

Metallized Polypropylene Film DC-Link Capacitors

FDQ Series - 450 ~ 1200VDC (Automotive Grade)



Overview

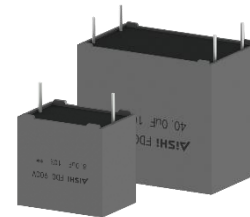
The FDQ capacitor is constructed of metallized polypropylene film encapsulated with epoxy resin in a plastic box, with 2 or 4 tinned copper wire. These FDQ series is suitable for harsh environment and qualify in accordance to AEC-Q200D requirement.

Applications

Widely used in high performance DC Link, DC filtering, frequency converter, industrial power supply, solar inverter, energy storage and automotive.

Features

- Self-healing
- High capacitance density
- High ripple current and low loss
- High contact reliability
- Suitable for high frequency applications
- Suitable for harsh environmental conditions
- Automotive Grade (AEC-Q200D)

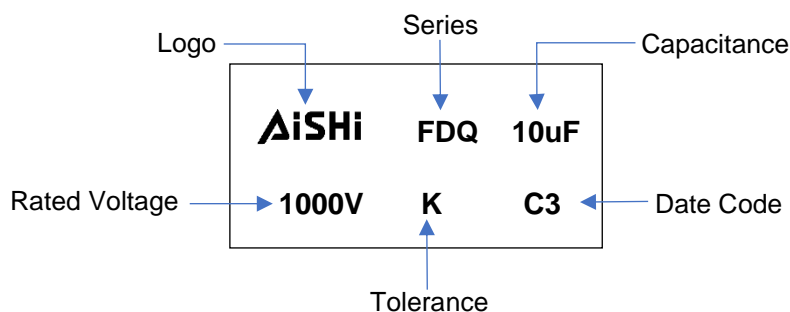


Qualification

| | |
|--------------------|--------------------------------|
| Reference Standard | IEC 61071, EN 61071, AEC-Q200D |
| Climate Category | 40/105/56 IEC 60068-1 |



Marking



Manufacturing Date Code

| Year | Code | Month | Code |
|------|------|-------|------|
| 2018 | A | Jan | 1 |
| 2019 | B | Feb | 2 |
| 2020 | C | Mar | 3 |
| 2021 | D | Apr | 4 |
| 2022 | E | May | 5 |
| 2023 | F | Jun | 6 |

| Year | Code | Month | Code |
|------|------|-------|------|
| 2024 | G | Jul | 7 |
| 2025 | H | Aug | 8 |
| 2026 | J | Sep | 9 |
| 2027 | K | Oct | A |
| 2028 | L | Nov | N |
| 2029 | M | Dec | D |

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Part Number System

| F | DQ | 3K | J | 106 | M52 | 4MD | 5 |
|----------------|--|---|---------------------------------|---|--------------------------|------------------------------|---------------------------------|
| Capacitor Type | Series | Voltage (VDC) | Tolerance | Capacitance (pF) | Size Code | Terminal Code | Lead Length Code |
| F = Film | DC Link, AEC-Q200 Type, Metallized PP Film | 450=2W 500=2H 550=2J 600=2K 700=2M 800=2N 900=2Q 1000=3K 1100=3M 1200=3B | J = ±5% K = ±10% M = ±20% | First two digits = significant figures. Third digit = Number of zeros. | Refer to Size Code Table | Refer to Terminal Code Table | Refer to Lead Length Code Table |

Terminal Code

| Digit One (Lead/Terminal Type) | | Digit Two (Lead Space) | | Digit Three (Lead Ipsilateral) | |
|-----------------------------------|---|---------------------------|---|-----------------------------------|---|
| 2 leads for long | L | 27.5mm | G | 10.2mm | B |
| 2 leads for straight cut | 2 | 37.5mm | K | 12.7mm | G |
| 2 leads for forming cut | E | 57.5mm | M | 20.3mm | D |
| 4 leads for straight cut | 4 | N/A | N | N/A | L |
| 6 leads for straight cut | 6 | | | | |

Lead Length Code

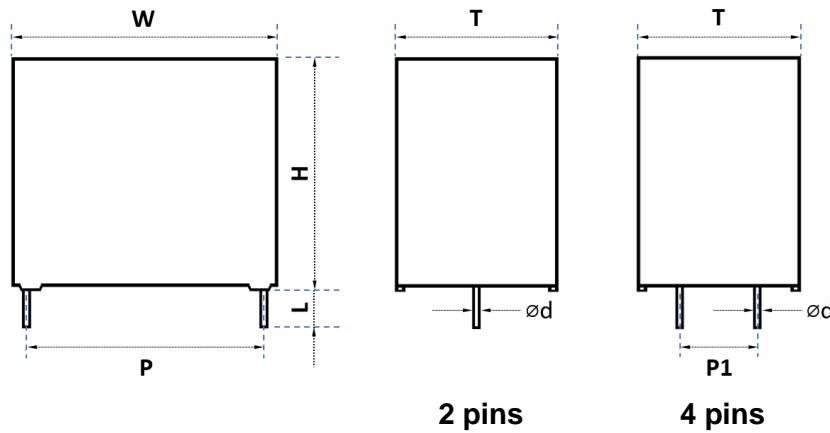
| Lead Length | |
|-------------|---|
| 3.0mm | 3 |
| 4.0mm | 4 |
| 5.0mm | 5 |
| 7.0mm | 7 |
| 20.0mm min | L |

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Dimension (mm)



Size Code Table (mm)

| Size Code | Dimension | | | | | | Pitch | | | | Lead Wire | |
|-----------|-----------|-----------|------|-----------|-------|-----------|-------|-----------|------|-----------|-----------|-----------|
| | W | Tolerance | H | Tolerance | T | Tolerance | P | Tolerance | P1 | Tolerance | ϕd | Tolerance |
| G15 | 32.0 | 0.8 | 18.0 | 0.8 | 9.0 | 0.8 | 27.5 | 0.5 | \ | \ | 0.8 | 0.05 |
| G18 | 32.0 | 0.8 | 20.0 | 0.8 | 11.0 | 0.8 | 27.5 | 0.5 | \ | \ | 0.8 | 0.05 |
| G21 | 32.0 | 0.8 | 22.0 | 0.8 | 13.0 | 0.8 | 27.5 | 0.5 | \ | \ | 0.8 | 0.05 |
| G27 | 32.0 | 0.8 | 24.5 | 0.8 | 15.0 | 0.8 | 27.5 | 0.5 | \ | \ | 0.8 | 0.05 |
| G33 | 32.0 | 0.8 | 28.0 | 0.8 | 18.0 | 0.8 | 27.5 | 0.5 | \ | \ | 0.8 | 0.05 |
| G34 | 32.0 | 0.8 | 33.0 | 0.8 | 18.0 | 0.8 | 27.5 | 0.5 | \ | \ | 0.8 | 0.05 |
| G37 | 32.0 | 0.8 | 31.0 | 0.8 | 21.0 | 0.8 | 27.5 | 0.5 | \ | \ | 0.8 | 0.05 |
| G57 | 32.0 | 0.8 | 35.0 | 0.8 | 20.0 | 0.8 | 27.5 | 0.5 | \ | \ | 0.8 | 0.05 |
| G40 | 32.0 | 0.8 | 37.0 | 0.8 | 22.0 | 0.8 | 27.5 | 0.5 | 10.2 | 0.5 | 1.2 | 0.05 |
| K22 | 42.5 | 0.8 | 36.0 | 0.8 | 19.0 | 0.8 | 37.5 | 0.5 | 10.2 | 0.5 | 1.2 | 0.05 |
| K23 | 42.5 | 0.8 | 38.0 | 0.8 | 20.0 | 0.8 | 37.5 | 0.5 | 10.2 | 0.5 | 1.2 | 0.05 |
| K24 | 42.5 | 0.8 | 40.0 | 0.8 | 20.0 | 0.8 | 37.5 | 0.5 | 10.2 | 0.5 | 1.2 | 0.05 |
| K26 | 42.5 | 0.8 | 33.5 | 0.8 | 22.0 | 0.8 | 37.5 | 0.5 | 10.2 | 0.5 | 1.2 | 0.05 |
| K27 | 42.5 | 0.8 | 37.0 | 0.8 | 22.0 | 0.8 | 37.5 | 0.5 | 10.2 | 0.5 | 1.2 | 0.05 |
| K30 | 42.5 | 0.8 | 18.0 | 0.8 | 24.0 | 0.8 | 37.5 | 0.5 | 10.2 | 0.5 | 1.2 | 0.05 |
| K32 | 42.5 | 0.8 | 44.0 | 0.8 | 24.0 | 0.8 | 37.5 | 0.5 | 10.2 | 0.5 | 1.2 | 0.05 |
| K42 | 42.5 | 0.8 | 45.0 | 0.8 | 30.0 | 0.8 | 37.5 | 0.5 | 20.3 | 0.5 | 1.2 | 0.05 |
| K47 | 42.5 | 0.8 | 50.0 | 0.8 | 35.0 | 0.8 | 37.5 | 0.5 | 20.3 | 0.5 | 1.2 | 0.05 |
| M10 | 57.5 | 1.0 | 45.0 | 1.0 | 25.0 | 1.0 | 52.5 | 0.5 | 10.2 | 0.5 | 1.2 | 0.05 |
| M16 | 57.5 | 1.0 | 45.0 | 1.0 | 30.0 | 1.0 | 52.5 | 0.5 | 20.3 | 0.5 | 1.2 | 0.05 |
| M20 | 57.5 | 1.0 | 50.0 | 1.0 | 35.0 | 1.0 | 52.5 | 0.5 | 20.3 | 0.5 | 1.2 | 0.05 |
| M30 | 57.5 | 1.0 | 22.0 | 1.0 | 43.0 | 1.0 | 52.5 | 0.5 | 20.3 | 0.5 | 1.2 | 0.05 |
| M31 | 57.5 | 1.0 | 45.0 | 1.0 | 45.0 | 1.0 | 52.5 | 0.5 | 20.3 | 0.5 | 1.2 | 0.05 |
| M32 | 57.5 | 1.0 | 55.0 | 1.0 | 45.0 | 1.0 | 52.5 | 0.5 | 20.3 | 0.5 | 1.2 | 0.05 |
| M43 | 57.5 | 1.0 | 65.0 | 1.0 | 70.0 | 1.0 | 52.5 | 0.5 | 20.3 | 0.5 | 1.2 | 0.05 |
| M54 | 57.5 | 1.0 | 65.0 | 1.0 | 130.0 | 1.0 | 52.5 | 0.5 | 20.3 | 0.5 | 1.2 | 0.05 |

