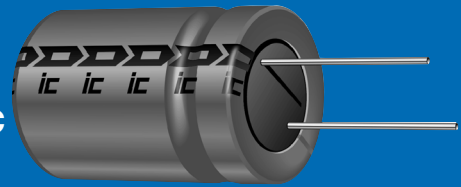


HSM

+125°C Standard Radial Lead Aluminum Electrolytic Capacitors



For automotive and telecommunication applications

FEATURES

- 125°C Temperature rating
- Extended Life
- Voltage range: 10 WVDC to 63WVDC
- Capacitance Range: 1.0µF to 4,700µF

SPECIFICATIONS

| | | | | | | | | | |
|--|---|--|-----|------|----------------|------|-----------------|-----|------|
| Capacitance Tolerance | | ±20% at 120Hz, 20°C | | | | | | | |
| Operating Temperature Range | | -40°C to +125°C | | | | | | | |
| Dissipation Factor 120Hz, 20°C | WVDC | 10 | 16 | 25 | 35 | 50 | 63 | | |
| | tan δ | .2 | .16 | .14 | .12 | .1 | .1 | | |
| Note: For above D.F. specifications, add .02 for every 1,000 µf above 1,000 µf | | | | | | | | | |
| Impedance Ratio (Max.) @120Hz | WVDC | 10 | 16 | 25 | 35 | 50 | 63 | | |
| | -25/20°C | 3 | 2 | 2 | 2 | 2 | 2 | | |
| | -40/20°C | 4 | 4 | 4 | 4 | 4 | 4 | | |
| Leakage Current | WVDC | ≤ 63WVDC | | | | | | | |
| | Time | 1 minute | | | 2 minutes | | | | |
| | | .03 CV or 4 µA | | | .01 CV or 3 µA | | | | |
| | | Whichever is greater | | | | | | | |
| Load Life | 1,000 hours at 125°C with rated WVDC | | | | | | | | |
| | Capacitance change Dissipation factor Leakage current | < 20% of initial measured value <200% of initial specified value <100% initial specified value | | | | | | | |
| Shelf Life | 1,000 hours at 105°C with no voltage applied. Units will meet load life specification. | | | | | | | | |
| Ripple Current Multipliers | | Frequency(Hz) | | | | | Temperature(°C) | | |
| | Capacitance (µF) | 50 | 120 | 300 | 1K | 10K | +105 | +85 | +70 |
| | C≤47 | .75 | 1.0 | 1.35 | 1.57 | 2 | 1.00 | 1.4 | 1.65 |
| | 47<C≤470 | .8 | 1.0 | 1.23 | 1.34 | 1.5 | 1.00 | 1.4 | 1.65 |
| | C>470 | .85 | 1.0 | 1.1 | 1.13 | 1.15 | 1.00 | 1.4 | 1.65 |

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



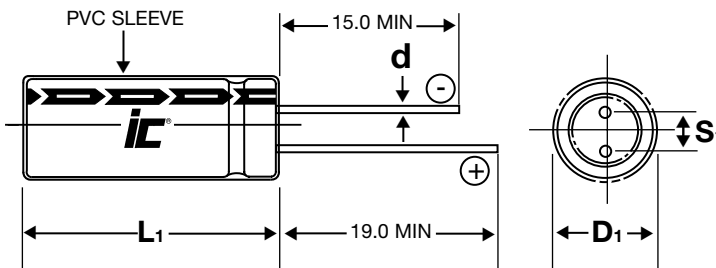
3757 W. Touhy Ave., Lincolnwood, IL 60712 • (847) 675-1760 • Fax (847) 673-2850 • www.illcap.com

PHYSICAL DIMENSIONS

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

Convert to inches, divide by 25.4.

DxL(mm)



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

LEAD INFORMATION V.S. CASE DIAMETER

| D | 8.0 | 10.0 | 12.5 | 16 |
|---|-----|------|------|-----|
| S | 3.5 | 5.0 | 5.0 | 7.5 |
| d | 0.6 | 0.6 | 0.6 | 0.8 |
| B | 0.5 | 0.5 | 0.8 | 0.5 |

L₁=L+2.0mm Max.

D₁=D+B Max.

