

DV SERIES - LOW IMPEDANCE, AUTOMOTIVE 105°C TYPE

KEY FEATURES



- ALUMINUM ELECTROLYTIC CAPACITOR - SMD type
- Endurance: 105°C - 2 000 hours up to 5 000 hours
- Low impedance type
- Vibration-proof (VP) version (up to 30g) available upon request
- AEC-Q200 version available



SPECIFICATIONS

| Items | | Performance Characteristics | | | | | | | | | |
|--|--|--|-----|----|----|----|----|----|----|----------------------------|-----|
| Operating Temperature Range | | -55 ~ +105°C | | | | | | | | | |
| Rated Voltage Range | V_R | 6.3 ~ 100V DC | | | | | | | | | |
| Surge Voltage | V_S | $V_S = 1.15 \cdot V_R$ | | | | | | | | | |
| Capacitance Range | C_R | 1 ~ 6800 μ F | | | | | | | | | |
| Cap. Tolerance | ΔC | $\pm 20\%$ (120Hz - 20°C) | | | | | | | | | |
| Leakage Current (20°C - V_R applied) | I_{LEAK} | $\leq 0.01 \cdot C_R \cdot V_R$ or 3 μ A, whichever is greater - After 2 minutes [I_{LEAK} (μ A) ; C_R (μ F) ; V_R (V)] | | | | | | | | | |
| Dissipation Factor % (20°C - 120Hz) | $\tan\delta$ | V_R (V DC) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 80 | 100 |
| | | $\tan\delta$ | 24 | 19 | 16 | 14 | 14 | 12 | 10 | 9 | 8 |
| Low Temperature Characteristics at 120Hz | Z ratio max. | V_R (V DC) | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 80 | 100 |
| | | Z-25°C/Z+20°C | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | Z-40°C/Z+20°C | 8 | 6 | 4 | 4 | 3 | 3 | 3 | 3 | 3 |
| | | Z-55°C/Z+20°C | 12 | 10 | 6 | 6 | 4 | 4 | 4 | 4 | 4 |
| Lifetime Test | | | | | | | | | | | |
| Endurance 105°C (V_R applied) | Test | 5 000 hours | | | | | | | | $\geq \varnothing 12.5$ mm | |
| | Test | 2 000 hours | | | | | | | | $< \varnothing 12.5$ mm | |
| | $\Delta C/C_R$ | $\leq \pm 30\%$ of initial measured value | | | | | | | | | |
| | $\tan\delta$ | $\leq 300\%$ of initial specified value | | | | | | | | | |
| | I_{Leak} | \leq the initial specified value | | | | | | | | | |
| Shelf Life 105°C ($V_R = 0$) | Test | 1 000 hours | | | | | | | | | |
| | $\Delta C/C_R$ | $\leq \pm 30\%$ of initial measured value | | | | | | | | | |
| | $\tan\delta$ | $\leq 300\%$ of initial specified value | | | | | | | | | |
| | I_{Leak} | \leq the initial specified value | | | | | | | | | |
| Resistance to Soldering Heat | Before measurement: Restore capacitor to 20°C, apply V_R for 30 min according JIS-C-5101-4 | | | | | | | | | | |
| | The capacitors shall be kept on a hot plate maintained at 250°C for 30 seconds. After removing from the hot plate and restored at room temperature, they meet the characteristic requirements listed below | | | | | | | | | | |
| | $\Delta C/C_R$ | Within $\pm 10\%$ of initial value | | | | | | | | | |
| | $\tan\delta$ | Less than specified value | | | | | | | | | |
| | I_{Leak} | Less than specified value | | | | | | | | | |

