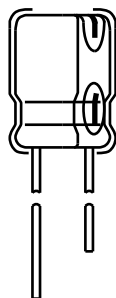


# Aluminum Capacitors + 85 °C, Miniature, Radial Lead



## FEATURES

- High CV per case size
- Low cost
- Low profile ratings
- Material categorization:  
For definitions of compliance please see  
[www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

| QUICK REFERENCE DATA                    |                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DESCRIPTION                             | VALUE                                                                                                                                                                                                                                                                                                                                                            |
| Nominal case size<br>Ø D x L in mm      | 0.157" x 0.276" [4.0 x 7.0]<br>to 0.709" x 1.575" [18.0 x 40.0]                                                                                                                                                                                                                                                                                                  |
| Operating temperature                   | - 40 °C to + 85 °C<br>- 25 °C to + 85 °C for 315 WV <sub>DC</sub><br>to 450 WV <sub>DC</sub> units                                                                                                                                                                                                                                                               |
| Rated capacitance range, C <sub>R</sub> | 0.1 µF to 18 000 µF                                                                                                                                                                                                                                                                                                                                              |
| Tolerance on C <sub>R</sub>             | ± 20 %                                                                                                                                                                                                                                                                                                                                                           |
| Rated voltage range, U <sub>R</sub>     | 6.3 WV <sub>DC</sub> to 450 WV <sub>DC</sub>                                                                                                                                                                                                                                                                                                                     |
| Termination                             | 2 radial leads                                                                                                                                                                                                                                                                                                                                                   |
| Life validation test at 85 °C           | 2000 h: ΔCAP ± 20 % from initial measurement.<br>ΔDF 2 x initial specified limit.<br>ΔDCL ≤ initial specified limit.                                                                                                                                                                                                                                             |
| Shelf life at 85 °C                     | 1000 h: ΔCAP ± 20 % from initial measurement.<br>ΔDF 2 x initial specified limit.<br>ΔDCL ≤ initial specified limit.                                                                                                                                                                                                                                             |
| DC leakage current                      | Rated voltage for 1 and 2 min for<br>6.3 WV <sub>DC</sub> to 100 WV <sub>DC</sub> units:<br>I < 0.03 CV or 4 µA<br>(whichever is greater).<br>I < 0.04 CV or 3 µA<br>(whichever is greater).<br>Rated voltage for 1 min for<br>160 WV <sub>DC</sub> to 450 WV <sub>DC</sub> units:<br>I < 0.1 CV + 40 µA and<br>CV ≤ 1000; I < 0.04 CV + 100 µA<br>and CV > 1000 |

| RIPPLE CURRENT MULTIPLIERS |                |             |               |               |       |          |
|----------------------------|----------------|-------------|---------------|---------------|-------|----------|
| TEMPERATURE                |                |             |               |               |       |          |
| AMBIENT TEMPERATURE        |                |             | MULTIPLIERS   |               |       |          |
| ≤ + 70 °C                  |                |             | 1.27          |               |       |          |
| + 85 °C                    |                |             | 1.0           |               |       |          |
| FREQUENCY (Hz)             |                |             |               |               |       |          |
| WV <sub>DC</sub>           | CAP.<br>(μF)   | 50 TO<br>60 | 100 TO<br>120 | 300 TO<br>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 18 000 | 0.85        | 1             | 1.10          | 1.13  | 1.15     |
| 160 to 450                 | 0.47 to 220    | 0.80        | 1             | 1.25          | 1.40  | 1.60     |

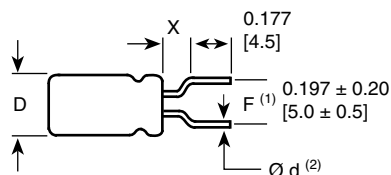
| LOW TEMPERATURE PERFORMANCE                                               |                     |                     |
|---------------------------------------------------------------------------|---------------------|---------------------|
| MAXIMUM IMPEDANCE RATIO Z <sup>(T)</sup> /Z(+ 20 °C)<br>MAXIMUM AT 120 Hz |                     |                     |
| RATED VOLTAGE<br>(WV <sub>DC</sub> )                                      | Z - 25 °C/Z + 20 °C | Z - 40 °C/Z + 20 °C |
| 6.3                                                                       | 4.0                 | 10.0                |
| 10.0                                                                      | 3.0                 | 8.0                 |
| 16.0                                                                      | 2.0                 | 6.0                 |
| 25.0                                                                      | 2.0                 | 4.0                 |
| 35.0 to 100.0                                                             | 2.0                 | 3.0                 |
| 160.0 to 200.0                                                            | 3.0                 | 4.0                 |
| 250.0                                                                     | 3.0                 | 6.0                 |
| 315.0 to 400.0                                                            | 6.0                 | -                   |
| 450.0                                                                     | 15.0                | -                   |

| DIMENSIONS in inches [millimeters] |                            |                   |                            |                       |
|------------------------------------|----------------------------|-------------------|----------------------------|-----------------------|
| CASE CODE                          | NOMINAL CASE SIZE<br>D x L | LEAD SPACING<br>S | NOMINAL LEAD DIAMETER<br>D | TYPICAL WEIGHT<br>(g) |
| HW                                 | 0.157 x 0.276 [4.0 x 7.0]  | 0.059 [1.5]       | 0.018 [0.45]               | 0.20                  |
| JW                                 | 0.197 x 0.276 [5.0 x 7.0]  | 0.079 [2.0]       | 0.018 [0.45]               | 0.30                  |
| AW                                 | 0.248 x 0.276 [6.3 x 7.0]  | 0.098 [2.5]       | 0.018 [0.45]               | 0.40                  |
| 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]               | 0.60                  |
| BB                                 | 0.315 x 0.453 [8.0 x 11.5] | 0.138 [3.5]       | 0.024 [0.60]               | 0.95                  |