Metallized Polypropylene Film DC-Link Capacitors

FDQ Series - 450 ~ 1200VDC (Automotive Grade)



Rating and Part Number

| Vdc | Cap Value µF | Dimensions | | | | | Irms 10KHz 70°C A | Peak Current A | Surge Current A | ESR 10KHz mΩ | ESL nH | Thermal Res °C/W | dv/dt V/us | Lead Wire mm | Part Number |
|-----|-----------------|------------|---------|---------|---------|----------|-------------------------|----------------------|-----------------------|--------------------|-----------|------------------------|---------------|--------------------|------------------|
| | | W mm | H mm | T mm | P mm | P1 mm | | | | | | | | | |
| 450 | 3 | 32.0 | 18.0 | 9.0 | 27.5 | \ | 4.5 | 180 | 540 | 18.0 | 18 | 30.2 | 60 | 0.8 | FDQ2WK305G152GL5 |
| 450 | 4 | 32.0 | 20.0 | 11.0 | 27.5 | \ | 5.0 | 240 | 720 | 16.0 | 19 | 27.5 | 60 | 0.8 | FDQ2WK405G182GL5 |
| 450 | 5 | 32.0 | 20.0 | 11.0 | 27.5 | \ | 5.5 | 300 | 900 | 11.0 | 19 | 33.1 | 60 | 0.8 | FDQ2WK505G182GL5 |
| 450 | 6 | 32.0 | 24.5 | 13.0 | 27.5 | \ | 6.0 | 360 | 1080 | 10.5 | 20 | 29.1 | 60 | 0.8 | FDQ2WK605G222GL5 |
| 450 | 7 | 32.0 | 24.5 | 13.0 | 27.5 | \ | 6.5 | 420 | 1260 | 10.0 | 20 | 26.0 | 60 | 0.8 | FDQ2WK705G222GL5 |
| 450 | 8 | 32.0 | 24.5 | 15.0 | 27.5 | \ | 7.5 | 480 | 1440 | 9.5 | 22 | 20.6 | 60 | 0.8 | FDQ2WK805G272GL5 |
| 450 | 9 | 32.0 | 24.5 | 15.0 | 27.5 | \ | 8.5 | 540 | 1620 | 9.0 | 22 | 16.9 | 60 | 0.8 | FDQ2WK905G272GL5 |
| 450 | 10 | 32.0 | 28.0 | 18.0 | 27.5 | \ | 9.5 | 600 | 1800 | 8.0 | 24 | 15.2 | 60 | 0.8 | FDQ2WK106G332GL5 |
| 450 | 12 | 32.0 | 28.0 | 18.0 | 27.5 | \ | 10.0 | 720 | 2160 | 7.0 | 24 | 15.7 | 60 | 0.8 | FDQ2WK126G332GL5 |
| 450 | 15 | 32.0 | 33.0 | 18.0 | 27.5 | \ | 11.5 | 900 | 2700 | 6.5 | 26 | 12.8 | 60 | 0.8 | FDQ2WK156G342GL5 |
| 450 | 15 | 42.5 | 30.0 | 17.0 | 37.5 | \ | 9.5 | 525 | 1575 | 8.5 | 15 | 14.3 | 35 | 1.0 | FDQ2WK156K662KL5 |
| 450 | 15 | 42.5 | 18.0 | 24.0 | 37.5 | 10.2 | 9.5 | 525 | 1575 | 8.5 | 15 | 14.3 | 35 | 1.2 | FDQ2WK156K304KB5 |
| 450 | 18 | 32.0 | 37.0 | 22.0 | 27.5 | 10.2 | 12.0 | 1080 | 3240 | 6.0 | 28 | 12.7 | 60 | 1.2 | FDQ2WK186G404GB5 |
| 450 | 18 | 42.5 | 30.0 | 17.0 | 37.5 | \ | 9.0 | 630 | 1890 | 10.5 | 15 | 12.9 | 35 | 1.0 | FDQ2WK186K662KL5 |
| 450 | 18 | 42.5 | 20.0 | 26.0 | 37.5 | 10.2 | 11.0 | 630 | 1890 | 7.5 | 15 | 12.1 | 35 | 1.2 | FDQ2WK186K344KB5 |
| 450 | 20 | 32.0 | 37.0 | 22.0 | 27.5 | 10.2 | 12.5 | 1200 | 3600 | 5.0 | 28 | 14.1 | 60 | 1.2 | FDQ2WK206G404GB5 |
| 450 | 20 | 42.5 | 30.0 | 17.0 | 37.5 | \ | 9.5 | 700 | 2100 | 10.0 | 15 | 12.2 | 35 | 1.0 | FDQ2WK206K662KL5 |
| 450 | 20 | 42.5 | 20.0 | 26.0 | 37.5 | 10.2 | 12.0 | 700 | 2100 | 6.0 | 15 | 12.7 | 35 | 1.2 | FDQ2WK206K344KB5 |
| 450 | 22 | 32.0 | 37.0 | 22.0 | 27.5 | 10.2 | 13.8 | 1320 | 3960 | 4.6 | 28 | 12.6 | 60 | 1.2 | FDQ2WK226G404GB5 |
| 450 | 22 | 42.5 | 32.0 | 19.0 | 37.5 | \ | 10.5 | 770 | 2310 | 9.5 | 15 | 10.5 | 35 | 1.0 | FDQ2WK226K212KL5 |
| 450 | 25 | 42.5 | 37.0 | 22.0 | 37.5 | 10.2 | 12.5 | 875 | 2625 | 5.5 | 15 | 12.8 | 35 | 1.2 | FDQ2WK256K274KB5 |
| 450 | 30 | 42.5 | 40.0 | 20.0 | 37.5 | 10.2 | 13.5 | 1050 | 3150 | 5.6 | 15 | 10.8 | 35 | 1.2 | FDQ2WK306K244KB5 |
| 450 | 35 | 42.5 | 37.0 | 28.0 | 37.5 | 10.2 | 14.0 | 1225 | 3675 | 5.5 | 16 | 10.2 | 35 | 1.2 | FDQ2WK356K374KB5 |
| 450 | 40 | 42.5 | 37.0 | 28.0 | 37.5 | 10.2 | 16.0 | 1400 | 4200 | 5.2 | 16 | 8.3 | 35 | 1.2 | FDQ2WK406K374KD5 |
| 450 | 40 | 42.5 | 44.0 | 24.0 | 37.5 | 10.2 | 16.0 | 1400 | 4200 | 5.2 | 16 | 8.3 | 35 | 1.2 | FDQ2WK406K324KB5 |
| 450 | 50 | 42.5 | 45.0 | 30.0 | 37.5 | 20.3 | 16.5 | 1750 | 5250 | 4.8 | 16 | 8.4 | 35 | 1.2 | FDQ2WK506K424KD5 |
| 450 | 55 | 42.5 | 45.0 | 30.0 | 37.5 | 20.3 | 17.0 | 1925 | 5775 | 3.8 | 16 | 10.0 | 35 | 1.2 | FDQ2WK556K424KD5 |
| 450 | 60 | 42.5 | 50.0 | 35.0 | 52.5 | 20.3 | 18.0 | 2100 | 6300 | 3.6 | 18 | 9.4 | 35 | 1.2 | FDQ2WK606K474KD5 |
| 450 | 65 | 42.5 | 50.0 | 35.0 | 52.5 | 20.3 | 19.0 | 2275 | 6825 | 3.5 | 18 | 8.7 | 35 | 1.2 | FDQ2WK656K474KD5 |
| 450 | 70 | 57.5 | 45.0 | 35.0 | 52.5 | 20.3 | 16.5 | 1400 | 4200 | 5.0 | 20 | 8.1 | 20 | 1.2 | FDQ2WK706M164MD5 |
| 450 | 75 | 57.5 | 45.0 | 35.0 | 52.5 | 20.3 | 17.0 | 1500 | 4500 | 4.6 | 20 | 8.3 | 20 | 1.2 | FDQ2WK756M164MD5 |
| 450 | 80 | 57.5 | 45.0 | 30.0 | 52.5 | 20.3 | 18.5 | 1600 | 4800 | 4.0 | 20 | 8.0 | 20 | 1.2 | FDQ2WK806M164MD5 |
| 450 | 90 | 57.5 | 50.0 | 35.0 | 52.5 | 20.3 | 20.0 | 1800 | 5400 | 3.8 | 20 | 7.2 | 20 | 1.2 | FDQ2WK906M204MD5 |
| 450 | 100 | 57.5 | 50.0 | 35.0 | 52.5 | 20.3 | 24.0 | 2000 | 6000 | 3.5 | 20 | 5.5 | 20 | 1.2 | FDQ2WK107M204MD5 |
| 450 | 120 | 57.5 | 57.5 | 38.0 | 52.5 | 20.3 | 26.0 | 2400 | 7200 | 3.2 | 20 | 5.1 | 20 | 1.2 | FDQ2WK127M474MD5 |
| 550 | 3 | 32.0 | 20.0 | 11.0 | 27.5 | \ | 5.0 | 180 | 540 | 18.0 | 19 | 24.4 | 60 | 0.8 | FDQ2JK305G182GL5 |
| 550 | 5 | 32.0 | 24.5 | 13.0 | 27.5 | \ | 6.5 | 300 | 900 | 12.0 | 20 | 21.7 | 60 | 0.8 | FDQ2JK505G222GL5 |
| 550 | 8 | 32.0 | 28.0 | 18.0 | 27.5 | \ | 8.5 | 480 | 1440 | 9.0 | 24 | 16.9 | 60 | 0.8 | FDQ2JK805G332GL5 |
| 550 | 10 | 32.0 | 33.0 | 18.0 | 27.5 | \ | 10.0 | 600 | 1800 | 7.8 | 26 | 14.1 | 60 | 0.8 | FDQ2JK106G342GL5 |
| 550 | 15 | 32.0 | 37.0 | 22.0 | 27.5 | 10.2 | 13.0 | 900 | 2700 | 5.8 | 28 | 11.2 | 60 | 1.2 | FDQ2JK156G404GB5 |
| 550 | 15 | 42.5 | 20.0 | 26.0 | 37.5 | 10.2 | 11.0 | 525 | 1575 | 6.5 | 15 | 14.0 | 35 | 1.2 | FDQ2JK156K344KB5 |
| 550 | 20 | 42.5 | 40.0 | 20.0 | 37.5 | 10.2 | 13.0 | 700 | 2100 | 6.2 | 15 | 10.5 | 35 | 1.2 | FDQ2JK206K244KB5 |
| 550 | 22 | 42.5 | 40.0 | 20.0 | 37.5 | 10.2 | 13.5 | 770 | 2310 | 6.0 | 15 | 10.1 | 35 | 1.2 | FDQ2JK226K244KB5 |
| 550 | 25 | 42.5 | 37.0 | 22.0 | 37.5 | 10.2 | 14.5 | 875 | 2625 | 5.8 | 15 | 9.0 | 35 | 1.2 | FDQ2JK256K274KB5 |
| 550 | 30 | 42.5 | 37.0 | 28.0 | 37.5 | 10.2 | 16.0 | 1050 | 3150 | 5.5 | 16 | 7.8 | 35 | 1.2 | FDQ2JK306K374KB5 |
| 550 | 35 | 42.5 | 45.0 | 30.0 | 37.5 | 20.3 | 18.0 | 1225 | 3675 | 5.2 | 16 | 6.5 | 35 | 1.2 | FDQ2JK356K424KD5 |
| 550 | 40 | 42.5 | 45.0 | 30.0 | 37.5 | 20.3 | 18.5 | 1400 | 4200 | 4.8 | 16 | 6.7 | 35 | 1.2 | FDQ2JK406K424KD5 |
| 550 | 50 | 42.5 | 50.0 | 35.0 | 37.5 | 20.3 | 20.0 | 1750 | 5250 | 4.6 | 18 | 6.0 | 35 | 1.2 | FDQ2JK506K474KD5 |

