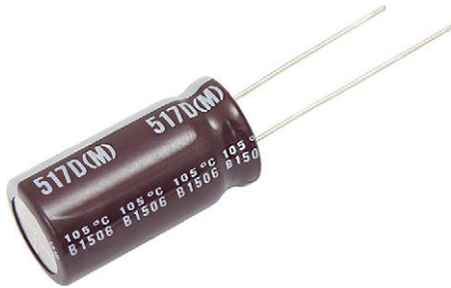




Aluminum Capacitors +105 °C, General Purpose Miniature, Radial Lead



FEATURES

- High CV per case size
- Low cost
- Solvent resistant construction (through 100 WV_{DC})
- Life test to 2000 h at +105 °C
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT

| QUICK REFERENCE DATA | |
|---|--|
| DESCRIPTION | VALUE |
| Nominal case size Ø D x L in mm | 0.197" x 0.433" [5.0 x 11.0] to 0.709" x 1.575" [18.0 x 40.0] |
| Operating temperature | -55 °C to +105 °C (6.3 WV _{DC} to 100 WV _{DC}) -40 °C to +105 °C (160 WV _{DC} to 250 WV _{DC}) |
| Rated capacitance range, C _R | 0.47 µF to 15 000 µF |
| Tolerance on C _R | ± 20 % |
| Rated voltage range, U _R | 6.3 WV _{DC} to 250 WV _{DC} |
| Termination | 2 radial leads |
| Life validation test at 105 °C | 2000 h: Δ CAP ± 20 % from initial measurement. Δ DF 2 x initial specified limit. Δ DCL ≤ initial specified limit. |
| Shelf life at 105 °C | 1000 h: Δ CAP ± 20 % from initial measurement. Δ DF 2 x initial specified limit. Δ DCL ≤ initial specified limit. |
| DC leakage current | Rated voltage for 1 min for 6.3 WV _{DC} to 100 WV _{DC} units: I < 0.03 CV or 4 µA (whichever is greater). Rated voltage for 2 min for 6.3 WV _{DC} to 100 WV _{DC} units: I < 0.04 CV or 3 µA (whichever is greater). Rated voltage for 1 min for 160 WV _{DC} to 250 WV _{DC} units: I < 0.1 CV + 40 µA and CV > 1000; I < 0.04 CV + 100 µA and CV > 1000 |

| RIPPLE CURRENT MULTIPLIERS | | | | | | |
|----------------------------|--------------------|----------|-------------|------------|-------|----------|
| TEMPERATURE | | | | | | |
| AMBIENT TEMPERATURE | | | MULTIPLIERS | | | |
| +70 °C | | | 1.78 | | | |
| +85 °C | | | 1.4 | | | |
| +105 °C | | | 1.0 | | | |
| FREQUENCY (Hz) | | | | | | |
| WV _{DC} | CAP. (µF) | 50 to 60 | 100 to 120 | 300 to 400 | 1 kHz | ≥ 10 kHz |
| 6.3 to 100 | 0 to 47 | 0.75 | 1 | 1.35 | 1.57 | 2.00 |
| | 100 to 470 | 0.80 | 1 | 1.23 | 1.34 | 1.50 |
| | 1000 to 22 000 000 | 0.85 | 1 | 1.10 | 1.13 | 1.15 |
| 160 to 250 | 0.47 to 100 | 0.80 | 1 | 1.25 | 1.40 | 1.60 |

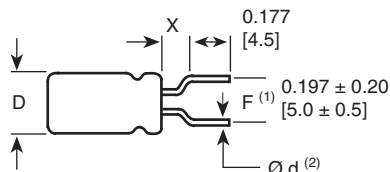
| LOW TEMPERATURE PERFORMANCE | | |
|---|-----------------------|-----------------------|
| MAXIMUM IMPEDANCE RATIO Z ^(T) /Z ^(+20 °C) | | |
| MAXIMUM AT 120 Hz | | |
| RATED VOLTAGE (WV _{DC}) | Z - 25 °C / Z + 20 °C | Z - 40 °C / Z + 20 °C |
| 6.3 | 4.0 | 8.0 |
| 10.0 | 3.0 | 6.0 |
| 16.0 | 2.0 | 4.0 |
| 25.0 to 100.0 | 2.0 | 3.0 |
| 160.0 to 200.0 | 2.0 | 4.0 |
| 250.0 | 4.0 | 6.0 |

