

Type AHA

查询AHA336M16C12T供应商

捷多邦, 专业PCB打样工厂, 24小时加急出货

SMT Aluminum Electrolytic Capacitors 55 °C to 105 °C - Long Life

Long Life Filtering, Bypassing, Power Supply Decoupling



Type AHA Capacitors deliver twice the life of many SMT aluminum capacitor types, and they handle high levels of ripple current. The AHA can handle the ripple current of Type AVS at 20 °C higher temperature. The vertical cylindrical cases facilitate automatic mounting and reflow soldering and Type AHA offers a significant cost savings over tantalum capacitors.

Highlights

- +105 °C, Up to 2000 Hour Load Life
- Capacitance Range: 0.1 μF to 1500 μF
- Voltage Range: 6.3 Vdc to 100 Vdc

Specifications

- Operating Temperature:** -55 °C to +105 °C
Rated Voltage: 6.3, 10, 16, 25, 35, 50, 63 & 100 Vdc
Capacitance: 0.1 μF to 1500 μF
D.F. (@ 20 °C): See Ratings Table
Capacitance Tolerance: 20% @ 120 Hz and +20 °C
Leakage Current: 0.01 CV or 3 μA @ +20°C after two minutes (whichever is greater)
Ripple Current Multipliers: **Frequency**

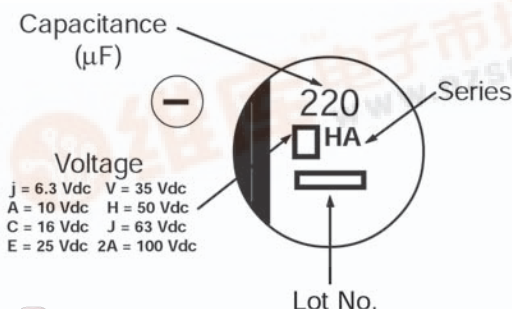
| 50/60 Hz | 120 Hz | 1 kHz | 10 kHz & up |
|----------|--------|-------|-------------|
| 0.7 | 1 | 1.3 | 1.7 |

Load Life: 1000 h @ +105 °C, 4.0 - 6.3 mm dia.
 2000 h @ +105 °C, 8.0 - 10.0 mm dia.
 Δ Capacitance ±20%
 DF: < 200% of limit
 DCL: ≤100% of limit

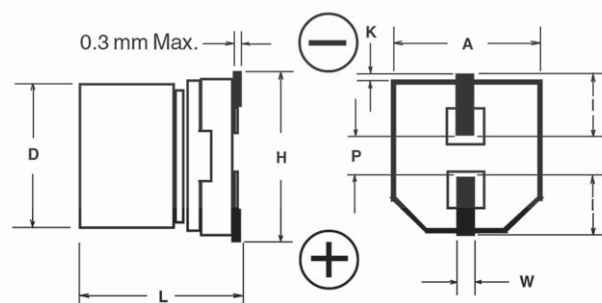
Shelf Life: 1000 h @ +105 °C, 4.0 - 6.3 mm dia.
 Δ Capacitance ±20%
 DF: < 200% of limit
 DCL: ≤100% of limit

| Maximum Impedance Ratio | | | | | | | | |
|-------------------------|-----|----|----|----|----|----|----|-----|
| W.V. Vdc | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 |
| -25 °C +20 °C | 4 | 3 | 2 | 2 | 2 | 2 | 3 | 3 |
| -40 °C +20 °C | 8 | 6 | 4 | 4 | 3 | 3 | 4 | 4 |