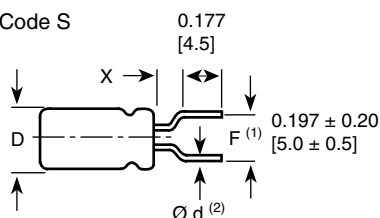
| DIMENSIONS in inches [millimeters] |                             |                   |                            |                       |
|------------------------------------|-----------------------------|-------------------|----------------------------|-----------------------|
| CASE CODE                          | NOMINAL CASE SIZE<br>D x L  | LEAD SPACING<br>S | NOMINAL LEAD DIAMETER<br>D | TYPICAL WEIGHT<br>(g) |
| CC                                 | 0.394 x 0.492 [10.0 x 12.5] | 0.197 [5.0]       | 0.024 [0.60]               | 1.48                  |
| CD                                 | 0.394 x 0.630 [10.0 x 16.0] | 0.197 [5.0]       | 0.024 [0.60]               | 1.75                  |
| CG                                 | 0.394 x 0.787 [10.0 x 20.0] | 0.197 [5.0]       | 0.024 [0.60]               | 2.37                  |
| DG                                 | 0.492 x 0.787 [12.5 x 20.0] | 0.197 [5.0]       | 0.024 [0.60]               | 3.73                  |
| DK                                 | 0.492 x 0.984 [12.5 x 25.0] | 0.197 [5.0]       | 0.024 [0.60]               | 4.85                  |
| EK                                 | 0.630 x 0.984 [16.0 x 25.0] | 0.295 [7.5]       | 0.031 [0.80]               | 7.08                  |
| EN                                 | 0.630 x 1.240 [16.0 x 31.5] | 0.295 [7.5]       | 0.031 [0.80]               | 8.94                  |
| ER                                 | 0.630 x 1.398 [16.0 x 35.5] | 0.295 [7.5]       | 0.031 [0.80]               | 10.50                 |
| FR                                 | 0.709 x 1.398 [18.0 x 35.5] | 0.295 [7.5]       | 0.031 [0.80]               | 12.53                 |
| FV                                 | 0.709 x 1.575 [18.0 x 40.0] | 0.295 [7.5]       | 0.031 [0.80]               | 15.71                 |

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

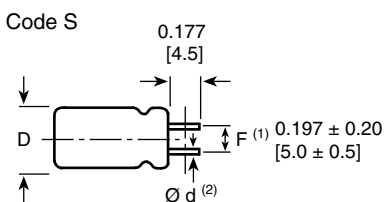
Code F



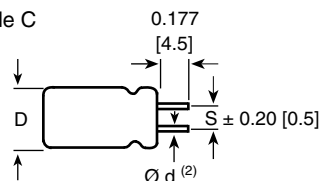
Code S



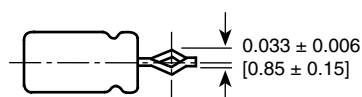
Code S



Code C

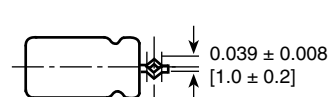


Code S



(4, 5, 6.3, 8)

Code S



(10, 12.5, 16, 18)

| DIMENSIONS in inches [millimeters] |                  |              |             |             |                  |             |
|------------------------------------|------------------|--------------|-------------|-------------|------------------|-------------|
| FORMING METHOD                     | FORMED LEAD CODE | DIMENSIONS   |             |             |                  |             |
|                                    |                  | D            | L.S.        | P           | e <sup>(3)</sup> | X (Max.)    |
| Formed and cut                     | F                | 0.157 [4.0]  | 0.197 [5.0] | 0.059 [1.5] | -                | 0.059 [1.5] |
|                                    |                  | 0.197 [5.0]  | 0.197 [5.0] | 0.079 [2.0] | -                | 0.059 [1.5] |
|                                    |                  | 0.248 [6.3]  | 0.197 [5.0] | 0.098 [2.5] | -                | 0.098 [2.5] |
|                                    |                  | 0.315 [8.0]  | 0.197 [5.0] | 0.138 [3.5] | -                | 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                | 0.157 [4.0]  | 0.197 [5.0] | 0.059 [1.5] | 0.043 [1.1]      | 0.059 [1.5] |
|                                    |                  | 0.197 [5.0]  | 0.197 [5.0] | 0.079 [2.0] | 0.043 [1.1]      | 0.059 [1.5] |
|                                    |                  | 0.248 [6.3]  | 0.197 [5.0] | 0.098 [2.5] | 0.043 [1.1]      | 0.059 [1.5] |
|                                    |                  | 0.315 [8.0]  | 0.197 [5.0] | 0.138 [3.5] | 0.051 [1.3]      | 0.059 [1.5] |
|                                    |                  | 0.394 [10.0] | 0.197 [5.0] | -           | 0.051 [1.3]      | -           |
|                                    |                  | 0.492 [12.5] | 0.197 [5.0] | -           | 0.051 [1.3]      | -           |
|                                    |                  | 0.630 [16.0] | 0.295 [7.5] | -           | 0.051 [1.3]      | -           |
|                                    |                  | 0.709 [18.0] | 0.295 [7.5] | -           | 0.051 [1.3]      | -           |

**Notes**

- Coding of cut or formed lead to be added to the end of type number in 15<sup>th</sup> position (with position 14 coded "6").
- (1) Formed lead.
- (2) Lead thickness Ø d depends on capacitor specification.
- (3) Lead protrusion at bottom of tape.

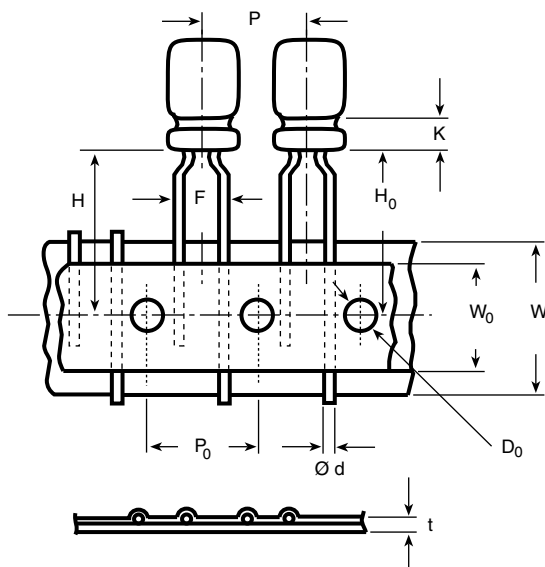
| TAPED CAPACITORS FOR AUTOMATIC INSERTION SYSTEMS in inches [millimeters] |                                                                    |                            |             |               |                                                         |
|--------------------------------------------------------------------------|--------------------------------------------------------------------|----------------------------|-------------|---------------|---------------------------------------------------------|
| PACKAGING                                                                | LEAD CODE<br>14 <sup>th</sup> AND 15 <sup>th</sup><br>DIGITS OF PN | SPECIFICATION              |             | LEAD<br>SPACE | CAPACITOR SIZES AVAILABLE                               |
|                                                                          |                                                                    | LEAD STYLE                 | +<br>LEADER |               |                                                         |
| Ammo pack                                                                | 8P                                                                 | Formed lead <sup>(1)</sup> | -           | 0.197 [5.0]   | 0.157 x 0.276 - 0.492 x 0.787 [4.0 x 7.0 - 12.5 x 20.0] |
|                                                                          |                                                                    |                            |             |               | Case codes HW, JW, AW, JA, AA, BB, CC, CD, DG           |