| DIMENSIONS in inches [millimeters] | | | | |
|------------------------------------|-----------------------------|----------------|-------------------------|--------------------|
| CASE CODE | NOMINAL CASE SIZE D x L | LEAD SPACING S | NOMINAL LEAD DIAMETER D | TYPICAL WEIGHT (g) |
| JA | 0.197 x 0.433 [5.0 x 11.0] | 0.079 [2.0] | 0.020 [0.50] | 0.44 |
| AA | 0.248 x 0.433 [6.3 x 11.0] | 0.098 [2.5] | 0.020 [0.50] | 0.63 |
| BB | 0.315 x 0.453 [8.0 x 11.5] | 0.138 [3.5] | 0.024 [0.60] | 1.03 |
| CC | 0.394 x 0.492 [10.0 x 12.5] | 0.197 [5.0] | 0.024 [0.60] | 1.53 |
| CD | 0.394 x 0.630 [10.0 x 16.0] | 0.197 [5.0] | 0.024 [0.60] | 1.86 |
| CG | 0.394 x 0.787 [10.0 x 20.0] | 0.197 [5.0] | 0.024 [0.60] | 2.48 |
| DG | 0.492 x 0.787 [12.5 x 20.0] | 0.197 [5.0] | 0.024 [0.60] | 3.98 |
| DK | 0.492 x 0.984 [12.5 x 25.0] | 0.197 [5.0] | 0.024 [0.60] | 5.27 |

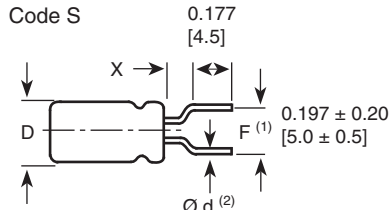
| DIMENSIONS in inches [millimeters] | | | | |
|------------------------------------|-----------------------------|----------------|-------------------------|--------------------|
| CASE CODE | NOMINAL CASE SIZE D x L | LEAD SPACING S | NOMINAL LEAD DIAMETER D | TYPICAL WEIGHT (g) |
| EK | 0.630 x 0.984 [16.0 x 25.0] | 0.295 [7.5] | 0.031 [0.80] | 7.72 |
| EN | 0.630 x 1.24 [16.0 x 31.5] | 0.295 [7.5] | 0.031 [0.80] | 9.90 |
| ER | 0.630 x 1.40 [16.0 x 35.5] | 0.295 [7.5] | 0.031 [0.80] | 11.10 |
| FR | 0.709 x 1.40 [18.0 x 35.5] | 0.295 [7.5] | 0.031 [0.80] | 13.04 |
| FV | 0.709 x 1.575 [18.0 x 40.0] | 0.295 [7.5] | 0.031 [0.80] | 15.74 |

ELECTROLYTIC CAPACITOR WITH CUT OR FORMED LEADS in inches [millimeters]

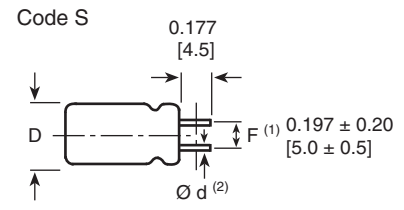
Code F



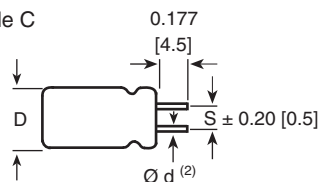
Code S



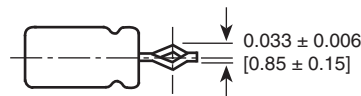
Code S



Code C



Code S



(4, 5, 6.3, 8)

Code S



(10, 12.5, 16, 18)

| DIMENSIONS in inches [millimeters] | | | | |
|------------------------------------|------------------|--------------|-------------|-------------|
| FORMING METHOD | FORMED LEAD CODE | DIMENSIONS | | |
| | | D | S | X (Max.) |
| Formed and cut | F | 0.197 [5.0] | 0.197 [5.0] | 0.059 [1.5] |
| | | 0.248 [6.3] | 0.197 [5.0] | 0.098 [2.5] |
| | | 0.315 [8.0] | 0.197 [5.0] | 0.098 [2.5] |
| Cut | C | 0.394 [10.0] | 0.197 [5.0] | - |
| | | 0.492 [12.5] | 0.197 [5.0] | - |
| | | 0.630 [16.0] | 0.295 [7.5] | - |
| | | 0.709 [18.0] | 0.295 [7.5] | - |
| Snap-in | S | 0.197 [5.0] | 0.197 [5.0] | 0.059 [1.5] |
| | | 0.248 [6.3] | 0.197 [5.0] | 0.059 [1.5] |
| | | 0.315 [8.0] | 0.197 [5.0] | 0.059 [1.5] |
| | | 0.394 [10.0] | 0.197 [5.0] | - |
| | | 0.492 [12.5] | 0.197 [5.0] | - |
| | | 0.630 [16.0] | 0.295 [7.5] | - |
| | | 0.709 [18.0] | 0.295 [7.5] | - |