STANDARD RATINGS

Part number shows blister tape on paper reel

| V _R (V) | Standard | C _R (µF) | ø D (mm) | L (mm) | Z - Max. Impedance +20°C - 100kHz (mΩ) | I _R - Max. Ripple Current +105°C - 100kHz (mA rms) | CapXon Part Number | |
|-----------------------|-----------------|------------------------|-------------|-----------|---|--|---------------------|---------------------|
| | Vibration-proof | | | | | | | |
| 6.3 | • | 22 | 4.0 | 5.5 | 2200 | 75 | DV220M6R3B055ETR □□ | |
| | • | 27 | 4.0 | 5.5 | 1980 | 79 | DV270M6R3B055ETR □□ | |
| | • | 33 | 4.0 | 5.5 | 1900 | 82 | DV330M6R3B055ETR □□ | |
| | • | 33 | 5.0 | 5.5 | 1300 | 130 | DV330M6R3C055ETR □□ | |
| | • | 47 | 4.0 | 5.5 | 1880 | 86 | DV470M6R3B055ETR □□ | |
| | • | 47 | 5.0 | 5.5 | 1100 | 150 | DV470M6R3C055ETR □□ | |
| | • | 56 | 5.0 | 5.5 | 1100 | 150 | DV560M6R3C055ETR □□ | |
| | • | 68 | 5.0 | 5.5 | 900 | 160 | DV680M6R3C055ETR □□ | |
| | • | 68 | 6.3 | 5.5 | 550 | 220 | DV680M6R3E055ETR □□ | |
| | • | 100 | 5.0 | 5.5 | 800 | 170 | DV101M6R3C055ETR □□ | |
| | • | 100 | 6.3 | 5.5 | 530 | 230 | DV101M6R3E055ETR □□ | |
| | • | 150 | 6.3 | 5.5 | 510 | 235 | DV151M6R3E055ETR □□ | |
| | • | 150 | 8.0 | 6.5 | 480 | 250 | DV151M6R3F065ETR □□ | |
| | • | • | 220 | 6.3 | 7.7 | 450 | 260 | DV221M6R3E077ETR □□ |
| | • | • | 220 | 6.3 | 5.5 | 480 | 240 | DV221M6R3E055ETR □□ |
| | • | • | 330 | 6.3 | 7.7 | 360 | 275 | DV331M6R3E077ETR □□ |
| | • | • | 330 | 8.0 | 6.5 | 340 | 290 | DV331M6R3F065ETR □□ |
| | • | • | 470 | 8.0 | 10.5 | 280 | 450 | DV471M6R3F105ETR □□ |
| | • | • | 680 | 8.0 | 10.5 | 250 | 500 | DV681M6R3F105ETR □□ |
| | 10 | • | • | 1000 | 8.0 | 10.5 | 200 | 530 |
| • | | • | 1000 | 10.0 | 10.5 | 170 | 570 | DV102M6R3G105ETR □□ |
| • | | • | 1200 | 10.0 | 10.5 | 160 | 600 | DV122M6R3G105ETR □□ |
| • | | • | 1500 | 10.0 | 10.5 | 130 | 650 | DV152M6R3G105ETR □□ |
| • | | • | 1800 | 10.0 | 10.5 | 80 | 860 | DV182M6R3G105ETR □□ |
| • | | • | 3300 | 12.5 | 14.0 | 80 | 1100 | DV332M6R3Z140ETR □□ |
| • | | • | 6800 | 16.0 | 17.0 | 52 | 1250 | DV682M6R3J170ETR □□ |
| • | | • | 22 | 4.0 | 5.5 | 2200 | 80 | DV220M010B055ETR □□ |
| • | | • | 27 | 5.0 | 5.5 | 1900 | 125 | DV270M010C055ETR □□ |
| • | | • | 33 | 4.0 | 5.5 | 1850 | 90 | DV330M010B055ETR □□ |
| • | | • | 33 | 5.0 | 5.5 | 1200 | 150 | DV330M010C055ETR □□ |
| • | | • | 47 | 5.0 | 5.5 | 1100 | 165 | DV470M010C055ETR □□ |
| • | | • | 47 | 6.3 | 5.5 | 590 | 180 | DV470M010E055ETR □□ |
| • | | • | 56 | 6.3 | 5.5 | 570 | 210 | DV560M010E055ETR □□ |
| • | | • | 68 | 6.3 | 5.5 | 550 | 220 | DV680M010E055ETR □□ |
| • | | • | 100 | 5.0 | 5.5 | 800 | 210 | DV101M010C055ETR □□ |
| • | | • | 100 | 6.3 | 5.5 | 530 | 240 | DV101M010E055ETR □□ |
| • | | • | 150 | 6.3 | 5.5 | 490 | 250 | DV151M010E055ETR □□ |
| • | | • | 150 | 8.0 | 6.5 | 470 | 260 | DV151M010F065ETR □□ |
| • | | • | 220 | 6.3 | 7.7 | 440 | 270 | DV221M010E077ETR □□ |
| • | • | 220 | 8.0 | 6.5 | 400 | 285 | DV221M010F065ETR □□ | |
| • | • | 330 | 8.0 | 10.5 | 250 | 500 | DV331M010F105ETR □□ | |
| • | • | 470 | 8.0 | 10.5 | 250 | 550 | DV471M010F105ETR □□ | |
| • | • | 680 | 10.0 | 10.5 | 200 | 680 | DV681M010G105ETR □□ | |