**Notes**

- The ammo pack code is to be added at the end of part number in the 14<sup>th</sup> and 15<sup>th</sup> 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.
- <sup>(1)</sup> 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<br>(Diameter x Length) |                              |                               |                              |                               |                               |                        |                        |
|                                          | FORMED LEAD TYPE                 |                              |                               |                              |                               |                               | STRAIGHT LEAD TYPE     |                        |
|                                          | 0.157 x 0.276<br>[4.0 x 7.0]     | 0.197 x 0.276<br>[5.0 x 7.0] | 0.197 x 0.433<br>[5.0 x 11.0] | 0.248 x 0.276<br>[6.3 x 7.0] | 0.248 x 0.433<br>[6.3 x 11.0] | 0.315 x 0.453<br>[8.0 x 11.5] | 0.394 [10.0]<br>(Dia.) | 0.492 [12.5]<br>(Dia.) |
| Ø d - Lead-wire diameter                 | 0.018 [0.45]                     | 0.018 [0.45]                 | 0.020 [0.5]                   | 0.018 [0.45]                 | 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]                 | 0.500 [12.7]                  | 0.500 [12.7]                  | 0.500 [12.7]           | 0.591 [15.0]           |
| P <sub>0</sub> - Feed hole pitch         | 0.500 [12.7]                     | 0.500 [12.7]                 | 0.500 [12.7]                  | 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]                   | 0.197 [5.0]                   | 0.197 [5.0]            | 0.197 [5.0]            |
| K - Clinch height                        | 0.059 [1.5]                      | 0.059 [1.5]                  | 0.098 [2.5]                   | 0.059 [1.5]                  | 0.098 [2.5]                   | 0.157 [4.0]                   | -                      | -                      |
| H - Height of component                  | 0.689 [17.5]                     | 0.689 [17.5]                 | 0.728 [18.5]                  | 0.689 [17.5]                 | 0.728 [18.5]                  | 0.787 [20.0]                  | 0.728 [18.5]           | 0.630 [16.0]           |
| H <sub>0</sub> - Lead-wire clinch height | 0.630 [16.0]                     | 0.630 [16.0]                 | 0.630 [16.0]                  | 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]                  | 0.709 [18.0]                  | 0.709 [18.0]           | 0.709 [18.0]           |
| W <sub>0</sub> - Hold down tape width    | 0.512 [13.0]                     | 0.512 [13.0]                 | 0.512 [13.0]                  | 0.512 [13.0]                 | 0.512 [13.0]                  | 0.512 [13.0]                  | 0.512 [13.0]           | 0.512 [13.0]           |
| D <sub>0</sub> - Feed hole diameter      | 0.157 [4.0]                      | 0.157 [4.0]                  | 0.157 [4.0]                   | 0.157 [4.0]                  | 0.157 [4.0]                   | 0.157 [4.0]                   | 0.157 [4.0]            | 0.157 [4.0]            |
| t - Total tape thickness                 | 0.157 [4.0]                      | 0.157 [4.0]                  | 0.157 [4.0]                   | 0.157 [4.0]                  | 0.157 [4.0]                   | 0.157 [4.0]                   | 0.157 [4.0]            | 0.157 [4.0]            |

**ORDERING EXAMPLE**

Electrolytic capacitor 515D series:

515D 107 M 6R3 JA 6 A E3

| DESCRIPTION |                                       |
|-------------|---------------------------------------|
| CODE        | EXPLANATION                           |
| 515D        | Product type                          |
| 107         | Capacitance value (100 $\mu$ 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 (case codes HW, JW, AW, JA, AA, BB, CC, CD, CG, DG only) |

