

Aluminum Capacitors + 105 °C, Tubular, Axial Lead

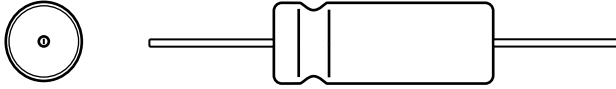


Fig.1 Component outlines

FEATURES

- Temperature range - 55 °C to + 105 °C
- Long life
- Low ESR



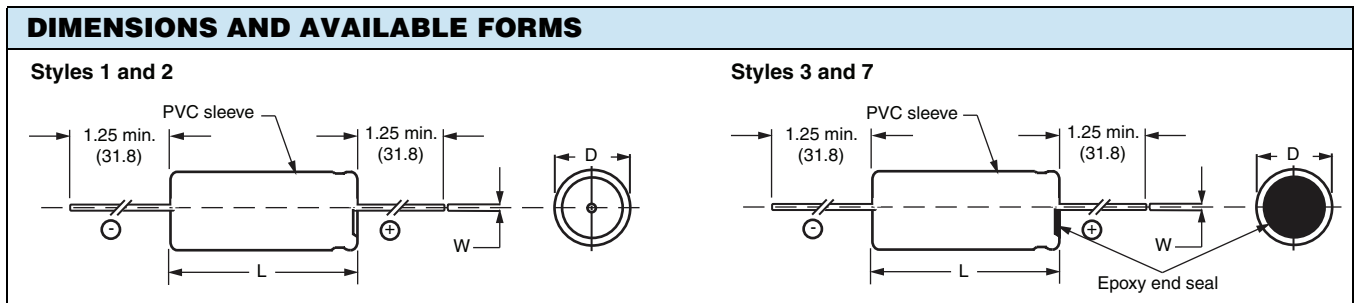
| QUICK REFERENCE DATA | |
|---|--|
| DESCRIPTION | VALUE |
| Nominal case size Ø D x L in mm | 0.625" x 1.125" [15.875 x 28.575] to 1.0" x 3.625" [25.4 x 92.075] |
| Operating temperature | - 55 °C to + 105 °C |
| Rated capacitance range, C _R | 12 µF to 33 000 µF |
| Tolerance on C _R | - 10 %, + 50 % |
| Rated voltage range, U _R | 6.3 WVDC to 300 WVDC |
| Termination | Axial leads |
| Life validation test at 105 °C | 2000 h: Δ CAP ≤ 15 % from initial measurement. Δ ESR ≤ 1.25 x initial specified limit. Δ DCL ≤ initial specified limit. |
| Shelf life at 105 °C | 500 h: Δ CAP ≤ 10 % from initial measurement. Δ ESR ≤ 1.15 x initial specified limit. Δ DCL ≤ 2.0 x initial specified limit. |
| DC leakage current | $I = K\sqrt{CV}$ K = 0.5 at + 25 °C; K = 3.0 at + 105 °C I in µA, C in µF, V in Volts |

| RIPPLE CURRENT MULTIPLIERS | | | |
|----------------------------|----------|-------------|-------------|
| TEMPERATURE | | | |
| Ambient Temperature | | Multipliers | |
| + 105 °C | | 0.4 | |
| + 65 °C | | 1.4 | |
| + 45 °C | | 1.7 | |
| + 25 °C | | 2.0 | |
| FREQUENCY (Hz) | | | |
| WVDC | 50 to 60 | 300 to 400 | 1000 and up |
| 0 to 60 | 0.85 | 1.10 | 1.15 |
| 61 to 250 | 0.83 | 1.15 | 1.20 |

| LOW TEMPERATURE PERFORMANCE | |
|---|-----------------------|
| CAPACITANCE RATIO C - 55 °C/C + 25 °C MINIMUM at 120 Hz | |
| Rated Voltage WVDC | Capacitance Remaining |
| 0 to 25 | 75 |
| 26 to 100 | 80 |
| 101 to 250 | 85 |
| ESR RATIO ESR - 55 °C/ESR + 25 °C MAXIMUM at 120 Hz | |
| Rated Voltage WVDC | Multiplier |
| 0 to 9 | 10 |
| 10 to 40 | 12 |
| 41 to 250 | 18 |

| DIMENSIONS in inches [millimeters] | | | | | |
|------------------------------------|------------------------------------|--------------------------------|---|--------------------------------|----------------------|
| CASE CODE | STYLE 1 AND 2 INSULATING SLEEVE | | STYLE 3 AND 7 INSULATING SLEEVE, COATED END SEAL | | TYPICAL WEIGHT |
| | D | L | D | L | |
| FE | 0.635 ± 0.020 [16.1 ± 0.51] | 1.141 ± 0.062 [29.0 ± 1.57] | 0.635 ± 0.020 [16.1 ± 0.51] | 1.187 ± 0.062 [30.2 ± 1.57] | 0.32 oz. (9.0 g) |
| FJ | 0.635 ± 0.020 [16.1 ± 0.51] | 1.641 ± 0.062 [41.7 ± 1.57] | 0.635 ± 0.020 [16.1 ± 0.51] | 1.687 ± 0.062 [42.9 ± 1.57] | 0.39 oz. (11.0 g) |
| FL | 0.635 ± 0.020 [16.1 ± 0.51] | 2.141 ± 0.062 [54.4 ± 1.57] | 0.635 ± 0.020 [16.1 ± 0.51] | 2.187 ± 0.062 [55.6 ± 1.57] | 0.53 oz. (15.0 g) |
| FP | 0.635 ± 0.020 [16.1 ± 0.51] | 2.641 ± 0.062 [67.1 ± 1.57] | 0.635 ± 0.020 [16.1 ± 0.51] | 2.687 ± 0.062 [68.3 ± 1.57] | 0.63 oz. (18.0 g) |
| FS | 0.635 ± 0.020 [16.1 ± 0.51] | 3.141 ± 0.062 [79.8 ± 1.57] | 0.635 ± 0.020 [16.1 ± 0.51] | 3.187 ± 0.062 [81.0 ± 1.57] | 0.88 oz. (25.0 g) |
| FT | 0.635 ± 0.020 [16.1 ± 0.51] | 3.641 ± 0.062 [92.5 ± 1.57] | 0.635 ± 0.020 [16.1 ± 0.51] | 3.687 ± 0.062 [93.7 ± 1.57] | 0.98 oz. (28.0 g) |
| GE | 0.760 ± 0.020 [19.3 ± 0.51] | 1.141 ± 0.062 [29.0 ± 1.57] | 0.760 ± 0.020 [19.3 ± 0.51] | 1.187 ± 0.062 [30.2 ± 1.57] | 0.46 oz. (13.0 g) |
| GJ | 0.760 ± 0.020 [19.3 ± 0.51] | 1.641 ± 0.062 [41.7 ± 1.57] | 0.760 ± 0.020 [19.3 ± 0.51] | 1.687 ± 0.062 [42.9 ± 1.57] | 0.67 oz. (19.0 g) |