Notes

• Coding of cut or formed lead to be added to the end of type number in 15th position (with position 14 coded "6")

(1) Formed lead

(2) Lead thickness Ø d depends on capacitor specification



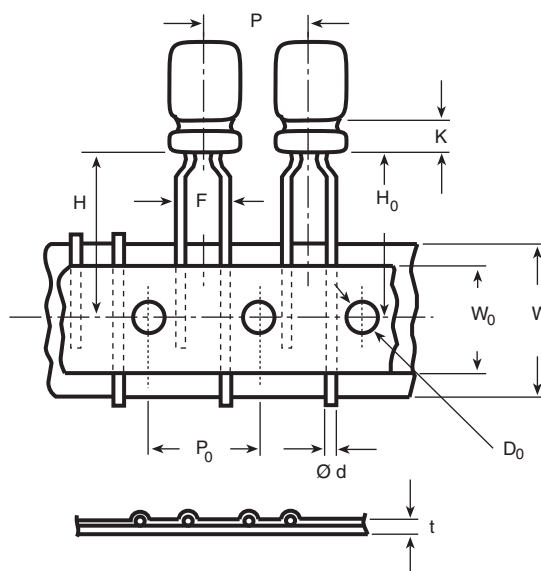
| TAPED CAPACITORS FOR AUTOMATIC INSERTION SYSTEMS in inches [millimeters] | | | | |
|--|---|----------------------------|-------------|---|
| PACKAGING | LEAD CODE 14th AND 15th DIGITS OF PN | SPECIFICATION | LEAD SPACE | CAPACITOR SIZES AVAILABLE |
| | | LEAD STYLE | | |
| Ammo pack | 8P | Formed lead ⁽¹⁾ | 0.197 [5.0] | 0.197 x 0.433 [5.0 x 11.0] to 0.492 x 0.787 [12.5 x 25.0] Case codes JA, AA, BB, CC, CD, DG, DK |

Notes

- The ammo pack code is to be added at the end of type number in the 14th and 15th position as 8P. To specify formed, cut or snap-in leads and for tape and ammo, both positions 14 and 15 of the type number must be filled in with the proper codes
- ⁽¹⁾ Except 0.394" [10.0 mm] and 0.492" [12.5 mm] diameter have straight unformed leads

TAPING SPECIFICATIONS in inches [millimeters]

Formed Lead Type



| DIMENSIONS in inches [millimeters] | | | | | |
|--|----------------------------------|-------------------------------|-------------------------------|------------------------|------------------------|
| ITEM | CASE SIZE (Diameter x Length) | | | | |
| | FORMED LEAD TYPE | | | STRAIGHT LEAD TYPE | |
| | 0.197 x 0.433 [5.0 x 11.0] | 0.248 x 0.433 [6.3 x 11.0] | 0.315 x 0.452 [8.0 x 11.5] | 0.394 [10.0] (Dia.) | 0.492 [12.5] (Dia.) |
| Ø d - Lead-wire diameter | 0.020 [0.5] | 0.020 [0.5] | 0.024 [0.6] | 0.024 [0.6] | 0.024 [0.6] |
| P - Pitch of component | 0.500 [12.7] | 0.500 [12.7] | 0.500 [12.7] | 0.500 [12.7] | 0.591 [15.0] |
| P ₀ - Feed hole pitch | 0.500 [12.7] | 0.500 [12.7] | 0.500 [12.7] | 0.500 [12.7] | 0.591 [15.0] |
| F - Lead-to-lead distance | 0.197 [5.0] | 0.197 [5.0] | 0.197 [5.0] | 0.197 [5.0] | 0.197 [5.0] |
| K - Clinch height | 0.098 [2.5] | 0.098 [2.5] | 0.157 [4.0] | - | - |
| H - Height of component from tape center | 0.728 [18.5] | 0.728 [18.5] | 0.787 [20.0] | 0.728 [18.5] | 0.630 [16.0] |
| H ₀ - Lead-wire clinch height | 0.630 [16.0] | 0.630 [16.0] | 0.630 [16.0] | - | - |
| W - Tape width | 0.709 [18.0] | 0.709 [18.0] | 0.709 [18.0] | 0.709 [18.0] | 0.709 [18.0] |
| W ₀ - Hold down tape width | 0.512 [13.0] | 0.512 [13.0] | 0.512 [13.0] | 0.512 [13.0] | 0.512 [13.0] |
| D ₀ - Feed hole diameter | 0.157 [4.0] | 0.157 [4.0] | 0.157 [4.0] | 0.157 [4.0] | 0.157 [4.0] |
| t - Total tape thickness | 0.028 [0.7] | 0.028 [0.7] | 0.028 [0.7] | 0.028 [0.7] | 0.028 [0.7] |