| ELECTRICAL DATA AND ORDERING INFORMATION           |                   |                             |                                          |                                 |
|----------------------------------------------------|-------------------|-----------------------------|------------------------------------------|---------------------------------|
| CAPACITANCE<br>( $\mu$ F)                          | PART NUMBER       | NOMINAL CASE SIZE<br>D x L  | MAX. RIPPLE<br>AT + 85 °C<br>120 Hz (mA) | MAX. DF<br>AT + 20 °C<br>120 Hz |
| <b>6.3 WV<sub>DC</sub> AT + 85 °C, SURGE = 8 V</b> |                   |                             |                                          |                                 |
| 22.0                                               | 515D226M6R3JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 34.0                                     | 0.24                            |
| 33.0                                               | 515D336M6R3JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 42.0                                     | 0.24                            |
| 47.0                                               | 515D476M6R3JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 50.0                                     | 0.24                            |
| 100.0                                              | 515D107M6R3JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 77.0                                     | 0.24                            |
| 220.0                                              | 515D227M6R3AA6AE3 | 0.248 x 0.433 [6.3 x 11.0]  | 215.0                                    | 0.24                            |
| 330.0                                              | 515D337M6R3AA6AE3 | 0.248 x 0.433 [6.3 x 11.0]  | 265.0                                    | 0.24                            |
| 470.0                                              | 515D477M6R3BB6AE3 | 0.315 x 0.453 [8.0 x 11.5]  | 360.0                                    | 0.24                            |
| 1000.0                                             | 515D108M6R3CC6AE3 | 0.394 x 0.492 [10.0 x 12.5] | 570.0                                    | 0.24                            |
| 2200.0                                             | 515D228M6R3DG6AE3 | 0.492 x 0.787 [12.5 x 20.0] | 1050.0                                   | 0.24                            |
| 3300.0                                             | 515D338M6R3DG6AE3 | 0.492 x 0.787 [12.5 x 20.0] | 1250.0                                   | 0.24                            |
| 4700.0                                             | 515D478M6R3EK6AE3 | 0.630 x 0.984 [16.0 x 25.0] | 1700.0                                   | 0.24                            |
| 6800.0                                             | 515D688M6R3EK6AE3 | 0.630 x 0.984 [16.0 x 25.0] | 1900.0                                   | 0.24                            |
| 10 000.0                                           | 515D109M6R3EN6AE3 | 0.630 x 1.240 [16.0 x 31.5] | 2250.0                                   | 0.24                            |
| 15 000.0                                           | 515D159M6R3FR6AE3 | 0.709 x 1.398 [18.0 x 35.5] | 2680.0                                   | 0.24                            |
| 18 000.0                                           | 515D189M6R3FV6AE3 | 0.709 x 1.575 [18.0 x 40.0] | 2750.0                                   | 0.24                            |
| <b>10 WV<sub>DC</sub> AT + 85 °C, SURGE = 13 V</b> |                   |                             |                                          |                                 |
| 22.0                                               | 515D226M010JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 38.0                                     | 0.20                            |
| 33.0                                               | 515D336M010JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 47.0                                     | 0.20                            |
| 47.0                                               | 515D476M010JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 59.0                                     | 0.20                            |
| 100.0                                              | 515D107M010JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 145.0                                    | 0.20                            |
| 220.0                                              | 515D227M010AA6AE3 | 0.248 x 0.433 [6.3 x 11.0]  | 230.0                                    | 0.20                            |
| 330.0                                              | 515D337M010BB6AE3 | 0.315 x 0.453 [8.0 x 11.5]  | 330.0                                    | 0.20                            |
| 470.0                                              | 515D477M010BB6AE3 | 0.315 x 0.453 [8.0 x 11.5]  | 390.0                                    | 0.20                            |
| 1000.0                                             | 515D108M010CD6AE3 | 0.394 x 0.630 [10.0 x 16.0] | 630.0                                    | 0.20                            |
| 2200.0                                             | 515D228M010DG6AE3 | 0.492 x 0.787 [12.5 x 20.0] | 1100.0                                   | 0.20                            |
| 3300.0                                             | 515D338M010DK6AE3 | 0.492 x 0.984 [12.5 x 25.0] | 1400.0                                   | 0.20                            |
| 4700.0                                             | 515D478M010EK6AE3 | 0.630 x 0.984 [16.0 x 25.0] | 1800.0                                   | 0.20                            |
| 6800.0                                             | 515D688M010EN6AE3 | 0.630 x 1.240 [16.0 x 31.5] | 2150.0                                   | 0.20                            |
| 10 000.0                                           | 515D109M010FR6AE3 | 0.709 x 1.398 [18.0 x 35.5] | 2500.0                                   | 0.20                            |
| 15 000.0                                           | 515D159M010FV6AE3 | 0.709 x 1.575 [18.0 x 40.0] | 2720.0                                   | 0.20                            |
| <b>16 WV<sub>DC</sub> AT + 85 °C, SURGE = 20 V</b> |                   |                             |                                          |                                 |
| 10.0                                               | 515D106M016JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 28.0                                     | 0.16                            |
| 22.0                                               | 515D226M016JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 44.0                                     | 0.16                            |
| 33.0                                               | 515D336M016JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 57.0                                     | 0.16                            |
| 47.0                                               | 515D476M016JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 168.0                                    | 0.16                            |

**ELECTRICAL DATA AND ORDERING INFORMATION**

| CAPACITANCE<br>( $\mu$ F)                          | PART NUMBER       | NOMINAL CASE SIZE<br>D x L  | MAX. RIPPLE<br>AT + 85 °C<br>120 Hz (mA) | MAX. DF<br>AT + 20 °C<br>120 Hz |
|----------------------------------------------------|-------------------|-----------------------------|------------------------------------------|---------------------------------|
| <b>16 WV<sub>DC</sub> AT + 85 °C, SURGE = 20 V</b> |                   |                             |                                          |                                 |
| 100.0                                              | 515D107M016AA6AE3 | 0.248 x 0.433 [6.3 x 11.0]  | 175.0                                    | 0.16                            |
| 220.0                                              | 515D227M016BB6AE3 | 0.315 x 0.453 [8.0 x 11.5]  | 300.0                                    | 0.16                            |
| 330.0                                              | 515D337M016BB6AE3 | 0.315 x 0.453 [8.0 x 11.5]  | 360.0                                    | 0.16                            |