| DIMENSIONS in inches [millimeters] | | | | | |
|------------------------------------|------------------------------------|--------------------------------|---|--------------------------------|----------------------|
| CASE CODE | STYLE 1 AND 2 INSULATING SLEEVE | | STYLE 3 AND 7 INSULATING SLEEVE, COATED END SEAL | | TYPICAL WEIGHT |
| | D | L | D | L | |
| GL | 0.760 ± 0.020 [19.3 ± 0.51] | 2.141 ± 0.062 [54.4 ± 1.57] | 0.760 ± 0.020 [19.3 ± 0.51] | 2.187 ± 0.062 [55.6 ± 1.57] | 0.74 oz. (21.0 g) |
| GP | 0.760 ± 0.020 [19.3 ± 0.51] | 2.641 ± 0.062 [67.1 ± 1.57] | 0.760 ± 0.020 [19.3 ± 0.51] | 2.687 ± 0.062 [68.3 ± 1.57] | 0.88 oz. (25.0 g) |
| GS | 0.760 ± 0.020 [19.3 ± 0.51] | 3.141 ± 0.062 [79.8 ± 1.57] | 0.760 ± 0.020 [19.3 ± 0.51] | 3.187 ± 0.062 [81.0 ± 1.57] | 1.16 oz. (33.0 g) |
| GT | 0.760 ± 0.020 [19.3 ± 0.51] | 3.641 ± 0.062 [92.5 ± 1.57] | 0.760 ± 0.020 [19.3 ± 0.51] | 3.687 ± 0.062 [93.7 ± 1.57] | 1.33 oz. (38.0 g) |
| HE | 0.885 ± 0.020 [22.5 ± 0.51] | 1.141 ± 0.062 [29.0 ± 1.57] | 0.885 ± 0.020 [22.5 ± 0.51] | 1.187 ± 0.062 [30.2 ± 1.57] | 0.63 oz. (18.0 g) |
| HJ | 0.885 ± 0.020 [22.5 ± 0.51] | 1.641 ± 0.062 [41.7 ± 1.57] | 0.885 ± 0.020 [22.5 ± 0.51] | 1.687 ± 0.062 [42.9 ± 1.57] | 0.95 oz. (27.0 g) |
| HL | 0.885 ± 0.020 [22.5 ± 0.51] | 2.141 ± 0.062 [54.4 ± 1.57] | 0.885 ± 0.020 [22.5 ± 0.51] | 2.187 ± 0.062 [55.6 ± 1.57] | 1.02 oz. (29.0 g) |
| HP | 0.885 ± 0.020 [22.5 ± 0.51] | 2.641 ± 0.062 [67.1 ± 1.57] | 0.885 ± 0.020 [22.5 ± 0.51] | 2.687 ± 0.062 [68.3 ± 1.57] | 1.37 oz. (39.0 g) |
| HS | 0.885 ± 0.020 [22.5 ± 0.51] | 3.141 ± 0.062 [79.8 ± 1.57] | 0.885 ± 0.020 [22.5 ± 0.51] | 3.187 ± 0.062 [81.0 ± 1.57] | 1.72 oz. (49.0 g) |
| HT | 0.885 ± 0.020 [22.5 ± 0.51] | 3.641 ± 0.062 [92.5 ± 1.57] | 0.885 ± 0.020 [22.5 ± 0.51] | 3.687 ± 0.062 [93.7 ± 1.57] | 2.07 oz. (59.0 g) |
| JE | 1.010 ± 0.020 [25.7 ± 0.51] | 1.141 ± 0.062 [29.0 ± 1.57] | 1.010 ± 0.020 [25.7 ± 0.51] | 1.187 ± 0.062 [30.2 ± 1.57] | 0.81 oz. (23.0 g) |
| JJ | 1.010 ± 0.020 [25.7 ± 0.51] | 1.641 ± 0.062 [41.7 ± 1.57] | 1.010 ± 0.020 [25.7 ± 0.51] | 1.687 ± 0.062 [42.9 ± 1.57] | 1.02 oz. (29.0 g) |
| JL | 1.010 ± 0.020 [25.7 ± 0.51] | 2.141 ± 0.062 [54.4 ± 1.57] | 1.010 ± 0.020 [25.7 ± 0.51] | 2.187 ± 0.062 [55.5 ± 1.57] | 1.54 oz. (44.0 g) |
| JP | 1.010 ± 0.020 [25.7 ± 0.51] | 2.641 ± 0.062 [67.1 ± 1.57] | 1.010 ± 0.020 [25.7 ± 0.51] | 2.687 ± 0.062 [68.3 ± 1.57] | 1.86 oz. (53.0 g) |
| JS | 1.010 ± 0.020 [25.7 ± 0.51] | 3.141 ± 0.062 [79.8 ± 1.57] | 1.010 ± 0.020 [25.7 ± 0.51] | 3.187 ± 0.062 [81.0 ± 1.57] | 2.21 oz. (63.0 g) |
| JT | 1.010 ± 0.020 [25.7 ± 0.51] | 3.641 ± 0.062 [92.5 ± 1.57] | 1.010 ± 0.020 [25.7 ± 0.51] | 3.687 ± 0.062 [93.7 ± 1.57] | 2.52 oz. (72.0 g) |