**ORDERING EXAMPLE**

Electrolytic capacitor 517D series: 517D 107M 6R3 JA 6 A E3

| DESCRIPTION | |
|-------------|---------------------------------------|
| CODE | EXPLANATION |
| 517D | Product type |
| 107 | Capacitance value (100 μ F) |
| M | Tolerance (M = \pm 20 %) |
| 6R3 | Voltage rating at 85 °C (6R3 = 6.3 V) |
| JA | Can size (see Dimensions table) |
| 6 | Packaging (bulk) |
| A | Lead style (uncut) |
| E3 | RoHS compliant indicator |

PACKING AND LEAD STYLES

| | |
|----|---|
| 6A | Bulk; uncut leads |
| 6C | Bulk; cut leads |
| 6F | Bulk; formed and cut leads |
| 6S | Bulk; snap-in leads |
| 8P | Ammopack, (cases codes JA, AA, BB, CC, CD, CG, DG only) |

| ELECTRICAL DATA AND ORDERING INFORMATION | | | | |
|--|-------------------|-----------------------------|--|--------------------------------|
| CAPACITANCE (μ F) | PART NUMBER | NOMINAL CASE SIZE D x L | MAX. RIPPLE AT +105 °C 120 Hz (mA) | MAX. DF AT +20 °C 120 Hz |
| 6.3 WV_{DC} AT +105 °C, SURGE = 8 V | | | | |
| 22.0 | 517D226M6R3JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 34.0 | 0.26 |
| 33.0 | 517D336M6R3JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 50.0 | 0.26 |
| 47.0 | 517D476M6R3JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 65.0 | 0.26 |
| 100.0 | 517D107M6R3JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 100.0 | 0.26 |
| 220.0 | 517D227M6R3AA6AE3 | 0.248 x 0.433 [6.3 x 11.0] | 165.0 | 0.26 |
| 330.0 | 517D337M6R3AA6AE3 | 0.248 x 0.433 [6.3 x 11.0] | 200.0 | 0.26 |
| 470.0 | 517D477M6R3BB6AE3 | 0.315 x 0.453 [8.0 x 11.5] | 280.0 | 0.26 |
| 1000.0 | 517D108M6R3CC6AE3 | 0.394 x 0.492 [10.0 x 12.5] | 470.0 | 0.26 |
| 2200.0 | 517D228M6R3DG6AE3 | 0.492 x 0.787 [12.5 x 20.0] | 930.0 | 0.26 |
| 3300.0 | 517D338M6R3DG6AE3 | 0.492 x 0.787 [12.5 x 20.0] | 1100.0 | 0.26 |
| 4700.0 | 517D478M6R3EK6AE3 | 0.630 x 0.984 [16.0 x 25.0] | 1320.0 | 0.26 |
| 6800.0 | 517D688M6R3EK6AE3 | 0.630 x 0.984 [16.0 x 25.0] | 1490.0 | 0.26 |
| 10 000.0 | 517D109M6R3EN6AE3 | 0.630 x 1.240 [16.0 x 31.5] | 1830.0 | 0.26 |
| 15 000.0 | 517D159M6R3FR6AE3 | 0.709 x 1.398 [18.0 x 35.5] | 2280.0 | 0.26 |
| 10 WV_{DC} AT +105 °C, SURGE = 13 V | | | | |
| 22.0 | 517D226M010JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 45.0 | 0.22 |
| 33.0 | 517D336M010JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 60.0 | 0.22 |
| 47.0 | 517D476M010JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 75.0 | 0.22 |
| 100.0 | 517D107M010JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 110.0 | 0.22 |
| 220.0 | 517D227M010AA6AE3 | 0.248 x 0.433 [6.3 x 11.0] | 180.0 | 0.22 |
| 330.0 | 517D337M010BB6AE3 | 0.315 x 0.453 [8.0 x 11.5] | 255.0 | 0.22 |
| 470.0 | 517D477M010BB6AE3 | 0.315 x 0.453 [8.0 x 11.5] | 305.0 | 0.22 |
| 1000.0 | 517D108M010CD6AE3 | 0.394 x 0.630 [10.0 x 16.0] | 570.0 | 0.22 |
| 2200.0 | 517D228M010DG6AE3 | 0.492 x 0.787 [12.5 x 20.0] | 1010.0 | 0.22 |
| 3300.0 | 517D338M010DK6AE3 | 0.492 x 0.984 [12.5 x 25.0] | 1220.0 | 0.22 |
| 4700.0 | 517D478M010EK6AE3 | 0.630 x 0.984 [16.0 x 25.0] | 1410.0 | 0.22 |
| 6800.0 | 517D688M010EN6AE3 | 0.630 x 1.240 [16.0 x 31.5] | 1610.0 | 0.22 |
| 10 000.0 | 517D109M010FR6AE3 | 0.709 x 1.398 [18.0 x 35.5] | 1980.0 | 0.22 |
| 15 000.0 | 517D159M010FV6AE3 | 0.709 x 1.575 [18.0 x 40.0] | 2470.0 | 0.22 |