AHA Series Marking



Outline Drawing



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Case Dimensions

| Case | | | | | | | | |
|------|---------|-------------|---------|---------|---------|------------|---------|-------------------|
| Code | D ± 0.5 | L | A ± 0.2 | H (max) | I (ref) | W | P (ref) | K |
| B | 4 | 5.4 +.1,-.2 | 4.3 | 5.5 | 1.8 | 0.65 ± 0.1 | 1 | 0.35 + 0.15/-0.20 |
| C | 5 | 5.4 +.1,-.2 | 5.3 | 6.5 | 2.2 | 0.65 ± 0.1 | 1.5 | 0.35 + 0.15/-0.20 |
| D | 6.3 | 5.4 +.1,-.2 | 6.6 | 7.8 | 2.4 | 0.65 ± 0.1 | 1.8 | 0.35 + 0.15/-0.20 |
| X | 6.3 | 7.9 ±.3 | 6.6 | 7.8 | 2.6 | 0.65 ± 0.1 | 1.8 | 0.35 + 0.15/-0.20 |
| E | 8 | 6.2 ±.3 | 8.3 | 9.5 | 3.4 | 0.65 ± 0.1 | 2.2 | 0.35 + 0.15/-0.20 |
| F | 8 | 10.2 ±.3 | 8.3 | 10 | 3.4 | 0.90 ± 0.2 | 3.1 | 0.70 ± 0.20 |
| G | 10 | 10.2 ±.3 | 10.3 | 12 | 3.5 | 0.90 ± 0.2 | 4.6 | 0.70 ± 0.20 |

