

Aluminum Capacitors +85 °C, Snap-In



FEATURES

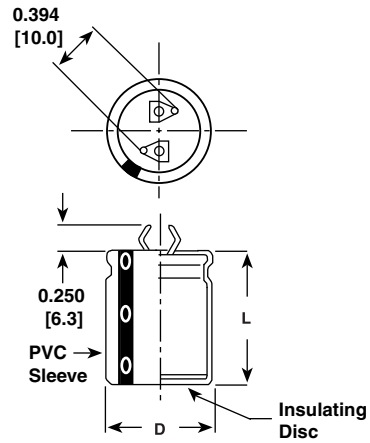
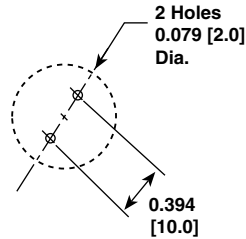
- Useful life: 2000 h at +85 °C
- General purpose
- Polarized aluminum electrolytic capacitors, non-solid electrolyte
- High ripple capability
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


**RoHS
COMPLIANT**

| QUICK REFERENCE DATA | |
|---|---|
| DESCRIPTION | VALUE |
| Nominal case size Ø D x L in inches (mm) | 1.38 x 3.15 (35.0 x 80.0) |
| Operating temperature | -40 °C to +85 °C |
| Rated capacitance range, C _R | 82 µF to 56 000 µF |
| Tolerance on C _R | -10 %, +30 % |
| Rated voltage range, U _R | 6.3 WV _{DC} to 250 WV _{DC} |
| Termination | Snap mount |
| Life validation test 2000 h at 85 °C | $\Delta\text{CAP} \leq 15\%$ from initial measurement. $\Delta\text{ESR} \leq 1.5 \times$ initial specified limit. $\Delta\text{DCL} \leq$ initial specified limit |
| Shelf life 500 h at 85 °C | $\Delta\text{CAP} \leq 15\%$ from initial measurement. $\Delta\text{ESR} \leq 1.3 \times$ initial specified limit. $\Delta\text{DCL} \leq 2 \times$ initial specified limit |
| DC leakage current | $I = k\sqrt{CV}$ k = 4.0 at +25 °C I in µA, C in µF, V in Volts |

| RIPPLE CURRENT MULTIPLIERS | | | |
|---|--------------|-------------|-------------|
| TEMPERATURE | | | |
| AMBIENT TEMPERATURE | | MULTIPLIERS | |
| -55 °C | | 2.0 | |
| -65 °C | | 1.7 | |
| -75 °C | | 1.4 | |
| -85 °C | | 1.0 | |
| FREQUENCY (Hz) | | | |
| WV _{DC} | 50 TO 60 | 300 TO 1000 | 1000 AND UP |
| 0 to 49 | 0.85 | 1.10 | 1.15 |
| 50 to 199 | 0.83 | 1.15 | 1.20 |
| 200 to 250 | 0.80 | 1.30 | 1.40 |
| ESL (TYPICAL VALUES AT 1 MHz TO 10 MHz) | | | |
| Nominal Diameter | 0.984 (25.0) | 1.18 (30.0) | 1.38 (35.0) |
| Typical ESL (nH) | 8.0 | 10.0 | 12.0 |

| DIMENSIONS in inches (millimeters) | | | | | | | | | |
|------------------------------------|-------------------------------|--|-----------------|--|-----------|-------------------------------|--|-----------------|--|
| CASE CODE | DIAMETER | | LENGTH | | CASE CODE | DIAMETER | | LENGTH | |
| | D + 0.039 / - 0 (+ 1.0 / - 0) | | L ± 0.079 (2.0) | | | D + 0.039 / - 0 (+ 1.0 / - 0) | | L ± 0.079 (2.0) | |
| JA | 1.00 (25.0) | | 1.00 (25.0) | | KD | 1.18 (30.0) | | 1.57 (40.0) | |
| JB | 1.00 (25.0) | | 1.18 (30.0) | | KE | 1.18 (30.0) | | 2.00 (50.0) | |
| JC | 1.00 (25.0) | | 1.38 (35.0) | | MB | 1.38 (35.0) | | 1.18 (30.0) | |
| JD | 1.00 (25.0) | | 1.57 (40.0) | | MC | 1.38 (35.0) | | 1.38 (35.0) | |
| JE | 1.00 (25.0) | | 2.00 (50.0) | | MD | 1.38 (35.0) | | 1.57 (40.0) | |
| KA | 1.18 (30.0) | | 1.00 (25.0) | | ME | 1.38 (35.0) | | 2.00 (50.0) | |
| KB | 1.18 (30.0) | | 1.18 (30.0) | | MF | 1.38 (35.0) | | 2.50 (63.0) | |
| KC | 1.18 (30.0) | | 1.38 (35.0) | | MG | 1.38 (35.0) | | 3.18 (80.0) | |