PART NUMBER INFORMATION

| 601D | 158 | F | 6R3 | FE | 1 |
|-----------------------------|--|--------------------------|--|------------------------|---|
| TYPE | CAPACITANCE | CAPACITANCE TOLERANCE | DC VOLTAGE RATING | CASE CODE | CASE STYLE |
| Identifies the series name. | Expressed in pF. The first two digits are significant figures. The third is the number of zeros. | F = - 10 %/+ 50 % (std.) | Expressed in volts. The letter "R" signifies a decimal point (i.e. 6R3 = 6.3 V). | (see table dimensions) | 1 = PVC sleeve (std.) 2 = Polyester sleeve 3 = Polyester sleeve with epoxy end seal (required for exposure to halogenated cleaning solvents) 7 = PVC sleeve with epoxy end seal (required for exposure to halogenated cleaning solvents) |



Aluminum Capacitors
+ 105 °C, Tubular, Axial Lead

Vishay Sprague

ORDERING EXAMPLE (1)

Electrolytic capacitor 601D series:
601D158F050GL1

Note

(1) For lead (Pb)-free/RoHS compliant products add suffix "E3" to part number. Example: 601D158F050GL1E3

| ELECTRICAL DATA AND ORDERING INFORMATION | | | | |
|---|--------------------|-------------------------------------|-------------------------------------|--|
| CAPACITANCE (µF) | PART NUMBER | NOMINAL CASE SIZE D x L (in) | MAX. ESR at 120 Hz/25 °C (Ω) | MAX. RIPPLE at 120 Hz/85 °C (A) |
| 6.3 WVDC AT + 85 °C, SURGE = 8 V | | | | |
| 1500 | 601D158F6R3FE1 | 0.625 x 1.125 | 0.311 | 1.04 |
| 2700 | 601D278F6R3FJ1 | 0.625 x 1.625 | 0.148 | 1.76 |
| 3900 | 601D398F6R3FL1 | 0.625 x 2.125 | 0.098 | 2.41 |
| 5600 | 601D568F6R3FP1 | 0.625 x 2.625 | 0.074 | 3.05 |
| 6800 | 601D688F6R3FS1 | 0.625 x 3.125 | 0.060 | 3.66 |
| 8200 | 601D828F6R3FT1 | 0.625 x 3.625 | 0.051 | 4.26 |
| 2700 | 601D278F6R3GE1 | 0.750 x 1.125 | 0.169 | 1.58 |
| 5600 | 601D568F6R3GJ1 | 0.750 x 1.625 | 0.083 | 2.60 |
| 8200 | 601D828F6R3GL1 | 0.750 x 2.125 | 0.057 | 3.52 |
| 10 000 | 601D109F6R3GP1 | 0.750 x 2.625 | 0.043 | 4.40 |
| 12 000 | 601D129F6R3GS1 | 0.750 x 3.125 | 0.037 | 5.13 |
| 15 000 | 601D159F6R3GT1 | 0.750 x 3.625 | 0.031 | 5.98 |
| 3900 | 601D398F6R3HE1 | 0.875 x 1.125 | 0.118 | 2.09 |
| 8200 | 601D828F6R3HJ1 | 0.875 x 1.625 | 0.059 | 3.38 |
| 12 000 | 601D129F6R3HL1 | 0.875 x 2.125 | 0.042 | 4.47 |
| 15 000 | 601D159F6R3HP1 | 0.875 x 2.625 | 0.033 | 5.54 |
| 18 000 | 601D189F6R3HS1 | 0.875 x 3.125 | 0.027 | 6.56 |
| 22 000 | 601D229F6R3HT1 | 0.875 x 3.625 | 0.023 | 7.52 |
| 5600 | 601D568F6R3JE1 | 1.000 x 1.125 | 0.093 | 2.57 |
| 10 000 | 601D109F6R3JJ1 | 1.000 x 1.625 | 0.049 | 4.05 |
| 18 000 | 601D189F6R3JL1 | 1.000 x 2.125 | 0.033 | 5.44 |
| 22 000 | 601D229F6R3JP1 | 1.000 x 2.625 | 0.026 | 6.72 |
| 27 000 | 601D279F6R3JS1 | 1.000 x 3.125 | 0.022 | 7.86 |
| 33 000 | 601D339F6R3JT1 | 1.000 x 3.625 | 0.019 | 8.98 |
| 10 WVDC AT + 85 °C, SURGE = 15 V | | | | |
| 1000 | 601D108F010FE1 | 0.625 x 1.125 | 0.332 | 1.00 |
| 2200 | 601D228F010FJ1 | 0.625 x 1.625 | 0.157 | 1.70 |
| 3300 | 601D338F010FL1 | 0.625 x 2.125 | 0.106 | 2.31 |
| 4700 | 601D478F010FP1 | 0.625 x 2.625 | 0.080 | 2.94 |
| 5600 | 601D568F010FS1 | 0.625 x 3.125 | 0.065 | 3.52 |
| 6800 | 601D686F010FT1 | 0.625 x 3.625 | 0.055 | 4.11 |
| 2200 | 601D228F010GE1 | 0.750 x 1.125 | 0.182 | 1.53 |
| 3900 | 601D398F010GJ1 | 0.750 x 1.625 | 0.091 | 2.50 |
| 6800 | 601D688F010GL1 | 0.750 x 2.125 | 0.061 | 3.40 |
| 8200 | 601D828F010GP1 | 0.750 x 2.625 | 0.047 | 4.25 |
| 10 000 | 601D109F010GS1 | 0.750 x 3.125 | 0.041 | 5.00 |
| 12 000 | 601D129F010GT1 | 0.750 x 3.625 | 0.035 | 5.72 |
| 3300 | 601D338F010HE1 | 0.875 x 1.125 | 0.127 | 2.02 |
| 5600 | 601D568F010HJ1 | 0.875 x 1.625 | 0.064 | 3.26 |
| 8200 | 601D828F010HL1 | 0.875 x 2.125 | 0.044 | 4.38 |
| 12 000 | 601D129F010HP1 | 0.875 x 2.625 | 0.036 | 5.30 |
| 15 000 | 601D159F010HS1 | 0.875 x 3.125 | 0.029 | 6.43 |
| 18 000 | 601D189F010HT1 | 0.875 x 3.625 | 0.025 | 7.37 |
| 3900 | 601D398F010JE1 | 1.000 x 1.125 | 0.099 | 2.49 |
| 8200 | 601D828F010JJ1 | 1.000 x 1.625 | 0.050 | 4.00 |
| 13 000 | 601D139F010JL1 | 1.000 x 2.125 | 0.036 | 5.27 |
| 18 000 | 601D189F010JP1 | 1.000 x 2.625 | 0.028 | 6.45 |
| 22 000 | 601D229F010JS1 | 1.000 x 3.125 | 0.023 | 7.68 |
| 27 000 | 601D279F010JT1 | 1.000 x 3.625 | 0.020 | 8.75 |