Ratings

| Cap (µF) | Catalog Part Number | Max DCL 2 min. (µA) | Max DF 120 Hz 20 °C | Max ESR 100 kHz 20 °C (Ω) | Max Ripple Current 120 Hz 105 °C (mA) | Case Code | Size D x L (mm) | Quantity per Reel |
|-------------------------------|---------------------|---------------------|---------------------|---------------------------|---------------------------------------|-----------|-----------------|-------------------|
| 6.3 Vdc (8 Vdc Surge) | | | | | | | | |
| 22.0 | AHA226M06B12T | 3.0 | 0.30 | 22.6 | 29 | B | 4 x 5.4 | 2000 |
| 33.0 | AHA336M06B12T | 3.0 | 0.35 | 17.6 | 29 | B | 4 x 5.4 | 2000 |
| 47.0 | AHA476M06B12T | 3.0 | 0.35 | 12.3 | 36 | B | 4 x 5.4 | 2000 |
| 47.0 | AHA476M06C12T | 3.0 | 0.30 | 10.6 | 46 | C | 5 x 5.4 | 1000 |
| 100.0 | AHA107M06C12T | 6.3 | 0.35 | 5.8 | 47 | C | 5 x 5.4 | 1000 |
| 100.0 | AHA107M06D16T | 6.3 | 0.30 | 5.0 | 71 | D | 6.3 x 5.4 | 1000 |
| 220.0 | AHA227M06D16T | 13.9 | 0.35 | 2.6 | 74 | D | 6.3 x 5.4 | 1000 |
| 330.0 | AHA337M06X16T | 20.8 | 0.30 | 1.5 | 105 | X | 6.3 x 7.9 | 900 |
| 330.0 | AHA337M06F24T | 20.8 | 0.35 | 1.8 | 230 | F | 8 x 10.2 | 500 |
| 470.0 | AHA477M06F24T | 29.6 | 0.35 | 1.2 | 300 | F | 8 x 10.2 | 500 |
| 1000.0 | AHA108M06F24T | 63.0 | 0.35 | 0.6 | 300 | F | 8 x 10.2 | 500 |
| 1000.0 | AHA108M06G24T | 63.0 | 0.35 | 0.6 | 400 | G | 10 x 10.2 | 500 |
| 1500.0 | AHA158M06G24T | 94.5 | 0.35 | 0.4 | 480 | G | 10 x 10.2 | 500 |
| 10 Vdc (13 Vdc Surge) | | | | | | | | |
| 22.0 | AHA226M10B12T | 3.0 | 0.30 | 22.6 | 28 | B | 4 x 5.4 | 2000 |
| 33.0 | AHA336M10B12T | 3.3 | 0.30 | 15.1 | 29 | B | 4 x 5.4 | 2000 |
| 33.0 | AHA336M10C12T | 3.3 | 0.22 | 11.1 | 43 | C | 5 x 5.4 | 1000 |
| 47.0 | AHA476M10C12T | 4.7 | 0.30 | 10.6 | 43 | C | 5 x 5.4 | 1000 |
| 100.0 | AHA107M10D16T | 10.0 | 0.30 | 5.0 | 70 | D | 6.3 x 5.4 | 1000 |
| 100.0 | AHA107M10E16T | 10.0 | 0.26 | 4.3 | 110 | E | 8 x 6.2 | 1000 |
| 220.0 | AHA227M10X16T | 22.0 | 0.22 | 1.7 | 105 | X | 6.3 x 7.9 | 900 |
| 220.0 | AHA227M10F24T | 22.0 | 0.26 | 2.0 | 160 | F | 8 x 10.2 | 500 |
| 470.0 | AHA477M10F24T | 47.0 | 0.26 | 0.9 | 200 | F | 8 x 10.2 | 500 |
| 470.0 | AHA477M10G24T | 47.0 | 0.26 | 0.9 | 270 | G | 10 x 10.2 | 500 |
| 1000.0 | AHA108M10G24T | 100.0 | 0.26 | 0.4 | 580 | G | 10 x 10.2 | 500 |