Metallized Polypropylene Film DC-Link Capacitors

FDQ Series - 450 ~ 1200VDC (Automotive Grade)



Rating and Part Number

| Vdc | Cap Value µF | Dimensions | | | | | Irms 10KHz 70°C A | Peak Current A | Surge Current A | ESR 10KHz mΩ | ESL nH | Thermal Res °C/W | dv/dt V/us | Lead Wire mm | Part Number |
|-----|-----------------|------------|---------|---------|---------|----------|-------------------------|----------------------|-----------------------|--------------------|-----------|------------------------|---------------|--------------------|------------------|
| | | W mm | H mm | T mm | P mm | P1 mm | | | | | | | | | |
| 550 | 60 | 57.5 | 45.0 | 30.0 | 52.5 | 20.3 | 19.0 | 1200 | 3600 | 4.8 | 20 | 6.3 | 20 | 1.2 | FDQ2JK606M164MD5 |
| 550 | 75 | 57.5 | 50.0 | 35.0 | 52.5 | 20.3 | 22.5 | 1500 | 4500 | 4.2 | 20 | 5.2 | 20 | 1.2 | FDQ2JK756M204MD5 |
| 550 | 85 | 57.5 | 57.5 | 38.0 | 52.5 | 20.3 | 24.0 | 1700 | 5100 | 4.0 | 20 | 4.8 | 20 | 1.2 | FDQ2JK856M474MD5 |
| 550 | 90 | 57.5 | 57.5 | 38.0 | 52.5 | 20.3 | 26.0 | 1800 | 5400 | 3.8 | 20 | 4.3 | 20 | 1.2 | FDQ2JK906M474MD5 |
| 550 | 100 | 57.5 | 57.5 | 38.0 | 52.5 | 20.3 | 28.0 | 2000 | 6000 | 3.5 | 20 | 4.0 | 20 | 1.2 | FDQ2JK107M474MD5 |
| 550 | 110 | 57.5 | 55.0 | 45.0 | 52.5 | 20.3 | 30.0 | 2200 | 6600 | 3.0 | 20 | 4.1 | 20 | 1.2 | FDQ2JK117M324MD5 |
| 600 | 3 | 32.0 | 20.0 | 11.0 | 27.5 | \ | 5.0 | 180 | 540 | 18.0 | 19 | 24.4 | 60 | 0.8 | FDQ2KK305G182GL5 |
| 600 | 5 | 32.0 | 24.5 | 13.0 | 27.5 | \ | 6.5 | 300 | 900 | 12.0 | 20 | 21.7 | 60 | 0.8 | FDQ2KK505G222GL5 |
| 600 | 8 | 32.0 | 28.0 | 18.0 | 27.5 | \ | 8.5 | 480 | 1440 | 9.0 | 24 | 16.9 | 60 | 0.8 | FDQ2KK805G332GL5 |
| 600 | 10 | 32.0 | 33.0 | 18.0 | 27.5 | \ | 10.5 | 600 | 1800 | 6.5 | 26 | 15.3 | 60 | 0.8 | FDQ2KK106G342GL5 |
| 600 | 15 | 32.0 | 37.0 | 22.0 | 27.5 | 10.2 | 13.0 | 900 | 2700 | 5.8 | 28 | 11.2 | 60 | 1.2 | FDQ2KK156G404GB5 |
| 600 | 15 | 42.5 | 20.0 | 26.0 | 37.5 | 10.2 | 11.0 | 525 | 1575 | 6.5 | 15 | 14.0 | 35 | 1.2 | FDQ2KK156K344KB5 |
| 600 | 20 | 42.5 | 40.0 | 20.0 | 37.5 | 10.2 | 13.0 | 700 | 2100 | 6.2 | 15 | 10.5 | 35 | 1.2 | FDQ2KK206K244KB5 |
| 600 | 22 | 42.5 | 40.0 | 20.0 | 37.5 | 10.2 | 13.5 | 770 | 2310 | 6.0 | 15 | 10.1 | 35 | 1.2 | FDQ2KK226K244KB5 |
| 600 | 25 | 42.5 | 37.0 | 22.0 | 37.5 | 10.2 | 14.5 | 875 | 2625 | 5.8 | 15 | 9.0 | 35 | 1.2 | FDQ2KK256K274KB5 |
| 600 | 30 | 42.5 | 44.0 | 24.0 | 37.5 | 10.2 | 16.0 | 1050 | 3150 | 5.5 | 15 | 7.8 | 35 | 1.2 | FDQ2KK306K324KB5 |
| 600 | 35 | 42.5 | 45.0 | 30.0 | 37.5 | 20.3 | 18.0 | 1225 | 3675 | 5.2 | 16 | 6.5 | 35 | 1.2 | FDQ2KK356K424KD5 |
| 600 | 40 | 42.5 | 45.0 | 30.0 | 37.5 | 20.3 | 20.0 | 1400 | 4200 | 4.8 | 16 | 5.7 | 35 | 1.2 | FDQ2KK406K424KD5 |
| 600 | 50 | 42.5 | 50.0 | 35.0 | 37.5 | 20.3 | 22.0 | 1750 | 5250 | 4.5 | 16 | 5.1 | 35 | 1.2 | FDQ2KK506K474KD5 |
| 600 | 60 | 57.5 | 45.0 | 30.0 | 52.5 | 20.3 | 18.5 | 1200 | 3600 | 5.0 | 20 | 6.4 | 20 | 1.2 | FDQ2KK606M164MD5 |
| 600 | 70 | 57.5 | 50.0 | 35.0 | 52.5 | 20.3 | 20.0 | 1400 | 4200 | 4.8 | 20 | 5.7 | 20 | 1.2 | FDQ2KK706M204MD5 |
| 600 | 75 | 57.5 | 50.0 | 35.0 | 52.5 | 20.3 | 22.5 | 1500 | 4500 | 4.2 | 20 | 5.2 | 20 | 1.2 | FDQ2KK756M204MD5 |