□□ see description at end of standard ratings

STANDARD RATINGS

Part number shows blister tape on paper reel

| V _R (V) | Standard | C _R (μF) | ø D (mm) | L (mm) | Z - Max. Impedance +20°C - 100kHz (mΩ) | I _R - Max. Ripple Current +105°C - 100kHz (mA rms) | CapXon Part Number |
|-----------------------|-----------------|------------------------|-------------|-----------|---|--|---------------------|
| | Vibration-proof | | | | | | |
| 10 | • • | 1000 | 10.0 | 10.5 | 150 | 740 | DV102M010G105ETR ☐☐ |
| | • • | 2200 | 12.5 | 14.0 | 80 | 1100 | DV222M010Z140ETR ☐☐ |
| | • • | 4700 | 16.0 | 17.0 | 52 | 1250 | DV472M010J170ETR ☐☐ |
| 16 | • | 10 | 4.0 | 5.5 | 2200 | 80 | DV100M016B055ETR ☐☐ |
| | • | 15 | 4.0 | 5.5 | 2000 | 85 | DV150M016B055ETR ☐☐ |
| | • | 22 | 4.0 | 5.5 | 1980 | 90 | DV220M016B055ETR ☐☐ |
| | • | 22 | 5.0 | 5.5 | 1600 | 140 | DV220M016C055ETR ☐☐ |
| | • | 27 | 5.0 | 5.5 | 740 | 170 | DV270M016C055ETR ☐☐ |
| | • | 33 | 6.3 | 5.5 | 600 | 185 | DV330M016E055ETR ☐☐ |
| | • | 47 | 5.0 | 5.5 | 1050 | 195 | DV470M016C055ETR ☐☐ |
| | • | 47 | 6.3 | 5.5 | 580 | 210 | DV470M016E055ETR ☐☐ |
| | • | 56 | 6.3 | 5.5 | 560 | 220 | DV560M016E055ETR ☐☐ |
| | • | 68 | 6.3 | 5.5 | 540 | 230 | DV680M016E055ETR ☐☐ |
| | • | 68 | 8.0 | 6.5 | 500 | 240 | DV680M016F065ETR ☐☐ |
| | • | 100 | 6.3 | 5.5 | 520 | 255 | DV101M016E055ETR ☐☐ |
| | • • | 150 | 6.3 | 7.7 | 450 | 265 | DV151M016E077ETR ☐☐ |
| | • | 150 | 8.0 | 6.5 | 440 | 270 | DV151M016F065ETR ☐☐ |
| | • • | 220 | 6.3 | 7.7 | 430 | 275 | DV221M016E077ETR ☐☐ |
| | • | 220 | 8.0 | 6.5 | 410 | 285 | DV221M016F065ETR ☐☐ |
| | • • | 330 | 8.0 | 10.5 | 250 | 550 | DV331M016F105ETR ☐☐ |
| | • • | 470 | 8.0 | 10.5 | 220 | 590 | DV471M016F105ETR ☐☐ |
| | • • | 680 | 10.0 | 10.5 | 160 | 720 | DV681M016G105ETR ☐☐ |
| | • • | 1500 | 12.5 | 14.0 | 80 | 1100 | DV152M016Z140ETR ☐☐ |
| • • | 3300 | 16.0 | 17.0 | 52 | 1250 | DV332M016J170ETR ☐☐ | |
| 25 | • | 6.8 | 4.0 | 5.5 | 2800 | 70 | DV6R8M025B055ETR ☐☐ |
| | • | 10 | 4.0 | 5.5 | 2100 | 85 | DV100M025B055ETR ☐☐ |
| | • | 15 | 5.0 | 5.5 | 1900 | 125 | DV150M025C055ETR ☐☐ |
| | • | 22 | 5.0 | 5.5 | 1200 | 145 | DV220M025C055ETR ☐☐ |
| | • | 22 | 6.3 | 5.5 | 1150 | 160 | DV220M025E055ETR ☐☐ |
| | • | 27 | 6.3 | 5.5 | 620 | 200 | DV270M025E055ETR ☐☐ |
| | • | 33 | 5.0 | 5.5 | 1050 | 160 | DV330M025C055ETR ☐☐ |
| | • | 33 | 6.3 | 5.5 | 580 | 220 | DV330M025E055ETR ☐☐ |
| | • • | 47 | 6.3 | 7.7 | 540 | 230 | DV470M025E077ETR ☐☐ |
| | • | 47 | 6.3 | 5.5 | 560 | 220 | DV470M025E055ETR ☐☐ |
| | • | 56 | 6.3 | 5.5 | 540 | 230 | DV560M025E055ETR ☐☐ |
| | • | 68 | 6.3 | 5.5 | 480 | 240 | DV680M025E055ETR ☐☐ |
| | • | 68 | 8.0 | 6.5 | 450 | 260 | DV680M025F065ETR ☐☐ |
| | • • | 100 | 6.3 | 7.7 | 380 | 290 | DV101M025E077ETR ☐☐ |
| | • | 100 | 8.0 | 6.5 | 360 | 300 | DV101M025F065ETR ☐☐ |
| | • • | 150 | 8.0 | 10.5 | 250 | 480 | DV151M025F105ETR ☐☐ |
| | • • | 220 | 8.0 | 10.5 | 220 | 530 | DV221M025F105ETR ☐☐ |
| | • • | 330 | 8.0 | 10.5 | 200 | 570 | DV331M025F105ETR ☐☐ |
| | • • | 470 | 10.0 | 10.5 | 150 | 650 | DV471M025G105ETR ☐☐ |