| 16 Vdc (20 Vdc Surge) | | | | | | | | |
| 10.0 | AHA106M16B12T | 3.0 | 0.16 | 26.5 | 28 | B | 4 x 5.4 | 2000 |
| 22.0 | AHA226M16B12T | 3.5 | 0.26 | 19.6 | 28 | B | 4 x 5.4 | 2000 |
| 22.0 | AHA226M16C12T | 3.5 | 0.16 | 12.1 | 39 | C | 5 x 5.4 | 1000 |
| 33.0 | AHA336M16C12T | 5.3 | 0.26 | 13.1 | 35 | C | 5 x 5.4 | 1000 |
| 47.0 | AHA476M16C12T | 7.5 | 0.26 | 9.2 | 39 | C | 5 x 5.4 | 1000 |
| 47.0 | AHA476M16D16T | 7.5 | 0.16 | 5.6 | 70 | D | 6.3 x 5.4 | 1000 |
| 100.0 | AHA107M16D16T | 16.0 | 0.26 | 4.3 | 70 | D | 6.3 x 5.4 | 1000 |
| 220.0 | AHA227M16X16T | 35.2 | 0.16 | 1.2 | 105 | X | 6.3 x 7.9 | 900 |
| 220.0 | AHA227M16F24T | 35.2 | 0.20 | 1.5 | 150 | F | 8 x 10.2 | 500 |
| 220.0 | AHA227M16G24T | 35.2 | 0.20 | 1.5 | 210 | G | 10 x 10.2 | 500 |
| 330.0 | AHA337M16F24T | 52.8 | 0.20 | 1.0 | 170 | F | 8 x 10.2 | 500 |
| 330.0 | AHA337M16G24T | 52.8 | 0.20 | 1.0 | 230 | G | 10 x 10.2 | 500 |
| 470.0 | AHA477M16F24T | 75.2 | 0.20 | 0.7 | 190 | F | 8 x 10.2 | 500 |
| 470.0 | AHA477M16G24T | 75.2 | 0.20 | 0.7 | 340 | G | 10 x 10.2 | 500 |
| 25 Vdc (31 Vdc Surge) | | | | | | | | |
| 4.7 | AHA475M25B12T | 3.0 | 0.14 | 49.4 | 22 | B | 4 x 5.4 | 2000 |
| 10.0 | AHA106M25B12T | 3.0 | 0.20 | 33.2 | 22 | B | 4 x 5.4 | 2000 |
| 10.0 | AHA106M25C12T | 3.0 | 0.14 | 23.2 | 28 | C | 5 x 5.4 | 1000 |
| 22.0 | AHA226M25C12T | 5.5 | 0.20 | 15.1 | 35 | C | 5 x 5.4 | 1000 |
| 22.0 | AHA226M25D16T | 5.5 | 0.14 | 10.6 | 55 | D | 6.3 x 5.4 | 1000 |
| 33.0 | AHA336M25C12T | 8.3 | 0.20 | 10.0 | 42 | C | 5 x 5.4 | 1000 |
| 33.0 | AHA336M25D16T | 8.3 | 0.14 | 7.0 | 65 | D | 6.3 x 5.4 | 1000 |
| 47.0 | AHA476M25D16T | 11.8 | 0.20 | 7.1 | 70 | D | 6.3 x 5.4 | 1000 |
| 47.0 | AHA476M25E16T | 11.8 | 0.16 | 5.6 | 91 | E | 8 x 6.2 | 1000 |
| 100.0 | AHA107M25E16T | 25.0 | 0.16 | 2.7 | 91 | E | 8 x 6.2 | 1000 |
| 100.0 | AHA107M25F24T | 25.0 | 0.16 | 2.7 | 130 | F | 8 x 10.2 | 500 |
| 220.0 | AHA227M25F24T | 55.0 | 0.16 | 1.2 | 160 | F | 8 x 10.2 | 500 |
| 220.0 | AHA227M25G24T | 55.0 | 0.16 | 1.2 | 190 | G | 10 x 10.2 | 500 |
| 330.0 | AHA337M25F24T | 82.5 | 0.16 | 0.8 | 180 | F | 8 x 10.2 | 500 |
| 330.0 | AHA337M25G24T | 82.5 | 0.16 | 0.8 | 340 | G | 10 x 10.2 | 500 |
| 470.0 | AHA477M25G24T | 117.5 | 0.16 | 0.6 | 360 | G | 10 x 10.2 | 500 |