| 600 | 80 | 57.5 | 50.0 | 35.0 | 52.5 | 20.3 | 24.0 | 1600 | 4800 | 4.0 | 20 | 4.8 | 20 | 1.2 | FDQ2KK756M204MD5 |
| 600 | 85 | 57.5 | 57.5 | 38.0 | 52.5 | 20.3 | 24.0 | 1700 | 5100 | 3.8 | 20 | 5.0 | 20 | 1.2 | FDQ2KK856M474MD5 |
| 600 | 90 | 57.5 | 57.5 | 38.0 | 52.5 | 20.3 | 26.0 | 1800 | 5400 | 3.8 | 20 | 4.3 | 20 | 1.2 | FDQ2KK906M474MD5 |
| 600 | 100 | 57.5 | 57.5 | 38.0 | 52.5 | 20.3 | 28.0 | 2000 | 6000 | 3.5 | 20 | 4.0 | 20 | 1.2 | FDQ2KK107M474MD5 |
| 600 | 110 | 57.5 | 55.0 | 45.0 | 52.5 | 20.3 | 30.0 | 2200 | 6600 | 3.0 | 20 | 4.1 | 20 | 1.2 | FDQ2KK117M324MD5 |
| 700 | 1 | 32.0 | 18.0 | 9.0 | 27.5 | \ | 3.0 | 60 | 180 | 40.0 | 18 | 30.6 | 60 | 0.8 | FDQ2MK105G152GL5 |
| 700 | 2 | 32.0 | 18.0 | 9.0 | 27.5 | \ | 3.5 | 120 | 360 | 25.0 | 18 | 35.9 | 60 | 0.8 | FDQ2MK205G152GL5 |
| 700 | 3 | 32.0 | 20.0 | 11.0 | 27.5 | \ | 5.0 | 180 | 540 | 18.0 | 19 | 24.4 | 60 | 0.8 | FDQ2MK305G182GL5 |
| 700 | 4 | 32.0 | 24.5 | 13.0 | 27.5 | \ | 5.5 | 240 | 720 | 15.5 | 20 | 23.5 | 60 | 0.8 | FDQ2MK405G222GL5 |
| 700 | 5 | 32.0 | 24.5 | 15.0 | 27.5 | \ | 6.8 | 300 | 900 | 11.8 | 22 | 20.2 | 60 | 0.8 | FDQ2MK505G272GL5 |
| 700 | 6 | 32.0 | 28.0 | 18.0 | 27.5 | \ | 7.5 | 360 | 1080 | 11.5 | 24 | 17.0 | 60 | 0.8 | FDQ2MK605G332GL5 |
| 700 | 7 | 32.0 | 28.0 | 18.0 | 27.5 | \ | 8.0 | 420 | 1260 | 10.0 | 24 | 17.2 | 60 | 0.8 | FDQ2MK705G332GL5 |
| 700 | 8 | 32.0 | 28.0 | 18.0 | 27.5 | \ | 8.5 | 480 | 1440 | 9.5 | 24 | 16.0 | 60 | 0.8 | FDQ2MK805G332GL5 |
| 700 | 9 | 32.0 | 33.0 | 18.0 | 27.5 | \ | 10.0 | 540 | 1620 | 6.7 | 26 | 16.4 | 60 | 0.8 | FDQ2MK905G342GL5 |
| 700 | 10 | 32.0 | 33.0 | 18.0 | 27.5 | \ | 10.5 | 600 | 1800 | 6.5 | 26 | 15.3 | 60 | 0.8 | FDQ2MK106G342GL5 |
| 700 | 10 | 42.5 | 18.0 | 24.0 | 37.5 | 10.2 | 11.5 | 350 | 1050 | 6.4 | 15 | 13.0 | 35 | 1.2 | FDQ2MK106K304KB5 |
| 700 | 12 | 32.0 | 37.0 | 22.0 | 27.5 | 10.2 | 12.5 | 720 | 2160 | 6.0 | 28 | 11.7 | 60 | 1.2 | FDQ2MK126G404GB5 |
| 700 | 12 | 42.5 | 30.0 | 17.0 | 37.5 | \ | 9.0 | 420 | 1260 | 10.0 | 15 | 13.6 | 35 | 1.0 | FDQ2MK126K664KB5 |
| 700 | 12 | 42.5 | 18.0 | 24.0 | 37.5 | 10.2 | 12.0 | 420 | 1260 | 7.0 | 15 | 10.9 | 35 | 1.2 | FDQ2MK126K304KB5 |
| 700 | 15 | 32.0 | 37.0 | 22.0 | 27.5 | 10.2 | 13.0 | 900 | 2700 | 5.8 | 28 | 11.2 | 60 | 1.2 | FDQ2MK156G404GB5 |
| 700 | 15 | 42.5 | 37.0 | 22.0 | 37.5 | 10.2 | 11.5 | 525 | 1575 | 6.3 | 15 | 13.2 | 35 | 1.2 | FDQ2MK156K274KB5 |
| 700 | 15 | 42.5 | 20.0 | 26.0 | 37.5 | 10.2 | 11.0 | 525 | 1575 | 6.5 | 15 | 14.0 | 35 | 1.2 | FDQ2MK156K344KB5 |
| 700 | 20 | 42.5 | 37.0 | 22.0 | 37.5 | 10.2 | 12.0 | 700 | 2100 | 6.2 | 15 | 12.3 | 35 | 1.2 | FDQ2MK206K274KB5 |
| 700 | 22 | 42.5 | 37.0 | 22.0 | 37.5 | 10.2 | 14.0 | 770 | 2310 | 6.0 | 15 | 9.4 | 35 | 1.2 | FDQ2MK226K274KB5 |
| 700 | 25 | 42.5 | 37.0 | 28.0 | 37.5 | 10.2 | 16.0 | 875 | 2625 | 5.5 | 16 | 7.8 | 35 | 1.2 | FDQ2MK256K374KB5 |
| 700 | 30 | 42.5 | 44.0 | 24.0 | 37.5 | 10.3 | 16.5 | 1050 | 3150 | 5.5 | 15 | 7.3 | 35 | 1.2 | FDQ2MK306K324KD5 |

Metallized Polypropylene Film DC-Link Capacitors

FDQ Series - 450 ~ 1200VDC (Automotive Grade)