| ELECTRICAL DATA AND ORDERING INFORMATION | | | | |
|--|--------------------|------------------------------------|---|---|
| CAPACITANCE (μF) | PART NUMBER | NOMINAL CASE SIZE D x L | MAX. RIPPLE AT +105 °C 120 Hz (mA) | MAX. DF AT +20 °C 120 Hz |
| 16 WV_{DC} AT +105 °C, SURGE = 20 V | | | | |
| 10.0 | 517D106M016JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 35.0 | 0.18 |
| 22.0 | 517D226M016JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 55.0 | 0.18 |
| 33.0 | 517D336M016JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 70.0 | 0.18 |
| 47.0 | 517D476M016JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 85.0 | 0.18 |
| 100.0 | 517D107M016AA6AE3 | 0.248 x 0.433 [6.3 x 11.0] | 135.0 | 0.18 |
| 220.0 | 517D227M016BB6AE3 | 0.315 x 0.453 [8.0 x 11.5] | 235.0 | 0.18 |
| 330.0 | 517D337M016BB6AE3 | 0.315 x 0.453 [8.0 x 11.5] | 285.0 | 0.18 |
| 470.0 | 517D477M016CC6AE3 | 0.394 x .0492 [10.0 x 12.5] | 395.0 | 0.18 |
| 1000.0 | 517D108M016CG6AE3 | 0.394 x 0.787 [10.0 x 20.0] | 700.0 | 0.18 |
| 2200.0 | 517D228M016DK6AE3 | 0.492 x 0.984 [12.5 x 25.0] | 1150.0 | 0.18 |
| 3300.0 | 517D338M016EK6AE3 | 0.630 x 0.984 [16.0 x 25.0] | 1350.0 | 0.18 |
| 4700.0 | 517D478M016EN6AE3 | 0.630 x 1.240 [16.0 x 31.5] | 1560.0 | 0.18 |
| 6800.0 | 517D688M016FR6AE3 | 0.709 x 1.398 [18.0 x 35.5] | 1750.0 | 0.18 |
| 10 000.0 | 517D109M016FV6AE3 | 0.709 x 1.575 [18.0 x 40.0] | 2170.0 | 0.18 |
| 25 WV_{DC} AT +105 °C, SURGE = 32 V | | | | |
| 4.7 | 517D475M025JA6AE3 | 0.197 x .0433 [5.0 x 11.0] | 24.0 | 0.16 |
| 10.0 | 517D106M025JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 39.0 | 0.16 |
| 22.0 | 517D226M025JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 60.0 | 0.16 |
| 33.0 | 517D336M025JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 75.0 | 0.16 |