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| Cap (µF) | Catalog Part Number | Max DCL 2 min. (µA) | Max DF 120 Hz 20 °C | Max ESR 100 kHz 20 °C (Ω) | Max Ripple Current 120 Hz 105 °C (mA) | Case Code | Size D x L (mm) | Quantity per Reel |
|--------------------------------|------------------------|------------------------------|---------------------------|------------------------------------|--|--------------|-----------------------|----------------------|
| 35 Vdc (44 Vdc Surge) | | | | | | | | |
| 4.7 | AHA475M35B12T | 3.0 | 0.12 | 42.3 | 22 | B | 4 x 5.4 | 2000 |
| 10.0 | AHA106M35B12T | 3.6 | 0.16 | 26.5 | 22 | B | 4 x 5.4 | 2000 |
| 10.0 | AHA106M35C12T | 3.6 | 0.12 | 19.9 | 30 | C | 5 x 5.4 | 1000 |
| 22.0 | AHA226M35C12T | 7.7 | 0.16 | 12.1 | 35 | C | 5 x 5.4 | 1000 |
| 22.0 | AHA226M35D16T | 7.7 | 0.12 | 9.0 | 60 | D | 6.3 x 5.4 | 1000 |
| 33.0 | AHA336M35D16T | 11.6 | 0.16 | 8.0 | 42 | D | 6.3 x 5.4 | 1000 |
| 33.0 | AHA336M35E16T | 11.6 | 0.14 | 7.0 | 84 | E | 8 x 6.2 | 1000 |
| 47.0 | AHA476M35E16T | 16.5 | 0.14 | 4.9 | 84 | E | 8 x 6.2 | 1000 |
| 47.0 | AHA476M35F24T | 16.5 | 0.14 | 4.9 | 98 | F | 8 x 10.2 | 500 |
| 100.0 | AHA107M35X16T | 35.0 | 0.12 | 2.0 | 84 | X | 6.3 x 7.9 | 900 |
| 100.0 | AHA107M35F24T | 35.0 | 0.14 | 2.3 | 120 | F | 8 x 10.2 | 500 |
| 100.0 | AHA107M35G24T | 35.0 | 0.14 | 2.3 | 160 | G | 10 x 10.2 | 500 |
| 220.0 | AHA227M35F24T | 77.0 | 0.14 | 1.1 | 170 | F | 8 x 10.2 | 500 |
| 220.0 | AHA227M35G24T | 77.0 | 0.14 | 1.1 | 210 | G | 10 x 10.2 | 500 |
| 330.0 | AHA337M35G24T | 115.5 | 0.14 | 0.7 | 250 | G | 10 x 10.2 | 500 |
| 50 Vdc (63 Vdc Surge) | | | | | | | | |
| 0.1 | AHA104M50B12T | 3.0 | 0.12 | 1990.0 | 1 | B | 4 x 5.4 | 2000 |
| 0.2 | AHA224M50B12T | 3.0 | 0.12 | 905.0 | 2 | B | 4 x 5.4 | 2000 |
| 0.3 | AHA334M50B12T | 3.0 | 0.12 | 603.0 | 3 | B | 4 x 5.4 | 2000 |
| 0.5 | AHA474M50B12T | 3.0 | 0.12 | 424.0 | 5 | B | 4 x 5.4 | 2000 |
| 1.0 | AHA105M50B12T | 3.0 | 0.12 | 199.0 | 10 | B | 4 x 5.4 | 2000 |