ELECTRICAL DATA AND ORDERING INFORMATION

| CAPACITANCE (μ F) | PART NUMBER | NOMINAL CASE SIZE D x L (in) | MAX. ESR at 120 Hz/25 °C (Ω) | MAX. RIPPLE at 120 Hz/85 °C (A) |
|---|----------------|------------------------------------|---|---------------------------------------|
| 16 WVDC AT + 85 °C, SURGE = 20 V | | | | |
| 820 | 601D827F016FE1 | 0.625 x 1.125 | 0.349 | 0.99 |
| 1800 | 601D188F016FJ1 | 0.625 x 1.625 | 0.175 | 1.62 |
| 2700 | 601D278F016FL1 | 0.625 x 2.125 | 0.115 | 2.23 |
| 3300 | 601D338F016FP1 | 0.625 x 2.625 | 0.087 | 2.83 |
| 3900 | 601D398F016FS1 | 0.625 x 3.125 | 0.071 | 3.37 |
| 4700 | 601D478F016FT1 | 0.625 x 3.625 | 0.060 | 3.94 |
| 1500 | 601D158F016GE1 | 0.750 x 1.125 | 0.198 | 1.47 |
| 3300 | 601D338F016GJ1 | 0.750 x 1.625 | 0.098 | 2.40 |
| 4700 | 601D478F016GL1 | 0.750 x 2.125 | 0.067 | 3.26 |
| 5600 | 601D568F016GP1 | 0.750 x 2.625 | 0.051 | 4.07 |
| 8200 | 601D828F016GS1 | 0.750 x 3.125 | 0.042 | 4.87 |
| 10 000 | 601D109F016GT1 | 0.750 x 3.625 | 0.036 | 5.64 |
| 2200 | 601D228F016HE1 | 0.875 x 1.125 | 0.139 | 1.93 |
| 4700 | 601D478F016HJ1 | 0.875 x 1.625 | 0.070 | 3.12 |
| 6800 | 601D688F016HL1 | 0.875 x 2.125 | 0.048 | 4.20 |
| 10 000 | 601D109F016HP1 | 0.875 x 2.625 | 0.037 | 5.23 |
| 12 000 | 601D129F016HS1 | 0.875 x 3.125 | 0.031 | 6.19 |
| 15 000 | 601D159F016HT1 | 0.875 x 3.625 | 0.027 | 7.06 |
| 3300 | 601D338F016JE1 | 1.000 x 1.125 | 0.108 | 2.38 |
| 6800 | 601D688F016JJ1 | 1.000 x 1.625 | 0.055 | 3.83 |
| 10 000 | 601D109F016JL1 | 1.000 x 2.125 | 0.038 | 5.10 |
| 25 WVDC AT + 85 °C, SURGE = 40 V | | | | |
| 560 | 601D567F025FE1 | 0.625 x 1.125 | 0.383 | 0.94 |
| 1000 | 601D108F025FJ1 | 0.625 x 1.625 | 0.198 | 1.52 |
| 1500 | 601D158F025FL1 | 0.625 x 2.125 | 0.125 | 2.14 |
| 2200 | 601D228F025FP1 | 0.625 x 2.625 | 0.096 | 2.68 |
| 2700 | 601D278F025FS1 | 0.625 x 3.125 | 0.078 | 3.22 |
| 3300 | 601D338F025FT1 | 0.625 x 3.625 | 0.065 | 3.79 |
| 1000 | 601D108F025GE1 | 0.750 x 1.125 | 0.213 | 1.41 |
| 1800 | 601D188F025GJ1 | 0.750 x 1.625 | 0.110 | 2.27 |
| 2700 | 601D278F025GL1 | 0.750 x 2.125 | 0.073 | 3.11 |
| 3900 | 601D398F025GP1 | 0.750 x 2.625 | 0.056 | 3.91 |
| 4700 | 601D478F025GS1 | 0.750 x 3.125 | 0.045 | 4.68 |
| 5600 | 601D568F025GT1 | 0.750 x 3.625 | 0.038 | 5.43 |
| 1500 | 601D158F025HE1 | 0.875 x 1.125 | 0.157 | 1.81 |
| 2700 | 601D278F025HJ1 | 0.875 x 1.625 | 0.076 | 2.98 |
| 3900 | 601D398F025HL1 | 0.875 x 2.125 | 0.052 | 4.04 |
| 5600 | 601D568F025HP1 | 0.875 x 2.625 | 0.040 | 5.04 |
| 6800 | 601D688F025HS1 | 0.875 x 3.125 | 0.033 | 6.00 |
| 8200 | 601D828F025HT1 | 0.875 x 3.625 | 0.028 | 6.91 |
| 1800 | 601D188F025JE1 | 1.000 x 1.125 | 0.117 | 2.28 |
| 3900 | 601D398F025JJ1 | 1.000 x 1.625 | 0.059 | 3.70 |
| 5600 | 601D568F025JL1 | 1.000 x 2.125 | 0.040 | 4.96 |
| 8200 | 601D828F025JP1 | 1.000 x 2.625 | 0.031 | 6.14 |
| 10 000 | 601D109F025JS1 | 1.000 x 3.125 | 0.027 | 7.15 |
| 12 000 | 601D129F025JT1 | 1.000 x 3.625 | 0.023 | 8.21 |