Rating and Part Number

| Vdc | Cap Value µF | Dimensions | | | | | Irms 10KHz 70°C A | Peak Current A | Surge Current A | ESR 10KHz mΩ | ESL nH | Thermal Res °C/W | dv/dt V/us | Lead Wire mm | Part Number |
|-----|-----------------|------------|---------|---------|---------|----------|-------------------------|----------------------|-----------------------|--------------------|-----------|------------------------|---------------|--------------------|------------------|
| | | W mm | H mm | T mm | P mm | P1 mm | | | | | | | | | |
| 700 | 35 | 42.5 | 45.0 | 30.0 | 37.5 | 20.3 | 18.0 | 1225 | 3675 | 5.2 | 16 | 6.5 | 35 | 1.2 | FDQ2MK356K424KD5 |
| 700 | 40 | 42.5 | 45.0 | 30.0 | 37.5 | 20.3 | 18.5 | 1400 | 4200 | 5.0 | 16 | 6.4 | 35 | 1.2 | FDQ2KK406K424KD5 |
| 700 | 45 | 57.5 | 45.0 | 30.0 | 52.5 | 20.3 | 15.5 | 900 | 2700 | 5.0 | 20 | 9.2 | 20 | 1.2 | FDQ2MK456M164MD5 |
| 700 | 50 | 57.5 | 45.0 | 30.0 | 52.5 | 20.3 | 16.0 | 1000 | 3000 | 4.8 | 20 | 9.0 | 20 | 1.2 | FDQ2MK506M164MD5 |
| 700 | 50 | 42.5 | 50.0 | 35.0 | 37.5 | 20.3 | 22.0 | 1750 | 5250 | 4.5 | 20 | 5.1 | 35 | 1.2 | FDQ2MK506K474KD5 |
| 700 | 60 | 57.5 | 45.0 | 30.0 | 52.5 | 20.3 | 19.5 | 1200 | 3600 | 4.6 | 20 | 6.3 | 20 | 1.2 | FDQ2MK606M164MD5 |
| 700 | 65 | 57.5 | 50.0 | 35.0 | 52.5 | 20.3 | 20.5 | 1300 | 3900 | 4.5 | 20 | 5.8 | 20 | 1.2 | FDQ2MK656M204MD5 |
| 700 | 70 | 57.5 | 50.0 | 35.0 | 52.5 | 20.3 | 21.0 | 1400 | 4200 | 4.3 | 20 | 5.8 | 20 | 1.2 | FDQ2MK706M204MD5 |
| 700 | 75 | 57.5 | 50.0 | 35.0 | 52.5 | 20.3 | 21.5 | 1500 | 4500 | 4.2 | 20 | 5.7 | 20 | 1.2 | FDQ2MK756M204MD5 |
| 700 | 80 | 57.5 | 57.5 | 38.0 | 52.5 | 20.3 | 23.0 | 1600 | 4800 | 4.0 | 20 | 5.2 | 20 | 1.2 | FDQ2MK806M474MD5 |
| 700 | 90 | 57.5 | 57.5 | 38.0 | 52.5 | 20.3 | 26.5 | 1800 | 5400 | 3.5 | 20 | 4.5 | 20 | 1.2 | FDQ2MK906M324MD5 |
| 700 | 100 | 57.5 | 57.5 | 38.0 | 52.5 | 20.3 | 28.5 | 2000 | 6000 | 3.3 | 20 | 4.1 | 20 | 1.2 | FDQ2MK107M474MD5 |
| 700 | 110 | 57.5 | 55.0 | 45.0 | 52.5 | 20.3 | 30.5 | 2200 | 6600 | 2.8 | 22 | 4.2 | 20 | 1.2 | FDQ2MK117M324MD5 |
| 800 | 1 | 32.0 | 18.0 | 9.0 | 27.5 | \ | 3.0 | 70 | 210 | 40.0 | 18 | 30.6 | 70 | 0.8 | FDQ2NK105G152GL5 |
| 800 | 2 | 32.0 | 18.0 | 9.0 | 27.5 | \ | 3.5 | 140 | 420 | 25.0 | 18 | 35.9 | 70 | 0.8 | FDQ2NK205G182GL5 |
| 800 | 3 | 32.0 | 20.0 | 11.0 | 27.5 | \ | 5.0 | 210 | 630 | 18.0 | 19 | 24.4 | 70 | 0.8 | FDQ2NK305G182GL5 |
| 800 | 4 | 32.0 | 24.5 | 13.0 | 27.5 | \ | 5.8 | 280 | 840 | 15.0 | 20 | 21.8 | 70 | 0.8 | FDQ2NK405G222GL5 |
| 800 | 5 | 32.0 | 24.5 | 15.0 | 27.5 | \ | 7.0 | 350 | 1050 | 11.5 | 22 | 19.5 | 70 | 0.8 | FDQ2NK505G272GL5 |
| 800 | 6 | 32.0 | 28.0 | 18.0 | 27.5 | \ | 7.8 | 420 | 1260 | 10.5 | 24 | 17.2 | 70 | 0.8 | FDQ2NK605G332GL5 |
| 800 | 7 | 32.0 | 28.0 | 18.0 | 27.5 | \ | 8.0 | 490 | 1470 | 10.0 | 24 | 17.2 | 70 | 0.8 | FDQ2NK705G332GL5 |
| 800 | 8 | 32.0 | 33.0 | 18.0 | 27.5 | \ | 9.5 | 560 | 1680 | 9.0 | 26 | 13.5 | 70 | 0.8 | FDQ2NK805G342GL5 |
| 800 | 9 | 32.0 | 33.0 | 18.0 | 27.5 | \ | 10.0 | 630 | 1890 | 8.5 | 26 | 12.9 | 70 | 0.8 | FDQ2NK905G342GL5 |
| 800 | 10 | 32.0 | 37.0 | 22.0 | 27.5 | 10.2 | 12.0 | 700 | 2100 | 6.6 | 28 | 11.6 | 70 | 1.2 | FDQ2NK106G404GB5 |
| 800 | 10 | 42.5 | 20.0 | 26.0 | 37.5 | 10.2 | 10.5 | 400 | 1200 | 8.5 | 16 | 11.7 | 40 | 1.2 | FDQ2NK106K344KB5 |
| 800 | 12 | 32.0 | 37.0 | 22.0 | 27.5 | 10.2 | 12.0 | 840 | 2520 | 6.5 | 28 | 11.8 | 70 | 1.2 | FDQ2MK126G404GB5 |
| 800 | 15 | 42.5 | 37.0 | 22.0 | 37.5 | 10.2 | 10.5 | 600 | 1800 | 8.0 | 16 | 12.5 | 40 | 1.2 | FDQ2NK156K274KB5 |
| 800 | 15 | 42.5 | 40.0 | 20.0 | 37.5 | 10.2 | 10.5 | 600 | 1800 | 8.0 | 16 | 12.5 | 40 | 1.2 | FDQ2NK156K244KB5 |
| 800 | 20 | 42.5 | 44.0 | 24.0 | 37.5 | 10.2 | 13.5 | 800 | 2400 | 6.5 | 16 | 9.3 | 40 | 1.2 | FDQ2NK206K324KB5 |
| 800 | 22 | 42.5 | 37.0 | 28.0 | 37.5 | 10.2 | 14.0 | 880 | 2640 | 6.0 | 16 | 9.4 | 40 | 1.2 | FDQ2NK226K374KD5 |
| 800 | 22 | 42.5 | 44.0 | 24.0 | 37.5 | 10.2 | 14.0 | 880 | 2640 | 6.0 | 16 | 9.4 | 40 | 1.2 | FDQ2NK226K324KB5 |
| 800 | 25 | 42.5 | 44.0 | 24.0 | 37.5 | 10.2 | 16.0 | 1000 | 3000 | 5.5 | 16 | 7.8 | 40 | 1.2 | FDQ2NK256K324KD5 |
| 800 | 30 | 42.5 | 45.0 | 30.0 | 37.5 | 20.3 | 17.5 | 1200 | 3600 | 4.5 | 16 | 8.0 | 40 | 1.2 | FDQ2NK306K424KD5 |
| 800 | 40 | 42.5 | 50.0 | 35.0 | 37.5 | 20.3 | 21.5 | 1600 | 4800 | 4.0 | 18 | 5.9 | 40 | 1.2 | FDQ2NK406K474KD5 |
| 800 | 40 | 57.5 | 45.0 | 30.0 | 52.5 | 20.3 | 14.5 | 1000 | 3000 | 5.8 | 20 | 9.0 | 25 | 1.2 | FDQ2NK406M164MD5 |
| 800 | 45 | 57.5 | 45.0 | 30.0 | 52.5 | 20.3 | 15.5 | 1125 | 3375 | 5.5 | 20 | 8.3 | 25 | 1.2 | FDQ2NK456M164MD5 |
| 800 | 50 | 42.5 | 55.0 | 40.0 | 37.5 | 20.3 | 26.0 | 2000 | 6000 | 3.4 | 20 | 4.8 | 40 | 1.2 | FDQ2NK506K494KD5 |
| 800 | 50 | 57.5 | 50.0 | 35.0 | 52.5 | 20.3 | 16.5 | 1250 | 3750 | 5.0 | 18 | 8.1 | 25 | 1.2 | FDQ2NK506M204MD5 |
| 800 | 55 | 57.5 | 50.0 | 35.0 | 52.5 | 20.3 | 18.0 | 1375 | 4125 | 4.6 | 18 | 7.4 | 25 | 1.2 | FDQ2NK556M204MD5 |
| 800 | 60 | 57.5 | 50.0 | 35.0 | 52.5 | 20.3 | 19.5 | 1500 | 4500 | 4.5 | 18 | 6.4 | 25 | 1.2 | FDQ2NK606M204MD5 |
| 800 | 65 | 57.5 | 60.0 | 35.0 | 52.5 | 20.3 | 20.5 | 1625 | 4875 | 4.0 | 18 | 6.5 | 25 | 1.2 | FDQ2NK656M224MD5 |
| 800 | 70 | 57.5 | 57.5 | 38.0 | 52.5 | 20.3 | 22.0 | 1750 | 5250 | 3.8 | 20 | 6.0 | 25 | 1.2 | FDQ2NK706M474MD5 |
| 800 | 75 | 57.5 | 57.5 | 38.0 | 52.5 | 20.3 | 24.0 | 1875 | 5625 | 3.6 | 20 | 5.3 | 25 | 1.2 | FDQ2NK756M474MD5 |
| 800 | 80 | 57.5 | 55.0 | 45.0 | 52.5 | 20.3 | 25.0 | 2000 | 6000 | 3.5 | 22 | 5.0 | 25 | 1.2 | FDQ2NK806M324MD5 |
| 900 | 1 | 32.0 | 18.0 | 9.0 | 27.5 | \ | 3.0 | 80 | 240 | 40.0 | 18 | 30.6 | 80 | 0.8 | FDQ2QK105G152GL5 |
| 900 | 2 | 32.0 | 20.0 | 11.0 | 27.5 | \ | 3.5 | 160 | 480 | 25.0 | 19 | 35.9 | 80 | 0.8 | FDQ2QK205G182GL5 |
| 900 | 3 | 32.0 | 24.5 | 13.0 | 27.5 | \ | 5.2 | 240 | 720 | 15.8 | 20 | 25.7 | 80 | 0.8 | FDQ2QK305G222GL5 |
| 900 | 4 | 32.0 | 24.5 | 15.0 | 27.5 | \ | 6.0 | 320 | 960 | 14.8 | 22 | 20.6 | 80 | 0.8 | FDQ2QK405G272GL5 |
| 900 | 5 | 32.0 | 28.0 | 18.0 | 27.5 | \ | 7.5 | 400 | 1200 | 11.5 | 24 | 17.0 | 80 | 0.8 | FDQ2QK505G332GL5 |