| 2.2 | AHA225M50B12T | 3.0 | 0.12 | 90.5 | 16 | B | 4 x 5.4 | 2000 |
| 3.3 | AHA335M50B12T | 3.0 | 0.12 | 60.3 | 16 | B | 4 x 5.4 | 2000 |
| 4.7 | AHA475M50C12T | 3.0 | 0.12 | 42.4 | 23 | C | 5 x 5.4 | 1000 |
| 10.0 | AHA106M50D16T | 5.0 | 0.12 | 19.9 | 35 | D | 6.3 x 5.4 | 1000 |
| 22.0 | AHA226M50E16T | 11.0 | 0.12 | 9.0 | 70 | E | 8 x 6.2 | 1000 |
| 33.0 | AHA336M50X16T | 16.5 | 0.12 | 6.0 | 60 | X | 6.3 x 7.9 | 900 |
| 33.0 | AHA336M50E16T | 16.5 | 0.12 | 6.0 | 70 | E | 8 x 6.2 | 1000 |
| 33.0 | AHA336M50F24T | 16.5 | 0.12 | 6.0 | 91 | F | 8 x 10.2 | 500 |
| 47.0 | AHA476M50X16T | 23.5 | 0.12 | 4.2 | 63 | X | 6.3 x 7.9 | 900 |
| 47.0 | AHA476M50F24T | 23.5 | 0.12 | 4.2 | 95 | F | 8 x 10.2 | 500 |
| 47.0 | AHA476M50G24T | 23.5 | 0.12 | 4.2 | 100 | G | 10 x 10.2 | 500 |
| 100.0 | AHA107M50F24T | 50.0 | 0.12 | 2.0 | 110 | F | 8 x 10.2 | 500 |
| 100.0 | AHA107M50G24T | 50.0 | 0.12 | 2.0 | 120 | G | 10 x 10.2 | 500 |
| 220.0 | AHA227M50G24T | 110.0 | 0.12 | 0.9 | 150 | G | 10 x 10.2 | 500 |
| 63 Vdc (75 Vdc Surge) | | | | | | | | |
| 10.0 | AHA106M63E16T | 6.3 | 0.18 | 29.9 | 25 | E | 8 x 6.2 | 1000 |
| 22.0 | AHA226M63E16T | 13.9 | 0.18 | 13.6 | 30 | E | 8 x 6.2 | 1000 |
| 22.0 | AHA226M63F24T | 13.9 | 0.18 | 13.6 | 30 | F | 8 x 10.2 | 500 |
| 33.0 | AHA336M63G24T | 20.8 | 0.18 | 9.0 | 45 | G | 10 x 10.2 | 500 |
| 47.0 | AHA476M63F24T | 29.6 | 0.18 | 6.3 | 50 | F | 8 x 10.2 | 500 |
| 47.0 | AHA476M63G24T | 29.6 | 0.18 | 6.3 | 50 | G | 10 x 10.2 | 500 |
| 100 Vdc (125 Vdc Surge) | | | | | | | | |
| 3.3 | AHA335M2AE16T | 3.3 | 0.18 | 90.5 | 30 | E | 8 x 6.2 | 1000 |
| 4.7 | AHA475M2AE16T | 4.7 | 0.18 | 63.5 | 30 | E | 8 x 6.2 | 1000 |
| 4.7 | AHA475M2AF24T | 4.7 | 0.18 | 63.5 | 50 | F | 8 x 10.2 | 500 |
| 10.0 | AHA106M2AF24T | 10.0 | 0.18 | 29.8 | 55 | F | 8 x 10.2 | 500 |
| 22.0 | AHA226M2AF24T | 22.0 | 0.18 | 13.6 | 55 | F | 8 x 10.2 | 500 |
| 22.0 | AHA226M2AG24T | 22.0 | 0.18 | 13.6 | 60 | G | 10 x 10.2 | 500 |
| 33.0 | AHA336M2AG24T | 33.0 | 0.18 | 9.0 | 65 | G | 10 x 10.2 | 500 |