| 470.0                                              | 515D477M016CC6AE3 | 0.394 x 0.492 [10.0 x 12.5] | 470.0                                    | 0.16                            |
| 1000.0                                             | 515D108M016CG6AE3 | 0.394 x 0.787 [10.0 x 20.0] | 790.0                                    | 0.16                            |
| 2200.0                                             | 515D228M016DK6AE3 | 0.492 x 0.984 [12.5 x 25.0] | 1350.0                                   | 0.16                            |
| 3300.0                                             | 515D338M016EK6AE3 | 0.630 x 0.984 [16.0 x 25.0] | 1700.0                                   | 0.16                            |
| 4700.0                                             | 515D478M016EN6AE3 | 0.630 x 1.240 [16.0 x 31.5] | 2100.0                                   | 0.16                            |
| 6800.0                                             | 515D688M016FR6AE3 | 0.709 x 1.398 [18.0 x 35.5] | 2500.0                                   | 0.16                            |
| 10 000.0                                           | 515D109M016FV6AE3 | 0.709 x 1.575 [18.0 x 40.0] | 2640.0                                   | 0.16                            |
| <b>25 WV<sub>DC</sub> AT + 85 °C, SURGE = 32 V</b> |                   |                             |                                          |                                 |
| 4.7                                                | 515D475M025JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 30.0                                     | 0.14                            |
| 10.0                                               | 515D106M025JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 33.0                                     | 0.14                            |
| 22.0                                               | 515D226M025JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 51.0                                     | 0.14                            |
| 33.0                                               | 515D336M025JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 63.0                                     | 0.14                            |
| 47.0                                               | 515D476M025JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 115.0                                    | 0.14                            |
| 100.0                                              | 515D107M025AA6AE3 | 0.248 x 0.433 [6.3 x 11.0]  | 185.0                                    | 0.14                            |
| 220.0                                              | 515D227M025BB6AE3 | 0.315 x 0.453 [8.0 x 11.5]  | 320.0                                    | 0.14                            |
| 330.0                                              | 515D337M025CC6AE3 | 0.394 x 0.492 [10.0 x 12.5] | 420.0                                    | 0.14                            |
| 470.0                                              | 515D477M025CD6AE3 | 0.394 x 0.630 [10.0 x 16.0] | 540.0                                    | 0.14                            |
| 1000.0                                             | 515D108M025DG6AE3 | 0.492 x 0.787 [12.5 x 20.0] | 950.0                                    | 0.14                            |
| 2200.0                                             | 515D228M025EK6AE3 | 0.630 x 0.984 [16.0 x 25.0] | 1550.0                                   | 0.14                            |
| 3300.0                                             | 515D338M025EN6AE3 | 0.630 x 1.240 [16.0 x 31.5] | 1950.0                                   | 0.14                            |
| 4700.0                                             | 515D478M025FR6AE3 | 0.709 x 1.398 [18.0 x 35.5] | 2360.0                                   | 0.14                            |
| <b>35 WV<sub>DC</sub> AT + 85 °C, SURGE = 44 V</b> |                   |                             |                                          |                                 |
| 4.7                                                | 515D475M035JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 24.0                                     | 0.12                            |
| 10.0                                               | 515D106M035JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 36.0                                     | 0.12                            |
| 22.0                                               | 515D226M035JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 57.0                                     | 0.12                            |
| 33.0                                               | 515D336M035JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 105.0                                    | 0.12                            |
| 47.0                                               | 515D476M035AA6AE3 | 0.248 x 0.433 [6.3 x 11.0]  | 140.0                                    | 0.12                            |
| 100.0                                              | 515D107M035BB6AE3 | 0.315 x 0.453 [8.0 x 11.5]  | 230.0                                    | 0.12                            |
| 220.0                                              | 515D227M035CC6AE3 | 0.394 x 0.492 [10.0 x 12.5] | 370.0                                    | 0.12                            |
| 330.0                                              | 515D337M035CD6AE3 | 0.394 x 0.630 [10.0 x 16.0] | 490.0                                    | 0.12                            |
| 470.0                                              | 515D477M035CG6AE3 | 0.394 x 0.787 [10.0 x 20.0] | 640.0                                    | 0.12                            |
| 1000.0                                             | 515D108M035DK6AE3 | 0.492 x 0.984 [12.5 x 25.0] | 1100.0                                   | 0.12                            |
| 2200.0                                             | 515D228M035EN6AE3 | 0.630 x 1.240 [16.0 x 31.5] | 1850.0                                   | 0.12                            |
| 3300.0                                             | 515D338M035FR6AE3 | 0.709 x 1.382 [18.0 x 35.5] | 2220.0                                   | 0.12                            |
| 4700.0                                             | 515D478M035FV6AE3 | 0.709 x 1.575 [18.0 x 40.0] | 2490.0                                   | 0.12                            |
| <b>50 WV<sub>DC</sub> AT + 85 °C, SURGE = 63 V</b> |                   |                             |                                          |                                 |
| 0.10                                               | 515D104M050JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 1.0                                      | 0.10                            |
| 0.22                                               | 515D224M050JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 2.3                                      | 0.10                            |
| 0.33                                               | 515D334M050JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 3.5                                      | 0.10                            |
| 0.47                                               | 515D474M050JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 5.0                                      | 0.10                            |
| 1.0                                                | 515D105M050JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 10.0                                     | 0.10                            |
| 2.2                                                | 515D225M050JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 19.0                                     | 0.10                            |
| 3.3                                                | 515D335M050JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 24.0                                     | 0.10                            |
| 4.7                                                | 515D475M050JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 29.0                                     | 0.10                            |