☐☐ see description at end of standard ratings

STANDARD RATINGS

Part number shows blister tape on paper reel

| V _R (V) | | | C _R (μF) | ø D (mm) | L (mm) | Z - Max. Impedance +20°C - 100kHz (mΩ) | I _R - Max. Ripple Current +105°C - 100kHz (mA rms) | CapXon Part Number |
|-----------------------|----------|-----------------|------------------------|-------------|-----------|---|--|---------------------|
| | Standard | Vibration-proof | | | | | | |
| 25 | • | • | 1000 | 12.5 | 14.0 | 80 | 1100 | DV102M025Z140ETR □□ |
| | • | • | 2200 | 16.0 | 17.0 | 52 | 1250 | DV222M025J170ETR □□ |
| 35 | • | | 3.3 | 4.0 | 5.5 | 2800 | 80 | DV3R3M035B055ETR □□ |
| | • | | 4.7 | 4.0 | 5.5 | 2500 | 85 | DV4R7M035B055ETR □□ |
| | • | | 6.8 | 4.0 | 5.5 | 2200 | 88 | DV6R8M035B055ETR □□ |
| | • | | 10 | 4.0 | 5.5 | 2000 | 90 | DV100M035B055ETR □□ |
| | • | | 10 | 5.0 | 5.5 | 1400 | 125 | DV100M035C055ETR □□ |
| | • | | 15 | 5.0 | 5.5 | 1200 | 140 | DV150M035C055ETR □□ |
| | • | | 22 | 5.0 | 5.5 | 1100 | 155 | DV220M035C055ETR □□ |
| | • | | 22 | 6.3 | 5.5 | 1050 | 170 | DV220M035E055ETR □□ |
| | • | | 27 | 6.3 | 5.5 | 600 | 210 | DV270M035E055ETR □□ |
| | • | | 33 | 6.3 | 5.5 | 540 | 230 | DV330M035E055ETR □□ |
| | • | | 33 | 8.0 | 6.5 | 510 | 260 | DV330M035F065ETR □□ |
| | • | | 47 | 6.3 | 5.5 | 530 | 240 | DV470M035E055ETR □□ |
| | • | | 47 | 8.0 | 6.5 | 490 | 250 | DV470M035F065ETR □□ |
| | • | • | 56 | 6.3 | 7.7 | 490 | 250 | DV560M035E077ETR □□ |
| | • | • | 68 | 6.3 | 7.7 | 400 | 265 | DV680M035E077ETR □□ |
| | • | • | 100 | 6.3 | 7.7 | 380 | 300 | DV101M035E077ETR □□ |
| | • | • | 100 | 8.0 | 10.5 | 280 | 420 | DV101M035F105ETR □□ |
| | • | • | 150 | 8.0 | 10.5 | 240 | 510 | DV151M035F105ETR □□ |
| | • | • | 220 | 8.0 | 10.5 | 210 | 570 | DV221M035F105ETR □□ |
| | • | • | 330 | 10.0 | 10.5 | 150 | 650 | DV331M035G105ETR □□ |
| 50 | • | | 1 | 4.0 | 5.5 | 4500 | 55 | DV010M050B055ETR □□ |
| | • | | 2.2 | 4.0 | 5.5 | 4500 | 55 | DV2R2M050B055ETR □□ |
| | • | | 3.3 | 4.0 | 5.5 | 4500 | 55 | DV3R3M050B055ETR □□ |
| | • | | 4.7 | 4.0 | 5.5 | 4500 | 55 | DV4R7M050B055ETR □□ |
| | • | | 6.8 | 5.0 | 5.5 | 3800 | 75 | DV6R8M050C055ETR □□ |
| | • | | 10 | 5.0 | 5.5 | 2800 | 95 | DV100M050C055ETR □□ |
| | • | | 10 | 6.3 | 5.5 | 2200 | 130 | DV100M050E055ETR □□ |
| | • | | 15 | 6.3 | 5.5 | 1600 | 140 | DV150M050E055ETR □□ |
| | • | | 22 | 6.3 | 5.5 | 1300 | 150 | DV220M050E055ETR □□ |
| | • | • | 27 | 6.3 | 7.7 | 1200 | 180 | DV270M050E077ETR □□ |
| | • | • | 33 | 6.3 | 7.7 | 710 | 190 | DV330M050E077ETR □□ |
| | • | | 33 | 8.0 | 6.5 | 700 | 200 | DV330M050F065ETR □□ |
| | • | • | 47 | 6.3 | 7.7 | 700 | 230 | DV470M050E077ETR □□ |
| | • | | 47 | 8.0 | 6.5 | 690 | 240 | DV470M050F065ETR □□ |
| | • | • | 56 | 8.0 | 10.5 | 520 | 300 | DV560M050F105ETR □□ |
| | • | • | 68 | 8.0 | 10.5 | 500 | 320 | DV680M050F105ETR □□ |
| | • | • | 100 | 8.0 | 10.5 | 460 | 350 | DV101M050F105ETR □□ |
| | • | • | 150 | 10.0 | 10.5 | 250 | 600 | DV151M050G105ETR □□ |

