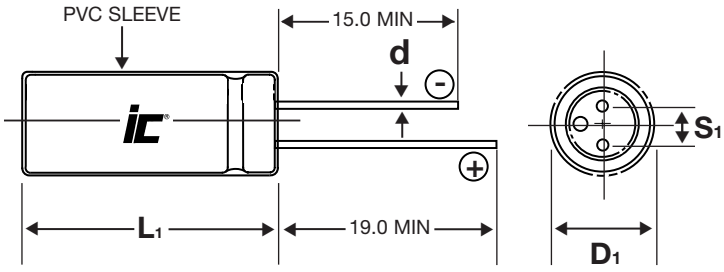
## PHYSICAL DIMENSIONS

| WVDC (SV) / (µF) | 10 (13) | 16 (20) | 25 (32) | 35 (44) | 50 (63) | 63 (79) | 100 (125) |
|---|---|---|---|---|---|---|---|
| 0.47 | → | → | → | → | 5x11 | → | 5x11 |
| 1 | → | → | → | → | 5x11 | → | 5x11 |
| 2.2 | → | → | → | → | 5x11 | → | 6.3x11 |
| 3.3 | → | → | → | → | 5x11 | → | 6.3x11 |
| 4.7 | → | → | → | → | 5x11 | 5x11 | 6.3x11 |
| 10 | → | → | → | 5x11 | 6.3x11 | 6.3x11 | 8x11.5 |
| 22 | → | 5x11 | → | 6.3x11 | 8x11.5 | 8x11.5 | 10x16 |
| 33 | → | 5x11 | 6.3x11 | → | 8x11.5 | 10x12.5 | 12.5x20 |
| 47 | 5x11 | → | 6.3x11 | 8x11.5 | 10x12.5 | 10x16 | 12.5x20 |
| 100 | 6.3x11 | → | 8x11.5 | 10x16 | 10x20 | 12.5x20 | 16x25 |
| 220 | 8x11.5 | 10x12.5 | 10x16 | 12.5x20 | 12.5x25 | 16x25 | 18x35.5 |
| 330 | → | 10x16 | → | 12.5x20 | 16x25 | 16x31.5 | 18x35.5 |
| 470 | 10x16 | 10x20 | 12.5x20 | 12.5x25 | 16x31.5 | 18x35.5 | 18x42 |
| 1000 | 12.5x20 | 12.5x25 | 16x25 | 16x31.5 | | | |
| 2200 | 16x25 | 16x31.5 | 18x35.5 | | | | |
| 3300 | 16x31.5 | 18x35.5 | | | | | |
| 4700 | 18x35.5 | | | | | | |

Convert to inches, divide by 25.4

**DxL(mm)**




**NOTE:** Case Vent is standard on all diameter ≥8.0mm

**LEAD INFORMATION VS. CASE DIAMETER**

| D | 5.0 | 6.3 | 8.0 | 10.0 | 12.5 | 16.0 | 18.0 |
|---|---|---|---|---|---|---|---|
| S | 2.0 | 2.5 | 3.5 | 5.0 | 5.0 | 7.5 | 7.5 |
| d | 0.5 | 0.5 | 0.6 | 0.6 | 0.6 | 0.8 | 0.8 |
| B | 0.5 | 0.5 | 0.5 | 0.5 | 0.8 | 0.5 | 0.5 |

$L_1$=L+2.0 mm Max.
$D_1$=D+B Max.
$S_1$=S±0.5 mm Max.