**ELECTRICAL DATA AND ORDERING INFORMATION**

| CAPACITANCE<br>( $\mu$ F)                            | PART NUMBER       | NOMINAL CASE SIZE<br>D x L  | MAX. RIPPLE<br>AT + 85 °C<br>120 Hz (mA) | MAX. DF<br>AT + 20 °C<br>120 Hz |
|------------------------------------------------------|-------------------|-----------------------------|------------------------------------------|---------------------------------|
| <b>50 WV<sub>DC</sub> AT + 85 °C, SURGE = 63 V</b>   |                   |                             |                                          |                                 |
| 10.0                                                 | 515D106M050JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 44.0                                     | 0.10                            |
| 22.0                                                 | 515D226M050JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 95.0                                     | 0.10                            |
| 33.0                                                 | 515D336M050AA6AE3 | 0.248 x 0.433 [6.3 x 11.0]  | 125.0                                    | 0.10                            |
| 47.0                                                 | 515D476M050AA6AE3 | 0.248 x 0.433 [6.3 x 11.0]  | 150.0                                    | 0.10                            |
| 100.0                                                | 515D107M050BB6AE3 | 0.315 x 0.453 [8.0 x 11.5]  | 250.0                                    | 0.10                            |
| 220.0                                                | 515D227M050CD6AE3 | 0.394 x 0.630 [10.0 x 16.0] | 440.0                                    | 0.10                            |
| 330.0                                                | 515D337M050CG6AE3 | 0.394 x 0.787 [10.0 x 20.0] | 580.0                                    | 0.10                            |
| 470.0                                                | 515D477M050DG6AE3 | 0.492 x 0.787 [12.5 x 20.0] | 760.0                                    | 0.10                            |
| 1000.0                                               | 515D108M050EK6AE3 | 0.630 x 0.984 [16.0 x 25.0] | 1350.0                                   | 0.10                            |
| 2200.0                                               | 515D228M050FR6AE3 | 0.709 x 1.398 [18.0 x 35.5] | 2090.0                                   | 0.10                            |
| <b>63 WV<sub>DC</sub> AT + 85 °C, SURGE = 79 V</b>   |                   |                             |                                          |                                 |
| 4.7                                                  | 515D475M063JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 45.0                                     | 0.08                            |
| 10.0                                                 | 515D106M063JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 70.0                                     | 0.08                            |
| 22.0                                                 | 515D226M063AA6AE3 | 0.248 x 0.433 [6.3 x 11.0]  | 115.0                                    | 0.08                            |
| 33.0                                                 | 515D336M063AA6AE3 | 0.248 x 0.433 [6.3 x 11.0]  | 140.0                                    | 0.08                            |
| 47.0                                                 | 515D476M063BB6AE3 | 0.315 x 0.453 [8.0 x 11.5]  | 190.0                                    | 0.08                            |
| 100.0                                                | 515D107M063CC6AE3 | 0.394 x 0.492 [10.0 x 12.5] | 300.0                                    | 0.08                            |
| 220.0                                                | 515D227M063CG6AE3 | 0.394 x 0.787 [10.0 x 20.0] | 490.0                                    | 0.08                            |
| 330.0                                                | 515D337M063DG6AE3 | 0.492 x 0.787 [12.5 x 20.0] | 680.0                                    | 0.08                            |
| 470.0                                                | 515D477M063DK6AE3 | 0.492 x 0.984 [12.5 x 25.0] | 880.0                                    | 0.08                            |
| 1000.0                                               | 515D108M063EN6AE3 | 0.630 x 1.240 [16.0 x 31.5] | 1550.0                                   | 0.08                            |
| 2200.0                                               | 515D228M063FV6AE3 | 0.709 x 1.575 [18.0 x 40.0] | 2200.0                                   | 0.08                            |
| <b>100 WV<sub>DC</sub> AT + 85 °C, SURGE = 125 V</b> |                   |                             |                                          |                                 |
| 0.10                                                 | 515D104M100JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 2.1                                      | 0.08                            |
| 0.22                                                 | 515D224M100JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 4.7                                      | 0.08                            |
| 0.33                                                 | 515D334M100JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 7.0                                      | 0.08                            |
| 0.47                                                 | 515D474M100JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 10.0                                     | 0.08                            |
| 1.0                                                  | 515D105M100JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 21.0                                     | 0.08                            |
| 2.2                                                  | 515D225M100JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 30.0                                     | 0.08                            |
| 3.3                                                  | 515D335M100JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 40.0                                     | 0.08                            |
| 4.7                                                  | 515D475M100JA6AE3 | 0.197 x 0.433 [5.0 x 11.0]  | 45.0                                     | 0.08                            |
| 10.0                                                 | 515D106M100AA6AE3 | 0.248 x 0.433 [6.3 x 11.0]  | 75.0                                     | 0.08                            |
| 22.0                                                 | 515D226M100BB6AE3 | 0.315 x 0.453 [8.0 x 11.5]  | 130.0                                    | 0.08                            |
| 33.0                                                 | 515D336M100CC6AE3 | 0.394 x 0.492 [10.0 x 12.5] | 170.0                                    | 0.08                            |
| 47.0                                                 | 515D476M100CD6AE3 | 0.394 x 0.630 [10.0 x 16.0] | 230.0                                    | 0.08                            |
| 100.0                                                | 515D107M100DG6AE3 | 0.492 x 0.787 [12.5 x 20.0] | 400.0                                    | 0.08                            |
| 220.0                                                | 515D227M100EK6AE3 | 0.630 x 0.984 [16.0 x 25.0] | 710.0                                    | 0.08                            |
| 330.0                                                | 515D337M100EK6AE3 | 0.630 x 0.984 [16.0 x 25.0] | 860.0                                    | 0.08                            |
| 470.0                                                | 515D477M100EN6AE3 | 0.630 x 1.240 [16.0 x 31.5] | 1100.0                                   | 0.08                            |
| 1000.0                                               | 515D108M100FV6AE3 | 0.709 x 1.575 [18.0 x 40.0] | 1690.0                                   | 0.08                            |
| <b>160 WV<sub>DC</sub> AT + 85 °C, SURGE = 200 V</b> |                   |                             |                                          |                                 |
| 0.47                                                 | 515D474M160AA6AE3 | 0.248 x 0.433 [6.3 x 11.0]  | 12.0                                     | 0.20                            |
| 1.0                                                  | 515D105M160AA6AE3 | 0.248 x 0.433 [6.3 x 11.0]  | 17.0                                     | 0.20                            |
| 2.2                                                  | 515D225M160AA6AE3 | 0.248 x 0.433 [6.3 x 11.0]  | 26.0                                     | 0.20                            |
| 3.3                                                  | 515D335M160BB6AE3 | 0.315 x 0.453 [8.0 x 11.5]  | 35.0                                     | 0.20                            |
| 4.7                                                  | 515D475M160BB6AE3 | 0.315 x 0.453 [8.0 x 11.5]  | 40.0                                     | 0.20                            |
| 10.0                                                 | 515D106M160CC6AE3 | 0.394 x 0.492 [10.0 x 12.5] | 65.0                                     | 0.20                            |
| 22.0                                                 | 515D226M160CG6AE3 | 0.394 x 0.787 [10.0 x 20.0] | 110.0                                    | 0.20                            |
| 33.0                                                 | 515D336M160DG6AE3 | 0.492 x 0.787 [12.5 x 20.0] | 150.0                                    | 0.20                            |
| 47.0                                                 | 515D476M160DK6AE3 | 0.492 x 0.984 [12.5 x 25.0] | 180.0                                    | 0.20                            |
| 100.0                                                | 515D107M160EK6AE3 | 0.630 x 0.984 [16.0 x 25.0] | 300.0                                    | 0.20                            |
| 220.0                                                | 515D227M160FR6AE3 | 0.709 x 1.398 [18.0 x 35.5] | 510.0                                    | 0.20                            |