Aluminum Capacitors
+ 105 °C, Tubular, Axial Lead

Vishay Sprague

| ELECTRICAL DATA AND ORDERING INFORMATION | | | | |
|---|--------------------|---|---|--|
| CAPACITANCE (µF) | PART NUMBER | NOMINAL CASE SIZE D x L (in) | MAX. ESR at 120 Hz/25 °C (Ω) | MAX. RIPPLE at 120 Hz/85 °C (A) |
| 35 WVDC AT + 85 °C, SURGE = 50 V | | | | |
| 330 | 601D337F035FE1 | 0.625 x 1.125 | 0.480 | 0.84 |
| 680 | 601D687F035FJ1 | 0.625 x 1.625 | 0.231 | 1.40 |
| 1000 | 601D108F035FL1 | 0.625 x 2.125 | 0.154 | 1.93 |
| 1500 | 601D158F035FP1 | 0.625 x 2.625 | 0.118 | 2.42 |
| 1800 | 601D188F035FS1 | 0.625 x 3.125 | 0.095 | 2.91 |
| 2200 | 601D228F035FT1 | 0.625 x 3.625 | 0.080 | 3.40 |
| 680 | 601D687F035GE1 | 0.750 x 1.125 | 0.266 | 1.26 |
| 1200 | 601D128F035GJ1 | 0.750 x 1.625 | 0.133 | 2.06 |
| 2200 | 601D228F035GL1 | 0.750 x 2.125 | 0.087 | 2.84 |
| 2700 | 601D278F035GP1 | 0.750 x 2.625 | 0.068 | 3.52 |
| 3300 | 601D338F035GS1 | 0.750 x 3.125 | 0.054 | 4.25 |
| 3900 | 601D398F035GT1 | 0.750 x 3.625 | 0.046 | 4.95 |
| 1000 | 601D108F035HE1 | 0.875 x 1.125 | 0.182 | 1.68 |
| 2200 | 601D228F035HJ1 | 0.875 x 1.625 | 0.091 | 2.73 |
| 2700 | 601D278F035HL1 | 0.875 x 2.125 | 0.062 | 3.67 |
| 3900 | 601D398F035HP1 | 0.875 x 2.625 | 0.047 | 4.61 |
| 4700 | 601D478F035HS1 | 0.875 x 3.125 | 0.039 | 5.46 |
| 5600 | 601D568F035HT1 | 0.875 x 3.625 | 0.033 | 6.33 |
| 1200 | 601D128F035JE1 | 1.000 x 1.125 | 0.146 | 2.04 |
| 2700 | 601D278F035JJ1 | 1.000 x 1.625 | 0.071 | 3.35 |
| 3900 | 601D398F035JL1 | 1.000 x 2.125 | 0.048 | 4.52 |
| 5600 | 601D568F035JP1 | 1.000 x 2.625 | 0.037 | 5.62 |
| 6800 | 601D688F035JS1 | 1.000 x 3.125 | 0.030 | 6.66 |
| 8200 | 601D828F035JT1 | 1.000 x 3.625 | 0.026 | 7.66 |
| 50 WVDC AT + 85 °C, SURGE = 75 V | | | | |
| 270 | 601D277F050FE1 | 0.625 x 1.125 | 0.519 | 0.81 |
| 470 | 601D477F050FJ1 | 0.625 x 1.625 | 0.249 | 1.35 |
| 680 | 601D687F050FL1 | 0.625 x 2.125 | 0.165 | 1.87 |
| 1000 | 601D108F050FP1 | 0.625 x 2.625 | 0.128 | 2.33 |
| 1200 | 601D128F050FS1 | 0.625 x 3.125 | 0.107 | 2.76 |
| 1500 | 601D158F050FT1 | 0.625 x 3.625 | 0.087 | 3.28 |
| 470 | 601D477F050GE1 | 0.750 x 1.125 | 0.285 | 1.22 |
| 1000 | 601D108F050GJ1 | 0.750 x 1.625 | 0.139 | 2.02 |
| 1500 | 601D158F050GL1 | 0.750 x 2.125 | 0.095 | 2.73 |
| 1800 | 601D188F050GP1 | 0.750 x 2.625 | 0.071 | 3.45 |
| 2200 | 601D228F050GS1 | 0.750 x 3.125 | 0.060 | 4.08 |
| 2700 | 601D278F050GT1 | 0.750 x 3.625 | 0.050 | 4.76 |
| 680 | 601D687F050HE1 | 0.875 x 1.125 | 0.196 | 1.62 |
| 1500 | 601D158F050HJ1 | 0.875 x 1.625 | 0.099 | 2.63 |
| 2200 | 601D228F050HL1 | 0.875 x 2.125 | 0.067 | 3.55 |
| 2700 | 601D278F050HP1 | 0.875 x 2.625 | 0.051 | 4.44 |
| 3300 | 601D338F050HS1 | 0.875 x 3.125 | 0.042 | 5.28 |
| 3900 | 601D398F050HT1 | 0.875 x 3.625 | 0.036 | 6.12 |
| 1000 | 601D108F050JE1 | 1.000 x 1.125 | 0.148 | 2.03 |
| 1800 | 601D188F050JJ1 | 1.000 x 1.625 | 0.077 | 3.23 |
| 2700 | 601D278F050JL1 | 1.000 x 2.125 | 0.052 | 4.37 |
| 3900 | 601D398F050JP1 | 1.000 x 2.625 | 0.040 | 5.44 |
| 4700 | 601D478F050JS1 | 1.000 x 3.125 | 0.033 | 6.47 |
| 5600 | 601D568F050JT1 | 1.000 x 3.625 | 0.028 | 7.45 |