DIMENSIONAL AND AVAILABLE FORMS
STYLE D

ORDERING EXAMPLE

Electrolytic capacitor 80D series: 80D122P200ME2DE3

| DESCRIPTION | |
|-------------|------------------------------------|
| CODE | EXPLANATION |
| 80D | Product type |
| 122 | Capacitance value (1200 μ F) |
| P | Tolerance (P = -10 % / +30 %) |
| 200 | Voltage rating at 85 °C (200 V) |
| ME | Can size (see dimensions table) |
| 2 | PVC insulating sleeve |
| D | Terminal style (D = 2 pin snap-in) |
| E3 | RoHS compliant |

| ELECTRICAL DATA AND ORDERING INFORMATION | | | | | | |
|---|------------------|----------------------------|------------------------|------------------|---------------------------|------------------|
| CAPACITANCE (μ F) | PART NUMBER | NOMINAL CASE SIZE D x L | MAX. ESR (m Ω) | | MAX. RIPPLE AT +85 °C (A) | |
| | | | 120 Hz | 10 kHz TO 40 kHz | 120 Hz | 10 kHz TO 40 kHz |
| 16 WV_{DC} AT +85 °C, SURGE = 20 V | | | | | | |
| 8200.0 | 80D822P016JB2DE3 | 0.984 x 1.18 (25.0 x 30.0) | 73.0 | 65.0 | 3.3 | 3.6 |
| 8200.0 | 80D822P016KA2DE3 | 1.18 x 0.984 (30.0 x 25.0) | 91.0 | 84.0 | 2.8 | 3.0 |
| 10 000.0 | 80D103P016JC2DE3 | 0.984 x 1.38 (25.0 x 35.0) | 59.0 | 53.0 | 3.9 | 4.2 |
| 15 000.0 | 80D153P016JE2DE3 | 0.984 x 1.97 (25.0 x 50.0) | 37.0 | 33.0 | 5.6 | 6.0 |
| 22 000.0 | 80D223P016KE2DE3 | 1.18 x 1.97 (30.0 x 50.0) | 35.0 | 32.0 | 5.8 | 6.1 |
| 33 000.0 | 80D333P016ME2DE3 | 1.38 x 1.97 (35.0 x 50.0) | 19.0 | 17.0 | 9.4 | 10.0 |
| 25 WV_{DC} AT +85 °C, SURGE = 30 V | | | | | | |
| 4700.0 | 80D472P025JB2DE3 | 0.984 x 1.18 (25.0 x 30.0) | 76.0 | 65.0 | 3.2 | 3.6 |
| 6800.0 | 80D682P025KB2DE3 | 1.18 x 1.18 (30.0 x 30.0) | 71.0 | 63.0 | 3.4 | 3.6 |
| 10 000.0 | 80D103P025JE2DE3 | 0.984 x 1.97 (25.0 x 50.0) | 39.0 | 33.0 | 5.4 | 6.0 |
| 10 000.0 | 80D103P025MB2DE3 | 1.38 x 1.18 (35.0 x 30.0) | 38.0 | 33.0 | 5.5 | 6.2 |
| 15 000.0 | 80D153P025KE2DE3 | 1.18 x 1.97 (30.0 x 50.0) | 36.0 | 32.0 | 5.7 | 6.1 |
| 22 000.0 | 80D223P025ME2DE3 | 1.38 x 1.97 (35.0 x 50.0) | 19.0 | 17.0 | 9.1 | 10.0 |