**ELECTRICAL DATA AND ORDERING INFORMATION**

| CAPACITANCE<br>( $\mu$ F)                            | PART NUMBER       | NOMINAL CASE SIZE<br>D x L  | MAX. RIPPLE<br>AT + 85 °C<br>120 Hz (mA) | MAX. DF<br>AT + 20 °C<br>120 Hz |
|------------------------------------------------------|-------------------|-----------------------------|------------------------------------------|---------------------------------|
| <b>200 WV<sub>DC</sub> AT + 85 °C, SURGE = 250 V</b> |                   |                             |                                          |                                 |
| 0.47                                                 | 515D474M200AA6AE3 | 0.248 x 0.433 [6.3 x 11.0]  | 12.0                                     | 0.20                            |
| 1.0                                                  | 515D105M200AA6AE3 | 0.248 x 0.433 [6.3 x 11.0]  | 17.0                                     | 0.20                            |
| 2.2                                                  | 515D225M200AA6AE3 | 0.248 x 0.433 [6.3 x 11.0]  | 26.0                                     | 0.20                            |
| 3.3                                                  | 515D335M200BB6AE3 | 0.315 x 0.453 [8.0 x 11.5]  | 35.0                                     | 0.20                            |
| 4.7                                                  | 515D475M200CC6AE3 | 0.394 x 0.492 [10.0 x 12.5] | 45.0                                     | 0.20                            |
| 10.0                                                 | 515D106M200CD6AE3 | 0.394 x 0.630 [10.0 x 16.0] | 70.0                                     | 0.20                            |
| 22.0                                                 | 515D226M200CG6AE3 | 0.394 x 0.787 [10.0 x 20.0] | 110.0                                    | 0.20                            |
| 33.0                                                 | 515D336M200DK6AE3 | 0.492 x 0.984 [12.5 x 25.0] | 160.0                                    | 0.20                            |
| 47.0                                                 | 515D476M200DK6AE3 | 0.492 x 0.984 [12.5 x 25.0] | 180.0                                    | 0.20                            |
| 100.0                                                | 515D107M200EN6AE3 | 0.630 x 1.240 [16.0 x 31.5] | 330.0                                    | 0.20                            |
| 220.0                                                | 515D227M200FV6AE3 | 0.709 x 1.575 [18.0 x 40.0] | 520.0                                    | 0.20                            |
| <b>250 WV<sub>DC</sub> AT + 85 °C, SURGE = 300 V</b> |                   |                             |                                          |                                 |
| 0.47                                                 | 515D474M250AA6AE3 | 0.248 x 0.433 [6.3 x 11.0]  | 12.0                                     | 0.20                            |
| 1.0                                                  | 515D105M250AA6AE3 | 0.248 x 0.433 [6.3 x 11.0]  | 17.0                                     | 0.20                            |
| 2.2                                                  | 515D225M250BB6AE3 | 0.315 x 0.453 [8.0 x 11.5]  | 30.0                                     | 0.20                            |
| 3.3                                                  | 515D335M250CC6AE3 | 0.394 x 0.492 [10.0 x 12.5] | 35.0                                     | 0.20                            |
| 4.7                                                  | 515D475M250CC6AE3 | 0.394 x 0.492 [10.0 x 12.5] | 45.0                                     | 0.20                            |
| 10.0                                                 | 515D106M250CG6AE3 | 0.394 x 0.787 [10.0 x 20.0] | 70.0                                     | 0.20                            |
| 33.0                                                 | 515D336M250DK6AE3 | 0.492 x 0.984 [12.5 x 25.0] | 160.0                                    | 0.20                            |
| 47.0                                                 | 515D476M250EK6AE3 | 0.630 x 1.240 [16.0 x 31.5] | 210.0                                    | 0.20                            |
| 100.0                                                | 515D107M250FR6AE3 | 0.709 x 1.575 [18.0 x 40.0] | 340.0                                    | 0.20                            |
| <b>315 WV<sub>DC</sub> AT + 85 °C, SURGE = 365 V</b> |                   |                             |                                          |                                 |
| 1.0                                                  | 515D105M315AA6AE3 | 0.248 x 0.433 [6.3 x 11.0]  | 17.0                                     | 0.20                            |
| 2.2                                                  | 515D225M315BB6AE3 | 0.315 x 0.453 [8.0 x 11.5]  | 30.0                                     | 0.20                            |
| 3.3                                                  | 515D335M315CC6AE3 | 0.394 x 0.492 [10.0 x 12.5] | 35.0                                     | 0.20                            |
| 4.7                                                  | 515D475M315CD6AE3 | 0.394 x 0.630 [10.0 x 16.0] | 45.0                                     | 0.20                            |
| 10.0                                                 | 515D106M315CG6AE3 | 0.394 x 0.787 [10.0 x 20.0] | 70.0                                     | 0.20                            |
| 22.0                                                 | 515D226M315DK6AE3 | 0.492 x 0.984 [12.5 x 25.0] | 120.0                                    | 0.20                            |
| 33.0                                                 | 515D336M315EK6AE3 | 0.630 x 0.984 [16.0 x 25.0] | 150.0                                    | 0.20                            |
| 47.0                                                 | 515D476M315EN6AE3 | 0.630 x 1.240 [16.0 x 31.5] | 190.0                                    | 0.20                            |
| 100.0                                                | 515D107M315FV6AE3 | 0.709 x 1.575 [18.0 x 40.0] | 340.0                                    | 0.20                            |
| <b>350 WV<sub>DC</sub> AT + 85 °C, SURGE = 400 V</b> |                   |                             |                                          |                                 |
| 1.0                                                  | 515D105M350BB6AE3 | 0.315 x 0.453 [8.0 x 11.5]  | 18.0                                     | 0.25                            |
| 2.2                                                  | 515D225M350CC6AE3 | 0.394 x 0.492 [10.0 x 12.5] | 28.0                                     | 0.25                            |
| 3.3                                                  | 515D335M350CD6AE3 | 0.394 x 0.630 [10.0 x 16.0] | 35.0                                     | 0.25                            |
| 4.7                                                  | 515D475M350CD6AE3 | 0.394 x 0.630 [10.0 x 16.0] | 40.0                                     | 0.25                            |
| 10.0                                                 | 515D106M350DG6AE3 | 0.492 x 0.787 [12.5 x 20.0] | 70.0                                     | 0.25                            |
| 22.0                                                 | 515D226M350DK6AE3 | 0.492 x 0.984 [12.5 x 25.0] | 110.0                                    | 0.25                            |
| 33.0                                                 | 515D336M350EN6AE3 | 0.630 x 1.240 [16.0 x 31.5] | 140.0                                    | 0.25                            |
| 47.0                                                 | 515D476M350FR6AE3 | 0.709 x 1.398 [18.0 x 35.5] | 220.0                                    | 0.25                            |
| <b>400 WV<sub>DC</sub> AT + 85 °C, SURGE = 450 V</b> |                   |                             |                                          |                                 |
| 1.0                                                  | 515D105M400BB6AE3 | 0.315 x 0.453 [8.0 x 11.5]  | 18.0                                     | 0.25                            |
| 2.2                                                  | 515D225M400CC6AE3 | 0.394 x 0.492 [10.0 x 12.5] | 28.0                                     | 0.25                            |
| 3.3                                                  | 515D335M400CD6AE3 | 0.394 x 0.630 [10.0 x 16.0] | 35.0                                     | 0.25                            |
| 4.7                                                  | 515D475M400CD6AE3 | 0.394 x 0.787 [10.0 x 20.0] | 45.0                                     | 0.25                            |
| 10.0                                                 | 515D106M400DG6AE3 | 0.492 x 0.787 [12.5 x 20.0] | 70.0                                     | 0.25                            |
| 22.0                                                 | 515D226M400DK6AE3 | 0.630 x 0.984 [16.0 x 25.0] | 110.0                                    | 0.25                            |
| 33.0                                                 | 515D336M400EN6AE3 | 0.630 x 1.240 [16.0 x 31.5] | 140.0                                    | 0.25                            |
| 47.0                                                 | 515D476M400FR6AE3 | 0.709 x 1.398 [18.0 x 35.5] | 220.0                                    | 0.25                            |