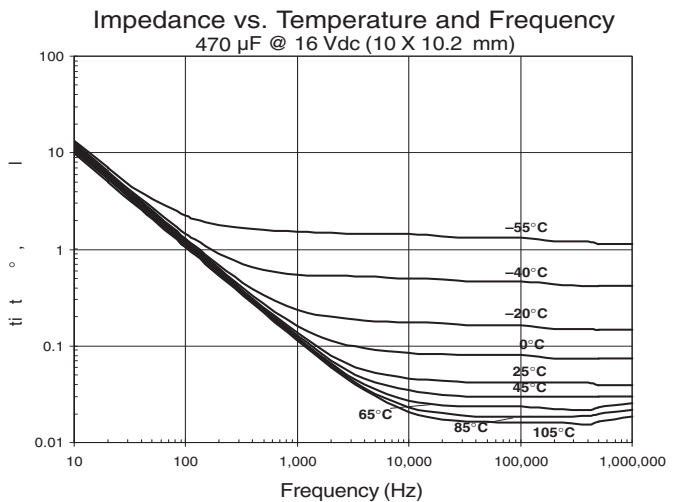
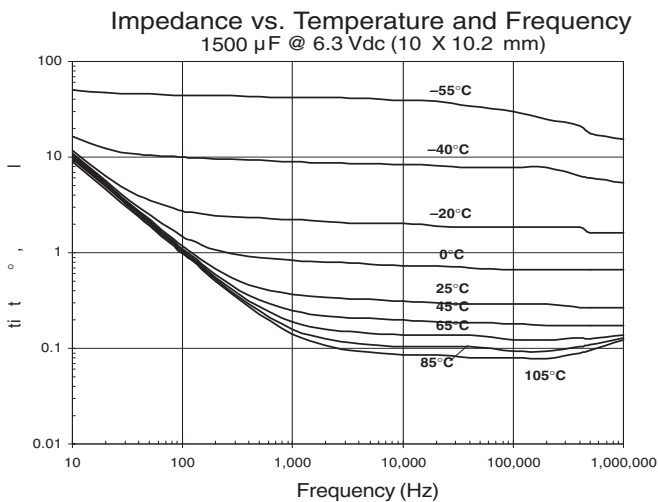
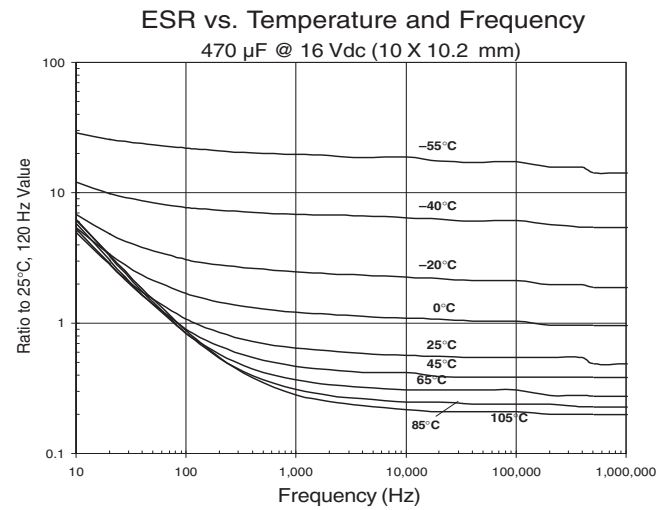
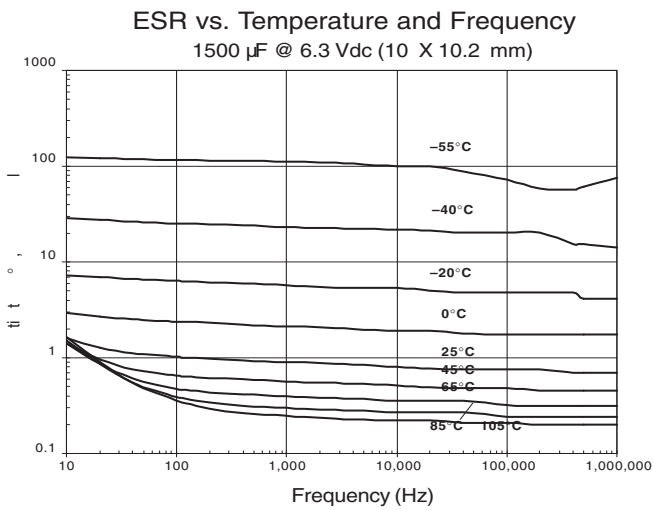
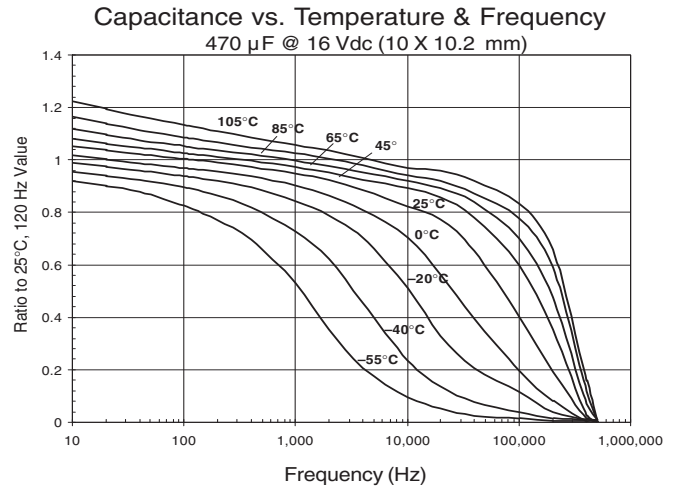
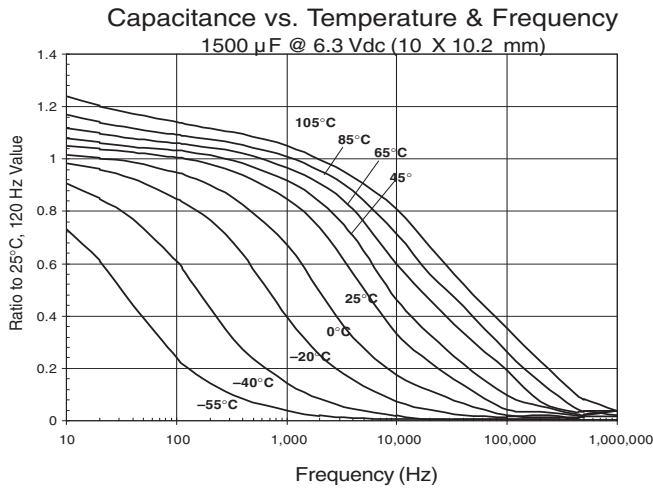
Part Numbering System