**ELECTRICAL DATA AND ORDERING INFORMATION**

| CAPACITANCE (μ F) | PART NUMBER | NOMINAL CASE SIZE D x L (in) | MAX. ESR at 120 Hz/25 °C (Ω) | MAX. RIPPLE at 120 Hz/85 °C (A) |
|---|----------------|------------------------------------|---|---------------------------------------|
| 63 WVDC AT + 85 °C, SURGE = 90 V | | | | |
| 220 | 601D227F063FE1 | 0.625 x 1.125 | 0.563 | 0.78 |
| 470 | 601D477F063FJ1 | 0.625 x 1.625 | 0.269 | 1.30 |
| 680 | 601D687F063FL1 | 0.625 x 2.125 | 0.178 | 1.80 |
| 820 | 601D827F063FP1 | 0.625 x 2.625 | 0.134 | 2.27 |
| 1000 | 601D108F063FS1 | 0.625 x 3.125 | 0.111 | 2.70 |
| 1200 | 601D128F063FT1 | 0.625 x 3.625 | 0.095 | 3.13 |
| 390 | 601D397F063GE1 | 0.750 x 1.125 | 0.304 | 1.18 |
| 820 | 601D827F063GJ1 | 0.750 x 1.625 | 0.150 | 1.94 |
| 1200 | 601D128F063GL1 | 0.750 x 2.125 | 0.105 | 2.59 |
| 1500 | 601D158F063GP1 | 0.750 x 2.625 | 0.080 | 3.26 |
| 1800 | 601D188F063GS1 | 0.750 x 3.125 | 0.062 | 3.99 |
| 2200 | 601D228F063GT1 | 0.750 x 3.625 | 0.053 | 4.62 |
| 680 | 601D687F063HE1 | 0.875 x 1.125 | 0.210 | 1.57 |
| 1200 | 601D128G063HJ1 | 0.875 x 1.625 | 0.109 | 2.50 |
| 1800 | 601D188F063HL1 | 0.875 x 2.125 | 0.070 | 3.47 |
| 2200 | 601D228F063HP1 | 0.875 x 2.625 | 0.054 | 4.31 |
| 2700 | 601D278F063HS1 | 0.875 x 3.125 | 0.045 | 5.12 |
| 3900 | 601D398F063HT1 | 0.875 x 3.625 | 0.038 | 5.98 |
| 820 | 601D827F063JE1 | 1.000 x 1.125 | 0.158 | 1.97 |
| 1800 | 601D188F063JJ1 | 1.000 x 1.625 | 0.081 | 3.14 |
| 2700 | 601D278F063JL1 | 1.000 x 2.125 | 0.055 | 4.25 |
| 3300 | 601D338F063JP1 | 1.000 x 2.625 | 0.042 | 5.31 |
| 3900 | 601D398F063JS1 | 1.000 x 3.125 | 0.034 | 6.31 |
| 4700 | 601D478F063JT1 | 1.000 x 3.625 | 0.029 | 7.29 |
| 100 WVDC AT + 85 °C, SURGE = 150 V | | | | |
| 68 | 601D686F100FE1 | 0.625 x 1.125 | 1.714 | 0.444 |
| 120 | 601D127F100FJ1 | 0.625 x 1.625 | 0.869 | 0.725 |
| 180 | 601D187F100FL1 | 0.625 x 2.125 | 0.561 | 1.010 |
| 270 | 601D277F100FP1 | 0.625 x 2.625 | 0.415 | 1.290 |
| 330 | 601D337F100FS1 | 0.625 x 3.125 | 0.330 | 1.570 |
| 390 | 601D397F100FT1 | 0.625 x 3.625 | 0.274 | 1.840 |
| 120 | 601D127F100GE1 | 0.750 x 1.125 | 0.986 | 0.656 |
| 270 | 601D277F100GJ1 | 0.750 x 1.625 | 0.461 | 1.110 |
| 390 | 601D387F100GL1 | 0.750 x 2.125 | 0.302 | 1.530 |
| 470 | 601D477F100GP1 | 0.750 x 2.625 | 0.230 | 1.920 |
| 560 | 601D567F100GS1 | 0.750 x 3.125 | 0.183 | 2.330 |
| 680 | 601D687F100GT1 | 0.750 x 3.625 | 0.152 | 2.730 |
| 180 | 601D187F100HE1 | 0.875 x 1.125 | 0.632 | 0.903 |
| 390 | 601D397F100HJ1 | 0.875 x 1.625 | 0.308 | 1.490 |
| 560 | 601D567F100HL1 | 0.875 x 2.125 | 0.205 | 2.030 |
| 680 | 601D687F100HP1 | 0.875 x 2.625 | 0.155 | 2.560 |
| 820 | 601D827F100HS1 | 0.875 x 3.125 | 0.124 | 3.080 |
| 1000 | 601D108F100HT1 | 0.875 x 3.625 | 0.108 | 3.530 |
| 270 | 601D277F100JE1 | 1.000 x 1.125 | 0.469 | 1.140 |
| 470 | 601D477F100JJ1 | 1.000 x 1.625 | 0.226 | 1.880 |
| 820 | 601D827F100JL1 | 1.000 x 2.125 | 0.152 | 2.560 |
| 1000 | 601D108F100JP1 | 1.000 x 2.625 | 0.120 | 3.140 |
| 1200 | 601D128F100JS1 | 1.000 x 3.125 | 0.093 | 3.830 |
| 1500 | 601D157F100JT1 | 1.000 x 3.625 | 0.081 | 4.370 |