| 47.0 | 517D476M025JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 90.0 | 0.16 |
| 100.0 | 517D107M025AA6AE3 | 0.248 x 0.433 [6.3 x 11.0] | 145.0 | 0.16 |
| 220.0 | 517D227M025BB6AE3 | 0.315 x 0.453 [8.0 x 11.5] | 250.0 | 0.16 |
| 330.0 | 517D337M025CC6AE3 | 0.394 x 0.492 [10.0 x 12.5] | 355.0 | 0.16 |
| 470.0 | 517D477M025CD6AE3 | 0.394 x 0.630 [10.0 x 16.0] | 470.0 | 0.16 |
| 1000.0 | 517D108M025DG6AE3 | 0.492 x 0.787 [12.5 x 20.0] | 855.0 | 0.16 |
| 2200.0 | 517D228M025EK6AE3 | 0.630 x 0.984 [16.0 x 25.0] | 1230.0 | 0.16 |
| 3300.0 | 517D338M025EN6AE3 | 0.630 x 1.240 [16.0 x 31.5] | 1450.0 | 0.16 |
| 4700.0 | 517D478M025FR6AE3 | 0.709 x 1.398 [18.0 x 35.5] | 1660.0 | 0.16 |
| 35 WV_{DC} AT +105 °C, SURGE = 44 V | | | | |
| 4.7 | 517D475M035JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 27.0 | 0.13 |
| 10.0 | 517D106M035JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 44.0 | 0.13 |
| 22.0 | 517D226M035JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 65.0 | 0.13 |
| 33.0 | 517D336M035JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 85.0 | 0.13 |
| 47.0 | 517D476M035AA6AE3 | 0.248 x 0.433 [6.3 x 11.0] | 115.0 | 0.13 |
| 100.0 | 517D107M035BB6AE3 | 0.315 x 0.453 [8.0 x 11.5] | 190.0 | 0.13 |
| 220.0 | 517D227M035CC6AE3 | 0.394 x 0.492 [10.0 x 12.5] | 325.0 | 0.13 |
| 330.0 | 517D337M035CD6AE3 | 0.394 x 0.630 [10.0 x 16.0] | 440.0 | 0.13 |
| 470.0 | 517D477M035CG6AE3 | 0.394 x 0.787 [10.0 x 20.0] | 580.0 | 0.13 |
| 1000.0 | 517D108M035DK6AE3 | 0.492 x 0.984 [12.5 x 25.0] | 995.0 | 0.13 |
| 2200.0 | 517D228M035EN6AE3 | 0.630 x 1.240 [16.0 x 31.5] | 1450.0 | 0.13 |
| 3300.0 | 517D338M035FR6AE3 | 0.709 x 1.398 [18.0 x 35.5] | 1660.0 | 0.13 |
| 4700.0 | 517D478M035FV6AE3 | 0.709 x 1.575 [18.0 x 40.0] | 2030.0 | 0.13 |