□□ see description at end of standard ratings

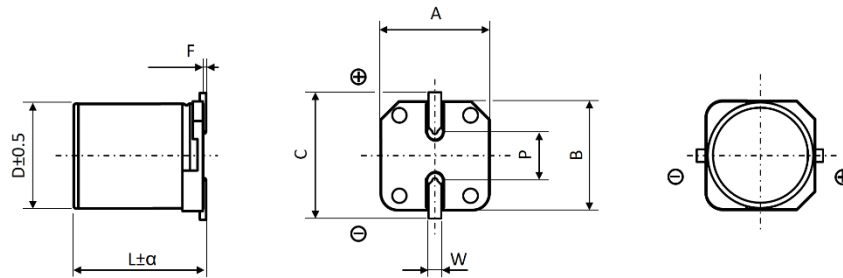
STANDARD RATINGS

Part number shows blister tape on paper reel

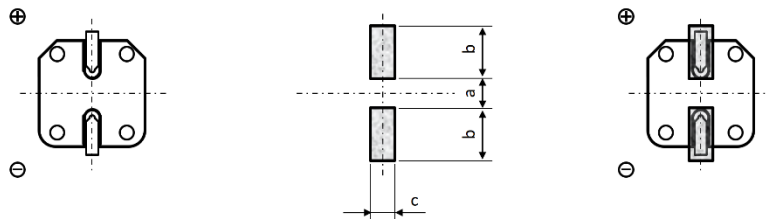
| V _R (V) | Standard | Vibration-proof | C _R (μF) | ø D (mm) | L (mm) | Z - Max. Impedance +20°C - 100kHz (mΩ) | I _R - Max. Ripple Current +105°C - 100kHz (mA rms) | CapXon Part Number |
|-----------------------|----------|-----------------|------------------------|-------------|-----------|---|--|---------------------|
| | | | | | | | | |
| 50 | • | • | 220 | 10.0 | 10.5 | 230 | 650 | DV221M050G105ETR □□ |
| | • | • | 330 | 12.5 | 14.0 | 210 | 800 | DV331M050Z140ETR □□ |
| | • | • | 1000 | 16.0 | 17.0 | 78 | 1000 | DV102M050J170ETR □□ |
| 63 | • | | 4.7 | 5.0 | 5.5 | 2800 | 45 | DV4R7M063C055ETR □□ |
| | • | | 10 | 6.3 | 5.5 | 1600 | 80 | DV100M063E055ETR □□ |
| | • | • | 22 | 6.3 | 7.7 | 1100 | 150 | DV220M063E077ETR □□ |
| | • | • | 33 | 8.0 | 10.5 | 800 | 230 | DV330M063F105ETR □□ |
| | • | • | 47 | 8.0 | 10.5 | 550 | 260 | DV470M063F105ETR □□ |
| | • | • | 68 | 10.0 | 10.5 | 400 | 380 | DV680M063G105ETR □□ |
| | • | • | 100 | 10.0 | 10.5 | 280 | 400 | DV101M063G105ETR □□ |
| | • | • | 100 | 12.5 | 14.0 | 260 | 520 | DV101M063Z140ETR □□ |
| | • | • | 150 | 12.5 | 14.0 | 200 | 780 | DV151M063Z140ETR □□ |
| | • | • | 220 | 12.5 | 14.0 | 180 | 810 | DV221M063Z140ETR □□ |
| | • | • | 470 | 16.0 | 17.0 | 85 | 1390 | DV471M063J170ETR □□ |
| 80 | • | | 4.7 | 6.3 | 5.5 | 3800 | 50 | DV4R7M080E055ETR □□ |
| | • | • | 10 | 6.3 | 7.7 | 3000 | 70 | DV100M080E077ETR □□ |
| | • | • | 22 | 6.3 | 7.7 | 1700 | 110 | DV220M080E077ETR □□ |
| | • | • | 33 | 8.0 | 10.5 | 1100 | 200 | DV330M080F105ETR □□ |
| | • | • | 47 | 10.0 | 10.5 | 900 | 320 | DV470M080G105ETR □□ |
| | • | • | 68 | 10.0 | 10.5 | 650 | 490 | DV680M080G105ETR □□ |
| | • | • | 100 | 12.5 | 14.0 | 420 | 580 | DV101M080Z140ETR □□ |
| | • | • | 220 | 16.0 | 17.0 | 260 | 930 | DV221M080J170ETR □□ |
| 100 | • | • | 10 | 6.3 | 7.7 | 4000 | 65 | DV100M100E077ETR □□ |
| | • | • | 22 | 8.0 | 10.5 | 2000 | 110 | DV220M100F105ETR □□ |
| | • | • | 33 | 10.0 | 10.5 | 1300 | 180 | DV330M100G105ETR □□ |
| | • | • | 47 | 10.0 | 10.5 | 1000 | 370 | DV470M100G105ETR □□ |
| | • | • | 47 | 12.5 | 14.0 | 950 | 480 | DV470M100Z140ETR □□ |
| | • | • | 68 | 12.5 | 14.0 | 600 | 580 | DV680M100Z140ETR □□ |
| | • | • | 100 | 12.5 | 14.0 | 500 | 620 | DV101M100Z140ETR □□ |
| | • | • | 220 | 16.0 | 17.0 | 280 | 1050 | DV221M100J170ETR □□ |

□□: Enter **blank** for Standard package
 □□: Enter **W** for Vibration proof version