Metallized Polypropylene Film DC-Link Capacitors

FDQ Series - 450 ~ 1200VDC (Automotive Grade)



Rating and Part Number

| Vdc | Cap Value µF | Dimensions | | | | | Irms 10KHz 70°C A | Peak Current A | Surge Current A | ESR 10KHz mΩ | ESL nH | Thermal Res °C/W | dv/dt V/us | Lead Wire mm | Part Number |
|------|-----------------|------------|---------|---------|---------|----------|-------------------------|----------------------|-----------------------|--------------------|-----------|------------------------|---------------|--------------------|------------------|
| | | W mm | H mm | T mm | P mm | P1 mm | | | | | | | | | |
| 900 | 6 | 32.0 | 33.0 | 18.0 | 27.5 | \ | 8.0 | 480 | 1440 | 11.0 | 26 | 15.6 | 80 | 0.8 | FDQ2QK605G342GL5 |
| 900 | 7 | 32.0 | 33.0 | 18.0 | 27.5 | \ | 8.0 | 560 | 1680 | 11.0 | 26 | 15.6 | 80 | 0.8 | FDQ2QK705G342GL5 |
| 900 | 8 | 32.0 | 37.0 | 22.0 | 27.5 | 10.2 | 10.5 | 640 | 1920 | 10.0 | 28 | 10.0 | 80 | 1.2 | FDQ2QK805G404GB5 |
| 900 | 9 | 32.0 | 37.0 | 22.0 | 27.5 | 10.2 | 10.8 | 720 | 2160 | 9.0 | 28 | 10.5 | 80 | 1.2 | FDQ2QK905G404GB5 |
| 900 | 10 | 32.0 | 37.0 | 22.0 | 27.5 | 10.2 | 12.0 | 800 | 2400 | 6.8 | 28 | 11.2 | 80 | 1.2 | FDQ2QK106G404GB5 |
| 900 | 12 | 42.5 | 40.0 | 20.0 | 37.5 | 10.2 | 10.0 | 540 | 1620 | 9.8 | 15 | 11.2 | 45 | 1.2 | FDQ2QK126K244KB5 |
| 900 | 12 | 42.5 | 37.0 | 22.0 | 37.5 | 10.2 | 10.0 | 540 | 1620 | 9.8 | 15 | 11.2 | 45 | 1.2 | FDQ2QK126K274KB5 |
| 900 | 15 | 42.5 | 44.0 | 24.0 | 37.5 | 10.2 | 10.8 | 675 | 2025 | 8.0 | 16 | 11.8 | 45 | 1.2 | FDQ2QK156K324KB5 |
| 900 | 18 | 42.5 | 44.0 | 24.0 | 37.5 | 10.2 | 11.5 | 810 | 2430 | 7.5 | 16 | 11.1 | 45 | 1.2 | FDQ2QK186K324KB5 |
| 900 | 20 | 42.5 | 44.0 | 24.0 | 37.5 | 10.2 | 14.0 | 900 | 2700 | 6.0 | 16 | 9.4 | 45 | 1.2 | FDQ2QK206K424KD5 |
| 900 | 25 | 42.5 | 45.0 | 30.0 | 37.5 | 20.3 | 17.0 | 1125 | 3375 | 5.4 | 16 | 7.0 | 45 | 1.2 | FDQ2QK256K424KD5 |
| 900 | 30 | 42.5 | 50.0 | 35.0 | 37.5 | 20.3 | 20.0 | 1350 | 4050 | 5.0 | 18 | 5.5 | 45 | 1.2 | FDQ2QK306K474KD5 |
| 900 | 30 | 57.5 | 45.0 | 30.0 | 52.5 | 20.3 | 14.0 | 900 | 2700 | 6.5 | 18 | 8.6 | 30 | 1.2 | FDQ2QK306M164MD5 |
| 900 | 35 | 57.5 | 45.0 | 30.0 | 52.5 | 20.3 | 15.5 | 1050 | 3150 | 6.0 | 18 | 7.6 | 30 | 1.2 | FDQ2QK356M164MD5 |
| 900 | 40 | 57.5 | 50.0 | 35.0 | 52.5 | 20.3 | 17.0 | 1200 | 3600 | 5.5 | 20 | 6.9 | 30 | 1.2 | FDQ2QK406M204MD5 |
| 900 | 40 | 42.5 | 55.0 | 40.0 | 37.5 | 20.3 | 24.0 | 1800 | 5400 | 4.5 | 22 | 4.2 | 45 | 1.2 | FDQ2QK406K494KD5 |
| 900 | 45 | 57.5 | 50.0 | 35.0 | 52.5 | 20.3 | 17.5 | 1350 | 4050 | 5.3 | 20 | 6.8 | 30 | 1.2 | FDQ2QK456M204MD5 |
| 900 | 50 | 57.5 | 50.0 | 35.0 | 52.5 | 20.3 | 19.0 | 1500 | 4500 | 5.0 | 20 | 6.1 | 30 | 1.2 | FDQ2QK506M204MD5 |
| 900 | 55 | 57.5 | 60.0 | 35.0 | 52.5 | 20.3 | 20.0 | 1650 | 4950 | 4.8 | 20 | 5.7 | 30 | 1.2 | FDQ2QK556M224MD5 |
| 900 | 60 | 57.5 | 57.5 | 38.0 | 52.5 | 20.3 | 21.5 | 1800 | 5400 | 4.5 | 20 | 5.3 | 30 | 1.2 | FDQ2QK606M474MD5 |
| 900 | 65 | 57.5 | 55.0 | 45.0 | 52.5 | 20.3 | 22.5 | 1950 | 5850 | 4.2 | 22 | 5.2 | 30 | 1.2 | FDQ2QK656M324MD5 |
| 900 | 70 | 57.5 | 55.0 | 45.0 | 52.5 | 20.3 | 24.0 | 2100 | 6300 | 3.6 | 22 | 5.3 | 30 | 1.2 | FDQ2QK706M324MD5 |
| 1000 | 1 | 32.0 | 18.0 | 9.0 | 27.5 | \ | 3.0 | 80 | 240 | 40.0 | 18 | 30.6 | 80 | 0.8 | FDQ3KK105G152GL5 |
| 1000 | 2 | 32.0 | 24.5 | 13.0 | 27.5 | \ | 3.5 | 160 | 480 | 30.0 | 20 | 29.9 | 80 | 0.8 | FDQ3KK205G222GL5 |
| 1000 | 3 | 32.0 | 24.5 | 15.0 | 27.5 | \ | 5.2 | 240 | 720 | 15.8 | 22 | 25.7 | 80 | 0.8 | FDQ3KK305G272GL5 |
| 1000 | 5 | 32.0 | 33.0 | 18.0 | 27.5 | \ | 8.0 | 400 | 1200 | 11.0 | 26 | 15.6 | 80 | 0.8 | FDQ3KK505G342GL5 |
| 1000 | 6 | 32.0 | 33.0 | 18.0 | 27.5 | \ | 8.5 | 480 | 1440 | 13.5 | 26 | 11.3 | 80 | 0.8 | FDQ3KK605G342GL5 |
| 1000 | 8 | 32.0 | 37.0 | 22.0 | 27.5 | 10.2 | 10.0 | 640 | 1920 | 9.5 | 28 | 11.6 | 80 | 1.2 | FDQ3KK805G404GB5 |
| 1000 | 10 | 42.5 | 40.0 | 20.0 | 37.5 | 10.2 | 9.0 | 450 | 1350 | 10.5 | 15 | 12.9 | 45 | 1.2 | FDQ3KK106K244KB5 |
| 1000 | 12 | 42.5 | 37.0 | 22.0 | 37.5 | 10.2 | 10.5 | 540 | 1620 | 9.0 | 15 | 11.1 | 45 | 1.2 | FDQ3KK126K274KB5 |
| 1000 | 15 | 42.5 | 44.0 | 24.0 | 37.5 | 10.2 | 12.0 | 675 | 2025 | 8.0 | 15 | 9.5 | 45 | 1.2 | FDQ3KK156K324KB5 |
| 1000 | 18 | 42.5 | 45.0 | 30.0 | 37.5 | 20.3 | 14.0 | 810 | 2430 | 7.5 | 16 | 7.5 | 45 | 1.2 | FDQ3KK186K424KD5 |
| 1000 | 20 | 42.5 | 45.0 | 30.0 | 37.5 | 20.3 | 15.0 | 900 | 2700 | 5.8 | 16 | 8.4 | 45 | 1.2 | FDQ3KK206K424KD5 |
| 1000 | 25 | 42.5 | 50.0 | 35.0 | 37.5 | 20.3 | 18.5 | 1125 | 3375 | 5.3 | 18 | 6.1 | 45 | 1.2 | FDQ3KK256K474KD5 |
| 1000 | 30 | 42.5 | 55.0 | 40.0 | 37.5 | 20.3 | 21.5 | 1350 | 4050 | 4.5 | 20 | 5.3 | 45 | 1.2 | FDQ3KK306K494KD5 |
| 1000 | 30 | 57.5 | 45.0 | 30.0 | 52.5 | 20.3 | 15.0 | 900 | 2700 | 5.5 | 18 | 8.9 | 30 | 1.2 | FDQ3KK306M164MD5 |
| 1000 | 35 | 57.5 | 50.0 | 35.0 | 52.5 | 20.3 | 16.0 | 1050 | 3150 | 5.5 | 18 | 7.8 | 30 | 1.2 | FDQ3KK356M204MD5 |
| 1000 | 40 | 57.5 | 50.0 | 35.0 | 52.5 | 20.3 | 16.0 | 1200 | 3600 | 5.0 | 18 | 8.6 | 30 | 1.2 | FDQ3KK406M204MD5 |
| 1000 | 45 | 57.5 | 57.5 | 38.0 | 52.5 | 20.3 | 18.0 | 1350 | 4050 | 4.8 | 20 | 7.1 | 30 | 1.2 | FDQ3KK406M324MD5 |
| 1000 | 50 | 57.5 | 57.5 | 38.0 | 52.5 | 20.3 | 20.0 | 1500 | 4500 | 4.5 | 20 | 6.1 | 30 | 1.2 | FDQ3KK506M474MD5 |
| 1000 | 50 | 57.5 | 55.0 | 45.0 | 52.5 | 20.3 | 20.0 | 1500 | 4500 | 4.5 | 22 | 6.1 | 30 | 1.2 | FDQ3KK506M324MD5 |
| 1100 | 1 | 32.0 | 20.0 | 11.0 | 27.5 | \ | 3.0 | 90 | 270 | 40.0 | 19 | 30.6 | 90 | 0.8 | FDQ3MK105G182GL5 |
| 1100 | 2 | 32.0 | 24.5 | 15.0 | 27.5 | \ | 4.5 | 180 | 540 | 23.0 | 22 | 23.6 | 90 | 0.8 | FDQ3MK205G272GL5 |
| 1100 | 3 | 32.0 | 28.0 | 18.0 | 27.5 | \ | 6.0 | 270 | 810 | 15.5 | 24 | 19.7 | 90 | 0.8 | FDQ3MK305G332GL5 |
| 1100 | 4 | 32.0 | 33.0 | 18.0 | 27.5 | \ | 8.0 | 360 | 1080 | 10.5 | 26 | 16.4 | 90 | 0.8 | FDQ3MK405G342GL5 |
| 1100 | 5 | 32.0 | 37.0 | 22.0 | 27.5 | 10.2 | 8.5 | 450 | 1350 | 10.0 | 28 | 15.2 | 90 | 1.2 | FDQ3MK505G404GB5 |
| 1100 | 7 | 42.5 | 37.0 | 22.0 | 37.5 | 10.2 | 7.0 | 350 | 1050 | 12.5 | 30 | 18.0 | 50 | 1.2 | FDQ3MK705K274KB5 |
| 1100 | 8 | 42.5 | 40.0 | 20.0 | 37.5 | 10.2 | 9.0 | 400 | 1200 | 11.5 | 15 | 11.8 | 50 | 1.2 | FDQ3MK805K244KB5 |