| ELECTRICAL DATA AND ORDERING INFORMATION | | | | |
|--|--------------------|------------------------------------|---|---|
| CAPACITANCE (μF) | PART NUMBER | NOMINAL CASE SIZE D x L | MAX. RIPPLE AT +105 °C 120 Hz (mA) | MAX. DF AT +20 °C 120 Hz |
| 50 WV_{DC} AT +105 °C, SURGE = 63 V | | | | |
| 0.47 | 517D474M050JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 7.0 | 0.10 |
| 1.0 | 517D105M050JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 12.0 | 0.10 |
| 2.2 | 517D225M050JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 18.0 | 0.10 |
| 3.3 | 517D335M050JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 25.0 | 0.10 |
| 4.7 | 517D475M050JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 30.0 | 0.10 |
| 10.0 | 517D106M050JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 50.0 | 0.10 |
| 22.0 | 517D226M050JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 75.0 | 0.10 |
| 33.0 | 517D336M050M6AE3 | 0.248 x 0.433 [6.3 x 11.0] | 105.0 | 0.10 |
| 47.0 | 517D476M050AA6AE3 | 0.248 x 0.433 [6.3 x 11.0] | 125.0 | 0.10 |
| 100.0 | 517D107M050BB6AE3 | 0.315 x 0.453 [8.0 x 11.5] | 210.0 | 0.10 |
| 220.0 | 517D227M050CD6AE3 | 0.394 x 0.630 [10.0 x 16.0] | 400.0 | 0.10 |
| 330.0 | 517D337M050CG6AE3 | 0.394 x 0.787 [10.0 x 20.0] | 535.0 | 0.10 |
| 470.0 | 517D477M050DG6AE3 | 0.492 x 0.787 [12.5 x 20.0] | 730.0 | 0.10 |
| 1000.0 | 517D108M050EK6AE3 | 0.630 x 0.984 [16.0 x 25.0] | 1110.0 | 0.10 |
| 2200.0 | 517D228M050FR6AE3 | 0.709 x 1.398 [18.0 x 35.5] | 1530.0 | 0.10 |
| 63 WV_{DC} AT +105 °C, SURGE = 79 V | | | | |
| 4.7 | 517D475M063JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 34.0 | 0.09 |
| 10.0 | 517D106M063JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 55.0 | 0.09 |
| 22.0 | 517D226M063AA6AE3 | 0.248 x 0.433 [6.3 x 11.0] | 90.0 | 0.09 |
| 33.0 | 517D336M063AA6AE3 | 0.248 x 0.433 [6.3 x 11.0] | 110.0 | 0.09 |
| 47.0 | 517D476M063BB6AE3 | 0.315 x 0.453 [8.0 x 11.5] | 155.0 | 0.09 |
| 100.0 | 517D107M063CC6AE3 | 0.394 x .0492 [10.0 x 12.5] | 260.0 | 0.09 |
| 220.0 | 517D227M063CG6AE3 | 0.394 x 0.787 [10.0 x 20.0] | 465.0 | 0.09 |
| 330.0 | 517D337M063DG6AE3 | 0.492 x 0.787 [12.5 x 20.0] | 650.0 | 0.09 |
| 470.0 | 517D477M063DK6AE3 | 0.492 x 0.984 [12.5 x 25.0] | 800.0 | 0.09 |
| 1000.0 | 517D108M063EN6AE3 | 0.630 x 1.240 [16.0 x 31.5] | 1200.0 | 0.09 |
| 2200.0 | 517D228M063FV6AE3 | 0.709 x 1.575 [18.0 x 40.0] | 1840.0 | 0.09 |
| 100 WV_{DC} AT +105 °C, SURGE = 125 V | | | | |
| 0.47 | 517D474M100JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 10.0 | 0.08 |
| 1.0 | 517D105M100JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 15.0 | 0.08 |
| 2.2 | 517D225M100JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 22.0 | 0.08 |
| 3.3 | 517D335M100JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 29.0 | 0.08 |
| 4.7 | 517D475M100JA6AE3 | 0.197 x 0.433 [5.0 x 11.0] | 37.0 | 0.08 |
| 10.0 | 517D106M100AA6AE3 | 0.248 x 0.433 [6.3 x 11.0] | 65.0 | 0.08 |
| 22.0 | 517D226M100BB6AE3 | 0.315 x 0.453 [8.0 x 11.5] | 115.0 | 0.08 |
| 33.0 | 517D336M100CC6AE3 | 0.394 x 0.492 [10.0 x 12.5] | 160.0 | 0.08 |
| 47.0 | 517D476M100CD6AE3 | 0.394 x 0.630 [10.0 x 16.0] | 220.0 | 0.08 |
| 100.0 | 517D107M100DG6AE3 | 0.492 x 0.787 [12.5 x 20.0] | 385.0 | 0.08 |
| 220.0 | 517D227M100EK6AE3 | 0.630 x 0.984 [16.0 x 25.0] | 590.0 | 0.08 |
| 330.0 | 517D337M100EK6AE3 | 0.630 x 0.984 [16.0 x 25.0] | 720.0 | 0.08 |
| 470.0 | 517D477M100EN6AE3 | 0.630 x 1.240 [16.0 x 31.5] | 875.0 | 0.08 |
| 1000.0 | 517D108M100FV6AE3 | 0.709 x 1.575 [18.0 x 40.0] | 1320.0 | 0.08 |