Aluminum Capacitors
+ 105 °C, Tubular, Axial Lead

Vishay Sprague

| ELECTRICAL DATA AND ORDERING INFORMATION | | | | |
|---|--------------------|---|---|--|
| CAPACITANCE (μF) | PART NUMBER | NOMINAL CASE SIZE D x L (in) | MAX. ESR at 120 Hz/25 °C (Ω) | MAX. RIPPLE at 120 Hz/85 °C (A) |
| 150 WVDC AT + 85 °C, SURGE = 200 V | | | | |
| 33 | 601D336F150FE1 | 0.625 x 1.125 | 3.518 | 0.310 |
| 68 | 601D686F150FJ1 | 0.625 x 1.625 | 1.677 | 0.522 |
| 100 | 601D107F150FL1 | 0.625 x 2.125 | 1.114 | 0.718 |
| 120 | 601D127F150FP1 | 0.625 x 2.625 | 0.842 | 0.907 |
| 150 | 601D157F150FS1 | 0.625 x 3.125 | 0.672 | 1.100 |
| 180 | 601D187F150FT1 | 0.625 x 3.625 | 0.560 | 1.290 |
| 56 | 601D566F150GE1 | 0.750 x 1.125 | 2.089 | 0.451 |
| 100 | 601D107F150GJ1 | 0.750 x 1.625 | 1.033 | 0.740 |
| 150 | 601D157F150GL1 | 0.750 x 2.125 | 0.683 | 1.020 |
| 220 | 601D227F150GP1 | 0.750 x 2.625 | 0.511 | 1.290 |
| 270 | 601D277F150GS1 | 0.750 x 3.125 | 0.409 | 1.560 |
| 330 | 601D337F150GT1 | 0.750 x 3.625 | 0.341 | 1.820 |
| 82 | 601D826F150HE1 | 0.875 x 1.125 | 1.395 | 0.608 |
| 150 | 601D157F150HJ1 | 0.875 x 1.625 | 0.695 | 0.989 |
| 270 | 601D277F150HL1 | 0.875 x 2.125 | 0.451 | 1.370 |
| 330 | 601D337F150HP1 | 0.875 x 2.625 | 0.345 | 1.710 |
| 390 | 601D397F150HS1 | 0.875 x 3.125 | 0.273 | 2.080 |
| 470 | 601D477F150HT1 | 0.875 x 3.625 | 0.226 | 2.440 |
| 100 | 601D107F150JE1 | 1.000 x 1.125 | 1.082 | 0.753 |
| 220 | 601D227F150JJ1 | 1.000 x 1.625 | 0.502 | 1.260 |
| 330 | 601D337F150JL1 | 1.000 x 2.125 | 0.328 | 1.740 |
| 470 | 601D477F150JP1 | 1.000 x 2.625 | 0.244 | 2.200 |
| 560 | 601D566F150JS1 | 1.000 x 3.125 | 0.195 | 2.650 |
| 680 | 601D687F150JT1 | 1.000 x 3.625 | 0.165 | 3.070 |
| 200 WVDC AT + 85 °C, SURGE = 250 V | | | | |
| 27 | 601D276F200FE1 | 0.625 x 1.125 | 3.985 | 0.292 |
| 56 | 601D566F200FJ1 | 0.625 x 1.625 | 1.892 | 0.491 |
| 82 | 601D826F200FL1 | 0.625 x 2.125 | 1.242 | 0.680 |
| 100 | 601D107F200FP1 | 0.625 x 2.625 | 0.925 | 0.865 |
| 120 | 601D127F200FS1 | 0.625 x 3.125 | 0.761 | 1.032 |
| 150 | 601D157F200FT1 | 0.625 x 3.625 | 0.651 | 1.190 |
| 47 | 601D476F200GE1 | 0.750 x 1.125 | 2.354 | 0.424 |
| 82 | 601D826F200GJ1 | 0.750 x 1.625 | 1.142 | 0.704 |
| 120 | 601D127F200GL1 | 0.750 x 2.125 | 0.774 | 0.956 |
| 180 | 601D187F200GP1 | 0.750 x 2.625 | 0.578 | 1.210 |
| 220 | 601D227F200GS1 | 0.750 x 3.125 | 0.462 | 1.460 |
| 270 | 601D277F200GT1 | 0.750 x 3.625 | 0.385 | 1.710 |
| 120 | 601D127F200HJ1 | 0.875 x 1.625 | 0.787 | 0.930 |
| 180 | 601D187F200HL1 | 0.875 x 2.125 | 0.521 | 1.270 |
| 270 | 601D277F200HP1 | 0.875 x 2.625 | 0.390 | 1.610 |
| 330 | 601D337F200HS1 | 0.875 x 3.125 | 0.302 | 1.970 |
| 390 | 601D397F200HT1 | 0.875 x 3.625 | 0.254 | 2.300 |
| 82 | 601D826F200JE1 | 1.000 x 1.125 | 1.128 | 0.737 |
| 180 | 601D187F200JJ1 | 1.000 x 1.625 | 0.560 | 1.200 |
| 270 | 601D277F200JL1 | 1.000 x 2.125 | 0.365 | 1.650 |
| 390 | 601D397F200JP1 | 1.000 x 2.625 | 0.278 | 2.060 |
| 470 | 601D477F200JS1 | 1.000 x 3.125 | 0.221 | 2.490 |
| 560 | 601D567F200JT1 | 1.000 x 3.625 | 0.183 | 2.910 |