| Series | Capacitance | Capacitance | Voltage | Case | Packaging | RoHS |
|--------|-----------------|-------------|--------------------------|-------|-------------------|-----------|
| AHA | 106 | M | 16 | B | 12T | - F |
| | | | | | | |
| Series | Capacitance | Capacitance | Voltage | Case | Packaging | RoHS |
| | 104 = 0.1 µF | Tolerance | 06 = 6.3 Vdc 35 = 35 Vdc | Code | Information | Compliant |
| | 105 = 1.0 µF | M = ±20% | 10 = 10 Vdc 50 = 50 Vdc | B = B | 12 = Carrier Tape | |
| | 106 = 10.0 µF | | 16 = 16 Vdc 63 = 63 Vdc | | Width (mm) | |
| | 107 = 100.0 µF | | 25 = 25 Vdc 2A = 100 Vdc | | T = Tape & Reel | |
| | 108 = 1000.0 µF | | | | B = Bulk | |

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Typical Performance Curves

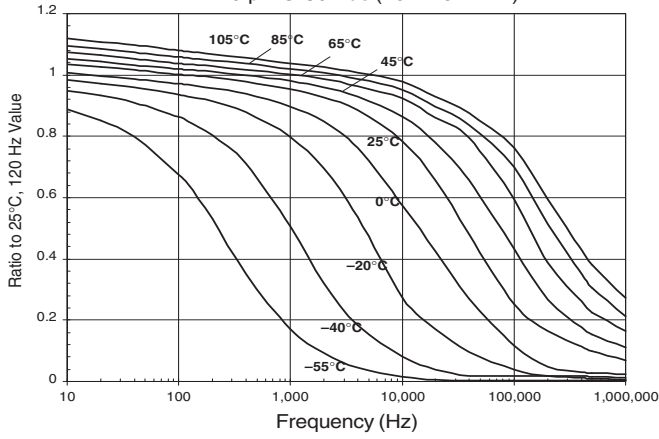


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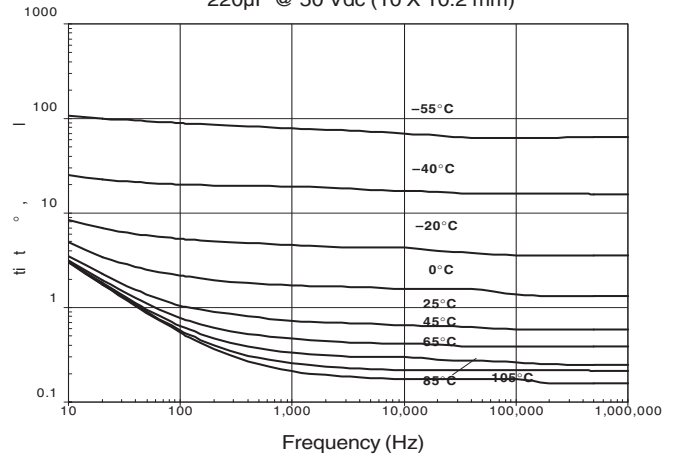
Capacitance vs. Temperature & Frequency

220 μ F @ 50 Vdc (10 X 10.2 mm)



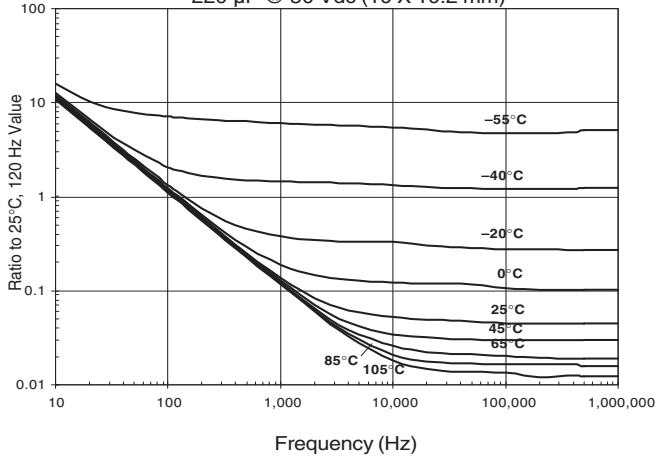
ESR vs. Temperature and Frequency

220 μ F @ 50 Vdc (10 X 10.2 mm)



Impedance vs. Temperature and Frequency

220 μ F @ 50 Vdc (10 X 10.2 mm)



Capacitance Change vs Time