**ELECTRICAL DATA AND ORDERING INFORMATION**

| CAPACITANCE<br>( $\mu$ F)                            | PART NUMBER       | NOMINAL CASE SIZE<br>D x L  | MAX. RIPPLE<br>AT + 85 °C<br>120 Hz (mA) | MAX. DF<br>AT + 20 °C<br>120 Hz |
|------------------------------------------------------|-------------------|-----------------------------|------------------------------------------|---------------------------------|
| <b>450 WV<sub>DC</sub> AT + 85 °C, SURGE = 500 V</b> |                   |                             |                                          |                                 |
| 1.0                                                  | 515D105M450CC6AE3 | 0.394 x 0.492 [10.0 x 12.5] | 19.0                                     | 0.25                            |
| 2.2                                                  | 515D225M450CD6AE3 | 0.394 x 0.630 [10.0 x 16.0] | 29.0                                     | 0.25                            |
| 4.7                                                  | 515D475M450DG6AE3 | 0.492 x 0.787 [12.5 x 20.0] | 50.0                                     | 0.25                            |
| 10.0                                                 | 515D106M450EK6AE3 | 0.492 x 0.984 [12.5 x 25.0] | 75.0                                     | 0.25                            |
| 22.0                                                 | 515D226M450EN6AE3 | 0.630 x 1.240 [16.0 x 31.5] | 110.0                                    | 0.25                            |
| 33.0                                                 | 515D336M450FR6AE3 | 0.709 x 1.398 [18.0 x 35.5] | 170.0                                    | 0.25                            |

**LOW PROFILE RATINGS in inches [millimeters]**

| CAPACITANCE<br>( $\mu$ F)                          | PART NUMBER       | NOMINAL CASE SIZE<br>D x L | MAX. RIPPLE<br>AT + 85 °C<br>120 Hz (mA) | MAX. DF<br>AT + 20 °C<br>120 Hz |
|----------------------------------------------------|-------------------|----------------------------|------------------------------------------|---------------------------------|
| <b>6.3 WV<sub>DC</sub> AT + 85 °C, SURGE = 8 V</b> |                   |                            |                                          |                                 |
| 22.0                                               | 515D226M6R3HW6AE3 | 0.157 x 0.276 [4.0 x 7.0]  | 34.0                                     | 0.24                            |
| 33.0                                               | 515D336M6R3JW6AE3 | 0.197 x 0.276 [5.0 x 7.0]  | 42.0                                     | 0.24                            |
| 47.0                                               | 515D476M6R3JW6AE3 | 0.197 x 0.276 [5.0 x 7.0]  | 50.0                                     | 0.24                            |
| 100.0                                              | 515D107M6R3AW6AE3 | 0.248 x 0.276 [6.3 x 7.0]  | 77.0                                     | 0.24                            |
| <b>10 WV<sub>DC</sub> AT + 85 °C, SURGE = 13 V</b> |                   |                            |                                          |                                 |
| 22.0                                               | 515D226M010JW6AE3 | 0.197 x 0.276 [5.0 x 7.0]  | 38.0                                     | 0.20                            |
| 33.0                                               | 515D336M010JW6AE3 | 0.197 x 0.276 [5.0 x 7.0]  | 47.0                                     | 0.20                            |
| 47.0                                               | 515D476M010AW6AE3 | 0.248 x 0.276 [6.3 x 7.0]  | 59.0                                     | 0.20                            |
| <b>16 WV<sub>DC</sub> AT + 85 °C, SURGE = 20 V</b> |                   |                            |                                          |                                 |
| 10.0                                               | 515D106M016HW6AE3 | 0.157 x 0.276 [4.0 x 7.0]  | 28.0                                     | 0.16                            |
| 22.0                                               | 515D226M016JW6AE3 | 0.197 x 0.276 [5.0 x 7.0]  | 44.0                                     | 0.16                            |
| 33.0                                               | 515D336M016AW6AE3 | 0.248 x 0.276 [6.3 x 7.0]  | 57.0                                     | 0.16                            |
| 47.0                                               | 515D476M016AW6AE3 | 0.248 x 0.276 [6.3 x 7.0]  | 68.0                                     | 0.16                            |
| <b>25 WV<sub>DC</sub> AT + 85 °C, SURGE = 32 V</b> |                   |                            |                                          |                                 |
| 10.0                                               | 515D106M025JW6AE3 | 0.197 x 0.276 [5.0 x 7.0]  | 33.0                                     | 0.14                            |
| 22.0                                               | 515D226M025AW6AE3 | 0.248 x 0.276 [6.3 x 7.0]  | 51.0                                     | 0.14                            |
| 33.0                                               | 515D336M025AW6AE3 | 0.248 x 0.276 [6.3 x 7.0]  | 63.0                                     | 0.14                            |
| <b>35 WV<sub>DC</sub> AT + 85 °C, SURGE = 44 V</b> |                   |                            |                                          |                                 |
| 4.7                                                | 515D475M035HW6AE3 | 0.157 x 0.276 [4.0 x 7.0]  | 24.0                                     | 0.12                            |
| 10.0                                               | 515D106M035JW6AE3 | 0.197 x 0.276 [5.0 x 7.0]  | 36.0                                     | 0.12                            |
| 22.0                                               | 515D226M035AW6AE3 | 0.248 x 0.276 [6.3 x 7.0]  | 57.0                                     | 0.12                            |
| <b>50 WV<sub>DC</sub> AT + 85 °C, SURGE = 63 V</b> |                   |                            |                                          |                                 |
| 0.10                                               | 515D104M050JW6AE3 | 0.157 x 0.276 [4.0 x 7.0]  | 1.0                                      | 0.10                            |
| 0.22                                               | 515D224M050HW6AE3 | 0.157 x 0.276 [4.0 x 7.0]  | 2.3                                      | 0.10                            |
| 0.33                                               | 515D334M050HW6AE3 | 0.157 x 0.276 [4.0 x 7.0]  | 3.5                                      | 0.10                            |
| 0.47                                               | 515D474M050HW6AE3 | 0.157 x 0.276 [4.0 x 7.0]  | 5.0                                      | 0.10                            |
| 1.0                                                | 515D105M050HW6AE3 | 0.157 x 0.276 [4.0 x 7.0]  | 10.0                                     | 0.10                            |
| 2.2                                                | 515D225M050HW6AE3 | 0.157 x 0.276 [4.0 x 7.0]  | 19.0                                     | 0.10                            |
| 3.3                                                | 515D335M050HW6AE3 | 0.157 x 0.276 [4.0 x 7.0]  | 24.0                                     | 0.10                            |
| 4.7                                                | 515D475M050JW6AE3 | 0.197 x 0.276 [5.0 x 7.0]  | 29.0                                     | 0.10                            |
| 10.0                                               | 515D106M050AW6AE3 | 0.248 x 0.276 [6.3 x 7.0]  | 44.0                                     | 0.10                            |



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### Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

Skype отдела продаж:

moschip.ru

moschip.ru\_4

moschip.ru\_6

moschip.ru\_9