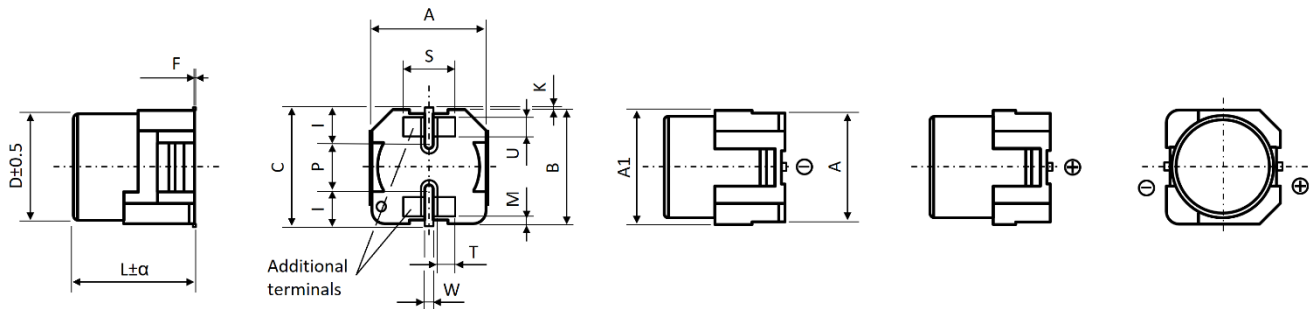
□□: Enter **X** for AEC-Q200
 □□: Enter **XW** for AEC-Q200 and Vibration proof version

DIMENSIONS STANDARD PACKAGE ▪ All dimensions in mm


| ϕD | L | α | $A \pm 0.2$ | $B \pm 0.2$ | $C \pm 0.2$ | F | $P \pm 0.2$ | W |
|----------|------|----------|-------------|-------------|-------------|----------|-------------|------------|
| 4.0 | 5.5 | Max | 4.3 | 4.3 | 4.9 | 0.3 max. | 1.0 | 0.5 to 0.8 |
| 5.0 | 5.5 | Max | 5.3 | 5.3 | 5.9 | 0.3 max. | 1.4 | 0.5 to 0.8 |
| 6.3 | 5.5 | 0.2 | 6.6 | 6.6 | 7.2 | 0.3 max. | 2.2 | 0.5 to 0.8 |
| 6.3 | 7.7 | Max | 6.6 | 6.6 | 7.2 | 0.3 max. | 2.2 | 0.5 to 0.8 |
| 8.0 | 6.5 | Max | 8.3 | 8.3 | 9.0 | 0.3 max. | 2.3 | 0.5 to 0.8 |
| 8.0 | 10.5 | Max | 8.3 | 8.3 | 9.0 | 0.3 max. | 3.1 | 0.7 to 1.1 |
| 10.0 | 10.5 | Max | 10.3 | 10.3 | 11.0 | 0.3 max. | 4.5 | 0.7 to 1.1 |
| 12.5 | 14.0 | Max | 13.0 | 13.0 | 13.9 | 0.3 max. | 4.5 | 1 to 1.4 |
| 16.0 | 17.0 | 0.5 | 17.0 | 17.0 | 18.0 | 0.3 max. | 6.6 | 1 to 1.4 |

PAD LAYOUT STANDARD PACKAGE ▪ All dimensions in mm

Bottom view
Recommended land patterns
Capacitor mounted on pads

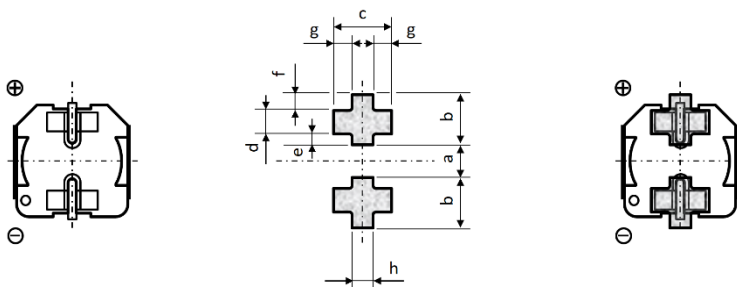
| ϕD | L | a | b | c |
|----------|------|-----|-----|-----|
| 4.0 | 5.5 | 1.0 | 2.6 | 1.6 |
| 5.0 | 5.5 | 1.4 | 3.0 | 1.6 |
| 6.3 | 5.5 | 2.1 | 3.5 | 1.6 |
| 6.3 | 7.7 | 2.1 | 3.5 | 1.6 |
| 8.0 | 6.5 | 2.1 | 4.5 | 1.6 |
| 8.0 | 10.5 | 2.8 | 4.2 | 1.9 |
| 10.0 | 10.5 | 4.3 | 4.4 | 1.9 |
| 12.5 | 14.0 | 4.3 | 5.8 | 2.5 |
| 16.0 | 17.0 | 6.0 | 6.5 | 3.5 |