Metallized Polypropylene Film DC-Link Capacitors

FDQ Series - 450 ~ 1200VDC (Automotive Grade)




Rating and Part Number

| Vdc | Cap Value μF | Dimensions | | | | | I _{rms} 10KHz 70°C A | Peak Current A | Surge Current A | ESR 10KHz mΩ | ESL nH | Thermal Res °C/W | dv/dt V/us | Lead Wire mm | Part Number |
|------|-----------------|------------|---------|---------|---------|----------|-------------------------------------|----------------------|-----------------------|--------------------|-----------|------------------------|---------------|--------------------|------------------|
| | | W mm | H mm | T mm | P mm | P1 mm | | | | | | | | | |
| 1100 | 8 | 42.5 | 37.0 | 22.0 | 37.5 | 10.2 | 9.0 | 400 | 1200 | 11.5 | 15 | 11.8 | 50 | 1.2 | FDQ3MK805K274KB5 |
| 1100 | 9 | 42.5 | 44.0 | 24.0 | 37.5 | 10.2 | 10.5 | 450 | 1350 | 11.0 | 16 | 9.1 | 50 | 1.2 | FDQ3MK905K324KB5 |
| 1100 | 9 | 42.5 | 37.0 | 22.0 | 37.5 | 10.2 | 10.5 | 450 | 1350 | 11.0 | 16 | 9.1 | 50 | 1.2 | FDQ3MK905K274KB5 |
| 1100 | 10 | 42.5 | 44.0 | 24.0 | 37.5 | 10.2 | 12.5 | 500 | 1500 | 9.0 | 16 | 7.8 | 50 | 1.2 | FDQ3MK106K324KB5 |
| 1100 | 12 | 42.5 | 44.0 | 24.0 | 37.5 | 10.2 | 13.0 | 600 | 1800 | 8.5 | 16 | 7.7 | 50 | 1.2 | FDQ3MK126K324KB5 |
| 1100 | 15 | 42.5 | 45.0 | 30.0 | 37.5 | 20.3 | 16.0 | 750 | 2250 | 7.0 | 16 | 6.1 | 50 | 1.2 | FDQ3MK156K424KD5 |
| 1100 | 18 | 42.5 | 50.0 | 35.0 | 37.5 | 20.3 | 16.5 | 900 | 2700 | 6.8 | 18 | 5.9 | 50 | 1.2 | FDQ3MK186K474KD5 |
| 1100 | 20 | 42.5 | 50.0 | 35.0 | 37.5 | 20.3 | 17.0 | 1000 | 3000 | 6.0 | 18 | 6.3 | 50 | 1.2 | FDQ3MK206K474KD5 |
| 1100 | 20 | 57.5 | 45.0 | 30.0 | 52.5 | 20.3 | 12.5 | 700 | 2100 | 8.0 | 16 | 8.8 | 35 | 1.2 | FDQ3MK206M164MD5 |
| 1100 | 25 | 57.5 | 50.0 | 35.0 | 52.5 | 20.3 | 14.5 | 875 | 2625 | 5.8 | 20 | 9.0 | 35 | 1.2 | FDQ3MK256M204MD5 |
| 1100 | 25 | 42.5 | 55.0 | 40.0 | 37.5 | 20.3 | 20.0 | 1250 | 3750 | 4.8 | 20 | 5.7 | 50 | 1.2 | FDQ3MK206K494KD5 |
| 1100 | 30 | 57.5 | 50.0 | 35.0 | 52.5 | 20.3 | 15.5 | 1050 | 3150 | 5.3 | 20 | 8.6 | 35 | 1.2 | FDQ3MK306M204MD5 |
| 1100 | 35 | 57.5 | 60.0 | 35.0 | 52.5 | 20.3 | 16.0 | 1225 | 3675 | 4.9 | 20 | 8.8 | 35 | 1.2 | FDQ3MK356M224MD5 |
| 1100 | 40 | 57.5 | 57.5 | 38.0 | 52.5 | 20.3 | 17.0 | 1400 | 4200 | 4.6 | 20 | 8.3 | 35 | 1.2 | FDQ3MK406M474MD5 |
| 1100 | 45 | 57.5 | 55.0 | 45.0 | 52.5 | 20.3 | 18.5 | 1575 | 4725 | 4.5 | 22 | 7.1 | 35 | 1.2 | FDQ3MK456M324MD5 |
| 1200 | 1 | 32.0 | 20.0 | 11.0 | 27.5 | \ | 3.5 | 100 | 300 | 35.0 | 19 | 25.7 | 100 | 0.8 | FDQ3BK105G182GL5 |
| 1200 | 2 | 32.0 | 24.5 | 15.0 | 27.5 | \ | 5.0 | 200 | 600 | 21.5 | 22 | 20.5 | 100 | 0.8 | FDQ3BK205G272GL5 |
| 1200 | 3 | 32.0 | 28.0 | 18.0 | 27.5 | \ | 7.0 | 300 | 900 | 14.5 | 24 | 15.5 | 100 | 0.8 | FDQ3BK305G332GL5 |
| 1200 | 4 | 32.0 | 33.0 | 18.0 | 27.5 | \ | 8.0 | 400 | 1200 | 11.0 | 26 | 15.6 | 100 | 0.8 | FDQ3BK405G342GL5 |
| 1200 | 5 | 32.0 | 37.0 | 22.0 | 27.5 | 10.2 | 10.0 | 500 | 1500 | 9.5 | 28 | 11.6 | 100 | 1.2 | FDQ3BK505G404GB5 |
| 1200 | 7 | 42.5 | 37.0 | 22.0 | 37.5 | 10.2 | 8.0 | 420 | 1260 | 13.5 | 15 | 12.7 | 60 | 1.2 | FDQ3BK705K274KB5 |
| 1200 | 7 | 42.5 | 40.0 | 20.0 | 37.5 | 10.2 | 8.0 | 420 | 1260 | 13.5 | 15 | 12.7 | 60 | 1.2 | FDQ3BK705K244KB5 |
| 1200 | 8 | 42.5 | 44.0 | 24.0 | 37.5 | 10.2 | 9.0 | 480 | 1440 | 12.0 | 15 | 11.3 | 60 | 1.2 | FDQ3BK805K324KB5 |
| 1200 | 9 | 42.5 | 44.0 | 24.0 | 37.5 | 10.2 | 9.5 | 540 | 1620 | 10.5 | 15 | 11.6 | 60 | 1.2 | FDQ3BK905K324KB5 |
| 1200 | 10 | 42.5 | 44.0 | 24.0 | 37.5 | 10.2 | 10.5 | 600 | 1800 | 9.0 | 15 | 11.1 | 60 | 1.2 | FDQ3BK106K324KB5 |
| 1200 | 12 | 42.5 | 45.0 | 30.0 | 37.5 | 20.3 | 13.5 | 720 | 2160 | 7.5 | 16 | 8.0 | 60 | 1.2 | FDQ3BK126K424KD5 |
| 1200 | 15 | 42.5 | 50.0 | 35.0 | 37.5 | 20.3 | 15.0 | 900 | 2700 | 6.5 | 18 | 7.5 | 60 | 1.2 | FDQ3BK156K474KD5 |
| 1200 | 20 | 57.5 | 45.0 | 30.0 | 52.5 | 20.3 | 13.0 | 800 | 2400 | 8.5 | 16 | 7.7 | 40 | 1.2 | FDQ3BK206M164MD5 |
| 1200 | 22 | 42.5 | 55.0 | 40.0 | 37.5 | 20.3 | 20.0 | 1320 | 3960 | 4.8 | 20 | 5.7 | 60 | 1.2 | FDQ3BK226K494KD5 |
| 1200 | 25 | 57.5 | 50.0 | 35.0 | 52.5 | 20.3 | 15.5 | 1000 | 3000 | 5.7 | 18 | 8.0 | 40 | 1.2 | FDQ3BK256M204MD5 |
| 1200 | 30 | 57.5 | 60.0 | 35.0 | 52.5 | 20.3 | 17.0 | 1200 | 3600 | 5.5 | 18 | 6.9 | 40 | 1.2 | FDQ3BK306M224MD5 |
| 1200 | 35 | 57.5 | 55.0 | 45.0 | 52.5 | 20.3 | 18.0 | 1400 | 4200 | 5.0 | 22 | 6.8 | 40 | 1.2 | FDQ3BK356M324MD5 |