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## STANDARD PART LISTING

| Capacitance (µF) | WVDC | IC® PART NUMBER | Maximum ESR Ω 120Hz,+25°C | Maximum RMS Ripple Current (mA) 120Hz,+85°C | Dimensions DxL (mm) |
|---|---|---|---|---|---|
| 0.47 | 50 | **474BPS050M** | 564.379 | 5 | 5x11 |
| 0.47 | 100 | **474BPS100M** | 352.737 | 10 | 5x11 |
| 1.0 | 50 | **105BPS050M** | 265.258 | 10 | 5x11 |
| 1.0 | 100 | **105BPS100M** | 165.786 | 18 | 5x11 |
| 2.2 | 50 | **225BPS050M** | 120.572 | 23 | 5x11 |
| 2.2 | 100 | **225BPS100M** | 75.357 | 30 | 6.3x11 |
| 3.3 | 50 | **335BPS050M** | 80.381 | 28 | 5x11 |
| 3.3 | 100 | **335BPS100M** | 50.238 | 35 | 6.3x11 |
| 4.7 | 50 | **475BPS050M** | 56.438 | 35 | 5x11 |
| 4.7 | 63 | **475BPS063M** | 42.328 | 37 | 5x11 |
| 4.7 | 100 | **475BPS100M** | 35.274 | 44 | 6.3x11 |
| 10 | 35 | **106BPS035M** | 23.210 | 46 | 5x11 |
| 10 | 50 | **106BPS050M** | 26.526 | 54 | 6.3x11 |
| 10 | 63 | **106BPS063M** | 19.894 | 58 | 6.3x11 |
| 10 | 100 | **106BPS100M** | 16.579 | 72 | 8x11.5 |
| 22 | 16 | **226BPS016M** | 16.579 | 60 | 5x11 |
| 22 | 35 | **226BPS035M** | 10.550 | 75 | 6.3x11 |
| 22 | 50 | **226BPS050M** | 12.057 | 90 | 8x11.5 |
| 22 | 63 | **226BPS063M** | 9.043 | 96 | 8x11.5 |
| 22 | 100 | **226BPS100M** | 7.536 | 138 | 10x16 |
| 33 | 16 | **336BPS016M** | 11.052 | 72 | 5x11 |
| 33 | 25 | **336BPS025M** | 10.048 | 82 | 6.3x11 |
| 33 | 50 | **336BPS050M** | 8.038 | 108 | 8x11.5 |
| 33 | 63 | **336BPS063M** | 6.029 | 135 | 10x12.5 |
| 33 | 100 | **336BPS100M** | 5.024 | 200 | 12.5x20 |
| 47 | 10 | **476BPS010M** | 8.466 | 82 | 5x11 |
| 47 | 25 | **476BPS025M** | 7.055 | 95 | 6.3x11 |
| 47 | 35 | **476BPS035M** | 4.938 | 120 | 8x11.5 |
| 47 | 50 | **476BPS050M** | 5.644 | 155 | 10x12.5 |
| 47 | 63 | **476BPS063M** | 4.233 | 185 | 10x16 |
| 47 | 100 | **476BPS100M** | 3.527 | 245 | 12.5x20 |
| 100 | 10 | **107BPS010M** | 3.979 | 125 | 6.3x11 |
| 100 | 25 | **107BPS025M** | 3.316 | 160 | 8x11.5 |

| Capacitance (µF) | WVDC | IC® PART NUMBER | Maximum ESR Ω 120Hz,+25°C | Maximum RMS Ripple Current (mA) 120Hz,+85°C | Dimensions DxL (mm) |
|---|---|---|---|---|---|
| 100 | 35 | **107BPS035M** | 2.321 | 230 | 10x16 |
| 100 | 50 | **107BPS050M** | 2.653 | 270 | 10x20 |
| 100 | 63 | **107BPS063M** | 1.989 | 325 | 12.5x20 |
| 100 | 100 | **107BPS100M** | 1.658 | 430 | 16x25 |
| 220 | 10 | **227BPS010M** | 1.809 | 215 | 8x11.5 |
| 220 | 16 | **227BPS016M** | 1.658 | 263 | 10x12.5 |
| 220 | 25 | **227BPS025M** | 1.507 | 305 | 10x16 |
| 220 | 35 | **227BPS035M** | 1.055 | 418 | 12.5x20 |
| 220 | 50 | **227BPS050M** | 1.206 | 490 | 12.5x25 |
| 220 | 63 | **227BPS063M** | 0.904 | 575 | 16x25 |
| 220 | 100 | **227BPS100M** | 0.754 | 650 | 18x35.5 |
| 330 | 16 | **337BPS016M** | 1.105 | 358 | 10x16 |
| 330 | 35 | **337BPS035M** | 0.703 | 520 | 12.5x20 |
| 330 | 50 | **337BPS050M** | 0.804 | 660 | 16x25 |
| 330 | 63 | **337BPS063M** | 0.603 | 655 | 16x31.5 |
| 330 | 100 | **337BPS100M** | 0.502 | 790 | 18x35.5 |
| 470 | 10 | **477BPS010M** | 0.847 | 410 | 10x16 |
| 470 | 16 | **477BPS016M** | 0.776 | 465 | 10x20 |
| 470 | 25 | **477BPS025M** | 0.705 | 550 | 12.5x20 |
| 470 | 35 | **477BPS035M** | 0.494 | 665 | 12.5x25 |
| 470 | 50 | **477BPS050M** | 0.564 | 850 | 16x31.5 |
| 470 | 63 | **477BPS063M** | 0.423 | 965 | 18x35.5 |
| 470 | 100 | **477BPS100M** | 0.353 | 1030 | 18x42 |
| 1,000 | 10 | **108BPS010M** | 0.398 | 725 | 12.5x20 |
| 1,000 | 16 | **108BPS016M** | 0.365 | 825 | 12.5x25 |
| 1,000 | 25 | **108BPS025M** | 0.332 | 965 | 16x25 |
| 1,000 | 35 | **108BPS035M** | 0.232 | 1160 | 16x31.5 |
| 2200 | 10 | **228BPS010M** | 0.211 | 1280 | 16x25 |
| 2200 | 16 | **228BPS016M** | 0.196 | 1460 | 16x31.5 |
| 2200 | 25 | **228BPS025M** | 0.181 | 1620 | 18x35.5 |
| 3300 | 10 | **338BPS010M** | 0.151 | 1590 | 16x31.5 |
| 3300 | 16 | **338BPS016M** | 0.141 | 1890 | 18x35.5 |
| 4700 | 10 | **478BPS010M** | 0.113 | 1990 | 18x35.5 |