DIMENSIONS VP PACKAGE (VIBRATION-PROOF) Ø D6.3 ▪ All dimensions in mm


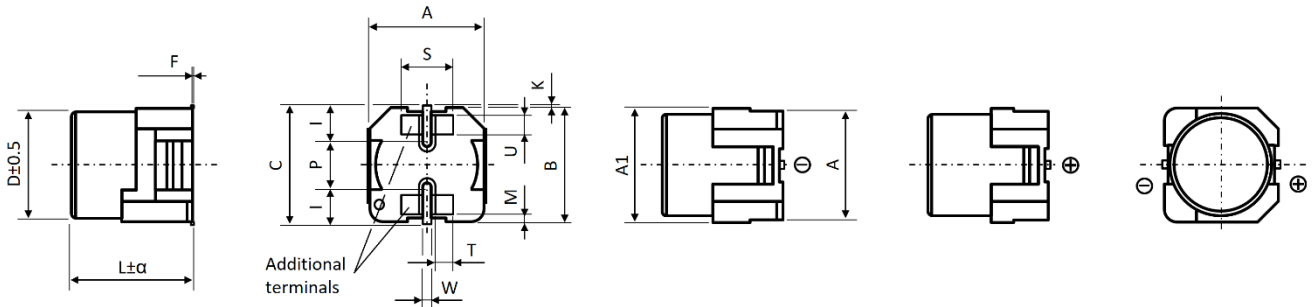
Note: Additional terminals electrical connected to anode or cathode terminal.

| Ø D | L | α | A ± 0.2 | A1 (max.) | B ± 0.2 | C (max.) | F | K |
|-----|-----|-----|---------|-----------|---------|----------|-----------|--------------------|
| 6.3 | 8.0 | 0.3 | 6.6 | 7.1 | 6.6 | 7.8 | 0 to 0.15 | 0.35 +0.15/-0.2 |

| Ø D | L | I ± 0.1 | M ± 0.1 | P ± 0.2 | S ± 0.1 | T ± 0.1 | U ± 0.1 | W ± 0.1 |
|-----|-----|---------|---------|---------|---------|---------|---------|---------|
| 6.3 | 8.0 | 2.5 | 0.35 | 2.2 | 3.2 | 1.1 | 0.7 | 0.65 |

PAD LAYOUT VP PACKAGE (VIBRATION-PROOF) Ø D6.3 ▪ All dimensions in mm

Bottom view
Recommended land patterns
Capacitor mounted on pads

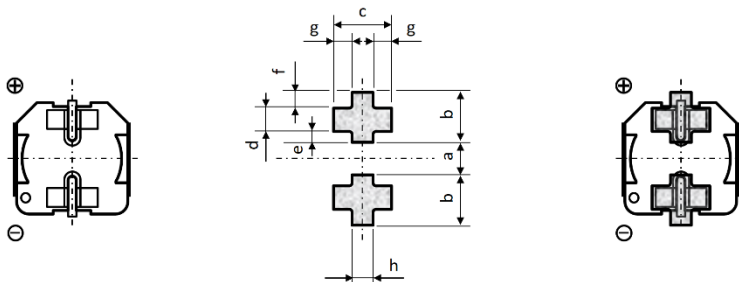
| Ø D | L | a | b | c | d | e | f | g | h |
|-----|-----|-----|-----|-----|-----|------|------|-----|-----|
| 6.3 | 8.0 | 1.2 | 3.6 | 3.2 | 2.0 | 0.95 | 0.65 | 1.0 | 1.2 |

DIMENSIONS VP PACKAGE (VIBRATION-PROOF) Ø D8 and D10 ▪ All dimensions in mm


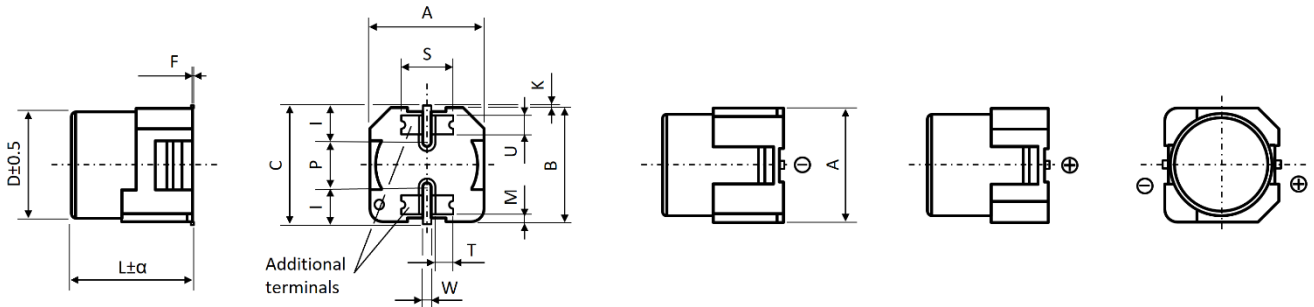
Note: Additional terminals electrical connected to anode or cathode terminal.

| Ø D | L | α | A ± 0.2 | A1 (max.) | B ± 0.2 | C (max.) | F | K ± 0.2 |
|------|------|-----|---------|-----------|---------|----------|-----------|---------|
| 8.0 | 10.5 | 0.5 | 8.3 | 8.8 | 8.3 | 10.0 | 0 to 0.15 | 0.7 |
| 10.0 | 10.5 | 0.5 | 10.3 | 10.8 | 10.3 | 12.0 | 0 to 0.15 | 0.7 |

| Ø D | L | I ± 0.1 | M ± 0.1 | P ± 0.2 | S ± 0.1 | T ± 0.1 | U ± 0.1 | W ± 0.1 |
|------|------|---------|---------|---------|---------|---------|---------|---------|
| 8.0 | 10.5 | 3.3 | 0.75 | 3.1 | 3.3 | 0.9 | 0.8 | 1.2 |
| 10.0 | 10.5 | 3.5 | 0.9 | 4.6 | 3.3 | 0.9 | 0.8 | 1.2 |