ELECTRICAL DATA AND ORDERING INFORMATION

| CAPACITANCE (μ F) | PART NUMBER | NOMINAL CASE SIZE D x L (in) | MAX. ESR at 120 Hz/25 °C (Ω) | MAX. RIPPLE at 120 Hz/85 °C (A) |
|---|----------------|------------------------------------|---|---------------------------------------|
| 250 WVDC AT + 85 °C, SURGE = 300 V | | | | |
| 15 | 601D156F250FE1 | 0.625 x 1.125 | 7.136 | 0.22 |
| 33 | 601D336F250FJ1 | 0.625 x 1.625 | 3.228 | 0.38 |
| 47 | 601D476F250FL1 | 0.625 x 2.125 | 2.132 | 0.52 |
| 68 | 601D686F250FP1 | 0.625 x 2.625 | 1.591 | 0.66 |
| 82 | 601D826F250FS1 | 0.625 x 3.125 | 1.270 | 0.80 |
| 100 | 601D107F250FT1 | 0.625 x 3.625 | 1.057 | 0.94 |
| 27 | 601D276F250GE1 | 0.750 x 1.125 | 3.614 | 0.34 |
| 56 | 601D566F250GJ1 | 0.750 x 1.625 | 1.721 | 0.57 |
| 100 | 601D107F250GL1 | 0.750 x 2.125 | 1.130 | 0.79 |
| 120 | 601D127F250GP1 | 0.750 x 2.625 | 0.880 | 0.98 |
| 150 | 601D157F250GS1 | 0.750 x 3.125 | 0.690 | 1.20 |
| 180 | 601D187F250GT1 | 0.750 x 3.625 | 0.568 | 1.41 |
| 47 | 601D476F250HE1 | 0.875 x 1.125 | 2.369 | 0.47 |
| 100 | 601D107F250HJ1 | 0.875 x 1.625 | 1.148 | 0.77 |
| 150 | 601D157F250HL1 | 0.875 x 2.125 | 0.753 | 1.06 |
| 180 | 601D187F250HP1 | 0.875 x 2.625 | 0.574 | 1.33 |
| 220 | 601D227F250HS1 | 0.875 x 3.125 | 0.464 | 1.59 |
| 270 | 601D277F250HT1 | 0.875 x 3.625 | 0.375 | 1.89 |
| 56 | 601D566F250JE1 | 1.000 x 1.125 | 1.708 | 0.60 |
| 120 | 601D127F250JJ1 | 1.000 x 1.625 | 0.829 | 0.98 |
| 180 | 601D187F250JL1 | 1.000 x 2.125 | 0.548 | 1.34 |
| 270 | 601D277F250JP1 | 1.000 x 2.625 | 0.410 | 1.69 |
| 330 | 601D337F250JS1 | 1.000 x 3.125 | 0.328 | 2.04 |
| 390 | 601D397F250JT1 | 1.000 x 3.625 | 0.274 | 2.38 |
| 300 WVDC AT + 85 °C, SURGE = 350 V | | | | |
| 12 | 601D126F300FE1 | 0.625 x 1.125 | 8.217 | 0.20 |
| 27 | 601D276F300FJ1 | 0.625 x 1.625 | 3.809 | 0.35 |
| 39 | 601D396F300FL1 | 0.625 x 2.125 | 2.479 | 0.48 |
| 47 | 601D476F300FP1 | 0.625 x 2.625 | 1.839 | 0.61 |
| 56 | 601D566F300FS1 | 0.625 x 3.125 | 1.461 | 0.75 |
| 68 | 601D686F300FT1 | 0.625 x 3.625 | 1.231 | 0.87 |
| 22 | 601D226F300GE1 | 0.750 x 1.125 | 4.164 | 0.32 |
| 47 | 601D476F300GJ1 | 0.750 x 1.625 | 1.931 | 0.54 |
| 68 | 601D686F300GL1 | 0.750 x 2.125 | 1.294 | 0.74 |
| 100 | 601D107F300GP1 | 0.750 x 2.625 | 0.953 | 0.94 |
| 120 | 601D127F300GS1 | 0.750 x 3.125 | 0.795 | 1.12 |
| 150 | 601D157F300GT1 | 0.750 x 3.625 | 0.672 | 1.30 |
| 33 | 601D336F300HE1 | 0.875 x 1.125 | 2.712 | 0.44 |
| 68 | 601D686F300HJ1 | 0.875 x 1.625 | 1.296 | 0.72 |
| 100 | 601D107F300HL1 | 0.875 x 2.125 | 0.886 | 0.98 |
| 150 | 601D157F300HP1 | 0.875 x 2.625 | 0.679 | 1.22 |
| 180 | 601D187F300HS1 | 0.875 x 3.125 | 0.519 | 1.50 |
| 220 | 601D227F300HT1 | 0.875 x 3.625 | 0.441 | 1.74 |
| 47 | 601D476F300JE1 | 1.000 x 1.125 | 1.973 | 0.56 |
| 100 | 601D107F300JJ1 | 1.000 x 1.625 | 0.947 | 0.92 |
| 150 | 601D157F300JL1 | 1.000 x 2.125 | 0.637 | 1.25 |
| 180 | 601D187F300JP1 | 1.000 x 2.625 | 0.468 | 1.59 |
| 220 | 601D227F300JS1 | 1.000 x 3.125 | 0.386 | 1.88 |
| 270 | 601D277F300JT1 | 1.000 x 3.625 | 0.318 | 2.21 |



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