S₁=S±0.5mm

STANDARD PART LISTING

| Capacitance (μF) | WVDC | IC [®] PART NUMBER | Maximum ESR Ω 120Hz,+20°C | Maximum RMS Ripple Current (mA) 120Hz,+125°C | Dimension DxL (mm) |
|------------------|------|-----------------------------|------------------------------|---|--------------------|
| 1 | 50 | 105HSM050M | 165.786 | 10 | 8x11.5 |
| 2.2 | 50 | 225HSM050M | 75.357 | 22 | 8x11.5 |
| 3.3 | 50 | 335HSM050M | 50.238 | 27 | 8x11.5 |
| 4.7 | 50 | 475HSM050M | 35.274 | 32 | 8x11.5 |
| 10 | 50 | 106HSM050M | 16.579 | 47 | 8x11.5 |
| 22 | 50 | 226HSM050M | 7.536 | 70 | 8x11.5 |
| 33 | 50 | 336HSM050M | 5.024 | 85 | 8x11.5 |
| 47 | 50 | 476HSM050M | 3.527 | 105 | 8x11.5 |
| 47 | 63 | 476HSM063M | 3.527 | 120 | 10x12.5 |
| 100 | 25 | 107HSM025M | 2.321 | 125 | 8x11.5 |
| 100 | 50 | 107HSM050M | 1.658 | 180 | 10x12.5 |
| 100 | 63 | 107HSM063M | 1.658 | 200 | 10x16 |
| 220 | 10 | 227HSM010M | 1.507 | 155 | 8x11.5 |
| 220 | 25 | 227HSM025M | 1.055 | 220 | 10x12.5 |
| 220 | 35 | 227HSM035M | 0.904 | 260 | 10x16 |
| 220 | 50 | 227HSM050M | 0.754 | 320 | 10x20 |
| 220 | 63 | 227HSM063M | 0.754 | 360 | 12.5x20 |
| 330 | 16 | 337HSM016M | 0.804 | 250 | 10x12.5 |
| 330 | 25 | 337HSM025M | 0.703 | 300 | 10x16 |
| 330 | 35 | 337HSM035M | 0.603 | 350 | 10x20 |

| Capacitance (μF) | WVDC | IC [®] PART NUMBER | Maximum ESR Ω 120Hz,+20°C | Maximum RMS Ripple Current (mA) 120Hz,+125°C | Dimension DxL (mm) |
|------------------|------|-----------------------------|------------------------------|---|--------------------|
| 330 | 50 | 337HSM050M | 0.502 | 430 | 12.5x20 |
| 330 | 63 | 337HSM063M | 0.502 | 480 | 12.5x25 |
| 470 | 10 | 477HSM010M | 0.705 | 270 | 10x12.5 |
| 470 | 16 | 477HSM016M | 0.564 | 330 | 10x16 |
| 470 | 25 | 477HSM025M | 0.494 | 390 | 10x20 |
| 470 | 35 | 477HSM035M | 0.423 | 470 | 12.5x20 |
| 470 | 50 | 477HSM050M | 0.353 | 570 | 12.5x25 |
| 470 | 63 | 477HSM063M | 0.353 | 650 | 16x25 |
| 1000 | 10 | 108HSM010M | 0.332 | 470 | 10x20 |
| 1000 | 16 | 108HSM016M | 0.265 | 590 | 12.5x20 |
| 1000 | 25 | 108HSM025M | 0.232 | 700 | 12.5x25 |
| 1000 | 35 | 108HSM035M | 0.199 | 850 | 16x25 |
| 1000 | 50 | 108HSM050M | 0.166 | 1030 | 16x31.5 |
| 2200 | 10 | 228HSM010M | 0.181 | 820 | 12.5x25 |
| 2200 | 16 | 228HSM016M | 0.151 | 1030 | 16x25 |
| 2200 | 25 | 228HSM025M | 0.136 | 1210 | 16x31.5 |
| 3300 | 10 | 338HSM010M | 0.131 | 1090 | 16x25 |
| 3300 | 16 | 338HSM016M | 0.111 | 1330 | 16x31.5 |
| 4700 | 10 | 478HSM010M | 0.099 | 1390 | 16x31.5 |