PAD LAYOUT VP PACKAGE (VIBRATION-PROOF) Ø D8 and D10 ▪ All dimensions in mm

Bottom view
Recommended land patterns
Capacitor mounted on pads

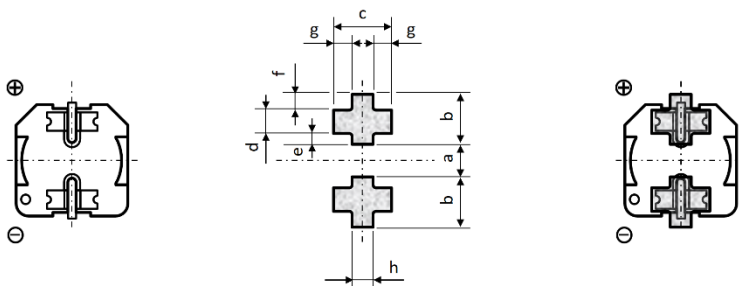
| Ø D | L | a | b | c | d | e | f | g | h |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|
| 8.0 | 10.5 | 2.7 | 4.0 | 4.7 | 1.3 | 1.0 | 1.7 | 1.1 | 2.5 |
| 10.0 | 10.5 | 3.9 | 4.4 | 4.7 | 1.3 | 1.2 | 1.9 | 1.1 | 2.5 |

DIMENSIONS VP PACKAGE (VIBRATION-PROOF) Ø D12.5 and D16 ▪ All dimensions in mm


Note: Additional terminals electrical connected to anode or cathode terminal.

| Ø D | L | α | A ± 0.2 | B ± 0.2 | C (max.) | F | K ± 0.3 |
|------|------|-----|---------|---------|----------|-----------|---------|
| 12.5 | 14.0 | 1.0 | 13.0 | 13.0 | 14.5 | 0 to 0.15 | 0.7 |
| 16.0 | 17.0 | 1.0 | 17.0 | 17.0 | 19.0 | 0 to 0.15 | 0.7 |

| Ø D | L | I ± 0.1 | M ± 0.1 | P ± 0.2 | S ± 0.1 | T ± 0.1 | U ± 0.1 | W ± 0.1 |
|------|------|---------|---------|---------|---------|---------|---------|---------|
| 12.5 | 14.0 | 5.0 | 0.7 | 4.4 | 6.0 | 2.15 | 2.2 | 1.2 |
| 16.0 | 17.0 | 5.8 | 1.0 | 6.7 | 5.8 | 1.9 | 3.0 | 1.4 |

PAD LAYOUT VP PACKAGE (VIBRATION-PROOF) Ø D12.5 and D16 ▪ All dimensions in mm

Bottom view
Recommended land patterns
Capacitor mounted on pads






| Ø D | L | a | b | c | d | e | f | g | h |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|
| 12.5 | 14.0 | 3.9 | 6.0 | 6.9 | 2.8 | 1.3 | 1.9 | 2.2 | 2.5 |
| 16.0 | 17.0 | 5.8 | 6.8 | 6.2 | 3.6 | 1.3 | 1.9 | 1.7 | 2.8 |

MULTIPLIER K_f for RIPPLE CURRENT vs. FREQUENCY

| C_R (μF) / Frequency (Hz) | 50/60 | 100/120 | 500 | 1k | 10k | 50k ~ 100k |
|--|-------|---------|------|------|------|------------|
| $1 \leq C_R \leq 10$ | 0.47 | 0.59 | 0.76 | 0.85 | 0.97 | 1 |
| $10 < C_R \leq 6800$ | 0.52 | 0.65 | 0.8 | 0.89 | 0.97 | 1 |

PRECAUTIONS, GUIDELINES AND PACKAGING INFORMATION

Unless otherwise agreed in individual specifications, all products are subject to our “General Precautions and Guidelines” as well as our “Packaging Information”. Please refer to the following links in the table.

| | | | | |
|---|---|---|--|---|
|  |  |  |  |  |
| General Precautions & Guidelines | Packaging Information | Vibration Test Profiles | 3D Models | Reliability Tests |

DISCLAIMER

All product related data (e.g. specification, statements and general information) are subject to change without any notice. It is necessary that the customer observes all product related technical / application information and handling instructions.

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Particular operating conditions (ambient temperature, ripple current, voltage, thermal resistance, etc.) as well as storage, production or assembly may affect the performance and the lifetime of the capacitor. Please consult CapXon for lifetime estimation, failure mode considerations or worst-case scenarios according to the product technology, product tolerances / deviations or change of the characteristics of the capacitor due to shipment, storage, handling, production and usage.

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