| ELECTRICAL DATA AND ORDERING INFORMATION | | | | |
|--|--------------------|------------------------------------|---|---|
| CAPACITANCE (μF) | PART NUMBER | NOMINAL CASE SIZE D x L | MAX. RIPPLE AT +105 °C 120 Hz (mA) | MAX. DF AT +20 °C 120 Hz |
| 160 WV_{DC} AT +105 °C, SURGE = 200 V | | | | |
| 0.47 | 517D474M160AA6AE3 | 0.248 x 0.433 [6.3 x 11.0] | 12.0 | 0.15 |
| 1.0 | 517D105M160AA6AE3 | 0.248 x 0.433 [6.3 x 11.0] | 17.0 | 0.15 |
| 2.2 | 517D225M160AA6AE3 | 0.248 x 0.433 [6.3 x 11.0] | 25.0 | 0.15 |
| 3.3 | 517D335M160BB6AE3 | 0.315 x 0.453 [8.0 x 11.5] | 36.0 | 0.15 |
| 4.7 | 517D475M160BB6AE3 | 0.315 x 0.453 [8.0 x 11.5] | 43.0 | 0.15 |
| 10.0 | 517D106M160CC6AE3 | 0.394 x 0.492 [10.0 x 12.5] | 70.0 | 0.15 |
| 22.0 | 517D226M160CG6AE3 | 0.394 x 0.787 [10.0 x 20.0] | 130.0 | 0.15 |
| 33.0 | 517D336M160DG6AE3 | 0.492 x 0.787 [12.5 x 20.0] | 180.0 | 0.15 |
| 47.0 | 517D476M160DK6AE3 | 0.492 x 0.984 [12.5 x 25.0] | 220.0 | 0.15 |
| 100.0 | 517D107M160EK6AE3 | 0.630 x 0.984 [16.0 x 25.0] | 330.0 | 0.15 |
| 220.0 | 517D227M160FR6AE3 | 0.709 x 1.398 [18.0 x 35.5] | 500.0 | 0.15 |
| 200 WV_{DC} AT +105 °C, SURGE = 250 V | | | | |
| 0.47 | 517D474M200AA6AE3 | 0.248 x 0.433 [6.3 x 11.0] | 12.0 | 0.15 |
| 1.0 | 517D105M200AA6AE3 | 0.248 x 0.433 [6.3 x 11.0] | 17.0 | 0.15 |
| 2.2 | 517D225M200AA6AE3 | 0.248 x 0.433 [6.3 x 11.0] | 25.0 | 0.15 |
| 3.3 | 517D335M200BB6AE3 | 0.315 x 0.453 [8.0 x 11.5] | 36.0 | 0.15 |
| 4.7 | 517D475M200CC6AE3 | 0.394 x 0.492 [10.0 x 12.5] | 50.0 | 0.15 |
| 10.0 | 517D106M200CD6AE3 | 0.394 x 0.630 [10.0 x 16.0] | 80.0 | 0.15 |
| 22.0 | 517D226M200CG6AE3 | 0.394 x 0.787 [10.0 x 20.0] | 140.0 | 0.15 |
| 33.0 | 517D336M200DK6AE3 | 0.492 x 0.984 [12.5 x 25.0] | 198.0 | 0.15 |
| 47.0 | 517D476M200DK6AE3 | 0.492 x 0.984 [12.5 x 25.0] | 220.0 | 0.15 |
| 100.0 | 517D107M200EN6AE3 | 0.630 x 1.240 [16.0 x 31.5] | 335.0 | 0.15 |
| 220.0 | 517D227M200FV6AE3 | 0.709 x 1.575 [18.0 x 40.0] | 515.0 | 0.15 |
| 250 WV_{DC} AT +105 °C, SURGE = 300 V | | | | |
| 0.47 | 517D474M250AA6AE3 | 0.248 x 0.433 [6.3 x 11.0] | 12.0 | 0.15 |
| 1.0 | 517D105M250AA6AE3 | 0.248 x 0.433 [6.3 x 11.0] | 17.0 | 0.15 |
| 2.2 | 517D225M250BB6AE3 | 0.315 x 0.453 [8.0 x 11.5] | 29.0 | 0.15 |
| 3.3 | 517D335M250CC6AE3 | 0.394 x 0.492 [10.0 x 12.5] | 42.0 | 0.15 |
| 4.7 | 517D475M250CC6AE3 | 0.394 x 0.492 [10.0 x 12.5] | 50.0 | 0.15 |
| 10.0 | 517D106M250CG6AE3 | 0.394 x 0.787 [10.0 x 20.0] | 88.0 | 0.15 |
| 22.0 | 517D226M250DK6AE3 | 0.492 x 0.984 [12.5 x 25.0] | 155.0 | 0.15 |
| 33.0 | 517D336M250DK6AE3 | 0.492 x 0.984 [12.5 x 25.0] | 190.0 | 0.15 |
| 47.0 | 517D476M250EK6AE3 | 0.630 x 0.984 [16.0 x 25.0] | 230.0 | 0.15 |
| 100.0 | 517D107M250FR6AE3 | 0.709 x 1.398 [18.0 x 35.5] | 340.0 | 0.15 |

Statements about product lifetime are based on calculations and internal testing. They should only be interpreted as estimations. Also due to external factors, the lifetime in the field application may deviate from the calculated lifetime. In general, nothing stated herein shall be construed as a guarantee of durability.



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