| ELECTRICAL DATA AND ORDERING INFORMATION | | | | | | |
|---|------------------|-----------------------------|------------------------|------------------|---------------------------|------------------|
| CAPACITANCE (μ F) | PART NUMBER | NOMINAL CASE SIZE D x L | MAX. ESR (m Ω) | | MAX. RIPPLE AT +85 °C (A) | |
| | | | 120 Hz | 10 kHz TO 40 kHz | 120 Hz | 10 kHz TO 40 kHz |
| 35 WV_{DC} AT +85 °C, SURGE = 44 V | | | | | | |
| 6800.0 | 80D682P035KC2DE3 | 1.18 x 1.38 (30.0 x 35.0) | 60.0 | 51.0 | 3.8 | 4.2 |
| 10 000.0 | 80D103P035MC2DE3 | 1.38 x 1.38 (35.0 x 35.0) | 33.0 | 27.0 | 6.2 | 7.2 |
| 12 000.0 | 80D123P035KE2DE3 | 1.18 x 1.97 (30.0 x 50.0) | 33.0 | 27.0 | 6.2 | 7.2 |
| 15 000.0 | 80D153P035ME2DE3 | 1.38 x 1.97 (35.0 x 50.0) | 20.0 | 17.0 | 8.8 | 10.0 |
| 50 WV_{DC} AT +85 °C, SURGE = 63 V | | | | | | |
| 3300.0 | 80D332P050JD2DE3 | 0.984 x 1.57 (25.0 x 40.0) | 57.0 | 42.0 | 3.9 | 4.9 |
| 3300.0 | 80D332P050KB2DE3 | 1.18 x 1.18 (30.0 x 30.0) | 79.0 | 63.0 | 3.1 | 3.6 |
| 4700.0 | 80D472P050KD2DE3 | 1.18 x 1.57 (30.0 x 40.0) | 51.0 | 41.0 | 4.3 | 4.9 |
| 6800.0 | 80D682P050KE2DE3 | 1.18 x 1.97 (30.0 x 50.0) | 40.0 | 32.0 | 5.3 | 6.1 |
| 63 WV_{DC} AT +85 °C, SURGE = 79 V | | | | | | |
| 1500.0 | 80D152P063JB2DE3 | 0.984 x 1.18 (25.0 x 30.0) | 82.0 | 55.0 | 2.8 | 3.8 |
| 2200.0 | 80D222P063KB2DE3 | 1.18 x 1.18 (30.0 x 30.0) | 72.0 | 54.0 | 3.2 | 3.9 |
| 3300.0 | 80D332P063MB2DE3 | 1.38 x 1.18 (35.0 x 30.0) | 40.0 | 28.0 | 5.0 | 6.6 |
| 4700.0 | 80D472P063KE2DE3 | 1.18 x 1.97 (30.0 x 50.0) | 36.0 | 28.0 | 5.4 | 6.4 |
| 6800.0 | 80D682P063ME2DE3 | 1.38 x 1.97 (35.0 x 50.0) | 21.0 | 15.0 | 8.3 | 10.0 |
| 100 WV_{DC} AT +85 °C, SURGE = 125 V | | | | | | |
| 680.0 | 80D681P100JB2DE3 | 0.984 x 1.18 (25.0 x 30.0) | 139.0 | 85.0 | 2.2 | 3.5 |
| 1000.0 | 80D102P100KB2DE3 | 1.18 x 1.18 (30.0 x 30.0) | 111.0 | 74.0 | 2.7 | 3.7 |
| 1500.0 | 80D152P100JE2DE3 | 0.984 x 1.97 (25.0 x 50.0) | 68.0 | 42.0 | 3.9 | 5.9 |
| 2200.0 | 80D222P100KE2DE3 | 1.18 x 1.97 (30.0 x 50.0) | 55.0 | 37.0 | 4.7 | 6.2 |
| 3300.0 | 80D332P100ME2DE3 | 1.38 x 1.97 (35.0 x 50.0) | 50.0 | 37.0 | 5.2 | 6.2 |
| 200 WV_{DC} AT +85 °C, SURGE = 250 V | | | | | | |
| 150.0 | 80D151P200JA2DE3 | 0.984 x 0.984 (25.0 x 25.0) | 660.0 | 375.0 | 1.3 | 3.2 |
| 220.0 | 80D221P200KA2DE3 | 1.18 x 0.984 (30.0 x 25.0) | 460.0 | 272.0 | 1.7 | 3.6 |
| 330.0 | 80D331P200KC2DE3 | 1.18 x 1.38 (30.0 x 35.0) | 278.0 | 165.0 | 2.4 | 4.9 |
| 470.0 | 80D471P200KD2DE3 | 1.18 x 1.57 (30.0 x 40.0) | 220.0 | 131.0 | 2.8 | 5.7 |
| 680.0 | 80D681P200KD2DE3 | 1.18 x 1.57 (30.0 x 40.0) | 248.0 | 127.0 | 2.1 | 4.7 |
| 820.0 | 80D821P200ME2DE3 | 1.38 x 1.97 (35.0 x 50.0) | 130.0 | 82.0 | 4.3 | 7.4 |
| 1000.0 | 80D102P200ME2DE3 | 1.38 x 1.97 (35.0 x 50.0) | 144.0 | 81.0 | 3.4 | 6.6 |
| 1200.0 | 80D122P200ME2DE3 | 1.38 x 1.97 (35.0 x 50.0) | 141.0 | 75.0 | 3.4 | 6.6 |
| 250 WV_{DC} AT +85 °C, SURGE = 300 V | | | | | | |
| 100.0 | 80D101P250JA2DE3 | 0.984 x 0.984 (25.0 x 25.0) | 720.0 | 377.0 | 1.1 | 3.2 |
| 150.0 | 80D151P250JB2DE3 | 0.984 x 1.18 (25.0 x 30.0) | 541.0 | 284.0 | 1.4 | 3.8 |
| 220.0 | 80D221P250JD2DE3 | 0.984 x 1.57 (25.0 x 40.0) | 343.0 | 182.0 | 2.0 | 5.2 |
| 330.0 | 80D331P250JE2DE3 | 0.984 x 1.97 (25.0 x 50.0) | 263.0 | 140.0 | 2.5 | 6.3 |
| 470.0 | 80D471P250KE2DE3 | 1.18 x 1.97 (30.0 x 50.0) | 185.0 | 101.0 | 3.2 | 7.0 |
| 680.0 | 80D681P250ME2DE3 | 1.38 x 1.97 (35.0 x 50.0) | 191.0 | 81.0 | 4.0 | 7.4 |

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



Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.