General Technical Data

| | |
|--|--|
| Applications | DC Link / DC Filtering |
| Dielectric | Metallized Polypropylene Film |
| Reference Standard | IEC 61071/EN 61071/AEC-Q200D |
| Climatic Category | 40/105/56 IEC 60068-1 |
| Rated Temperature T _R | -40°C ~ +105°C (85°C ~105°C, decreasing factor 1.25% per °C for Rated Voltage) |
| Protection | Solvent resistant plastic case UL94 V-0 Thermosetting resin sealing UL 94 V-0 compliant |
| Installation | Any position |
| Packaging | Packed in cardboard boxes with protection for the terminals |
| Storage Conditions | Storage time: ≤24months from the date marked on the label package Average relative humidity per year ≤70% RH≤85% for 30 days randomly distributed throughout the year Dew is absent Temperature: -40°C ~ +85°C |
| Storage Life | Product that passed less than 2 years from production, No need reconfirmation |
| RoHS Compliance | Compliant with the restricted substance requirement of Directive 2011/65/EU |
| Flame Retardant Grade | Flame retardant performance accords with horizontal combustion grade HB and vertical combustion grade V-0. |
| Application note and limiting conditions | These capacitors are designed only for DC voltage so should not be used for AC line. The continuous peak voltage shall not exceed the rated DC voltage rating |

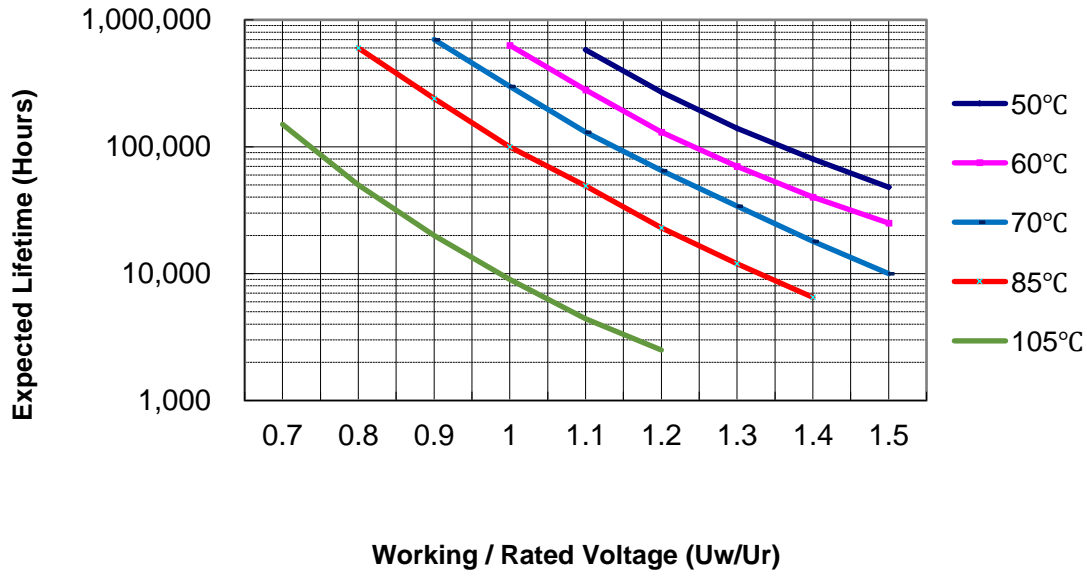
Construction

| | |
|----------------------|---|
| Metallized Film | OPP & Al/Zn |
| Metal Sprayed | Sn/Zn Alloy |
| Connection Electrode | Tinned copper wires |
| Case | Plastic Case (UL94V-0) |
| Filling | Epoxy Resin (UL94V-0) |
| Film Construction | Mono Structure  |

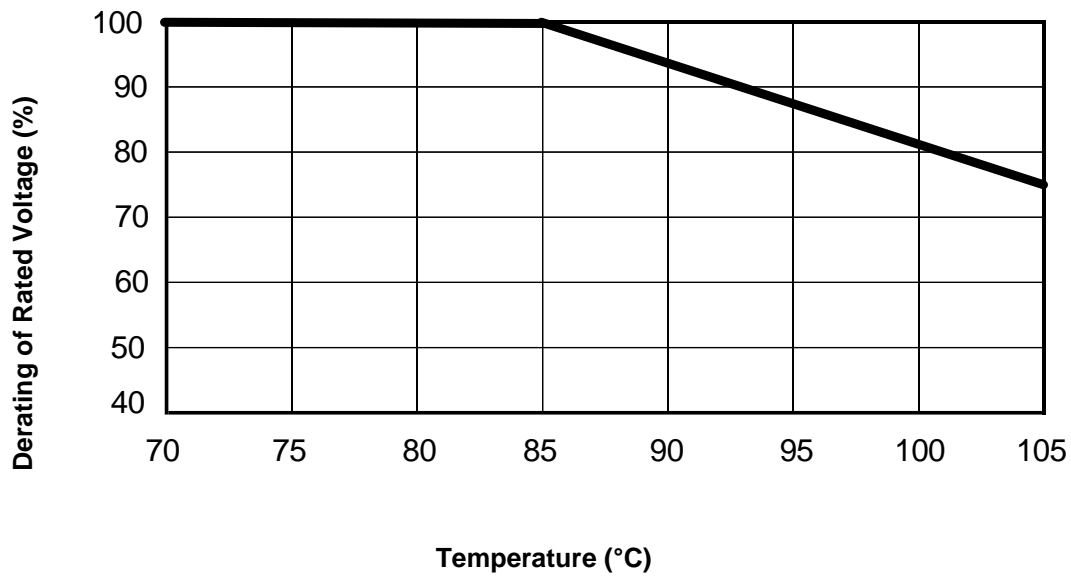
Electrical Characteristics

| | |
|---|--|
| Voltage Range | 450Vdc ~ 1200Vdc |
| Capacitance Range | 1.0μF ~ 400μF |
| Capacitance Tolerance | ±5% or ±10% at +25°C |
| Capacitance | Measuring Frequency at 1kHz Measuring Voltage: 1±0.2V |
| Standard Atmospheric Conditions for Static Test | <p>Ambient temperature 15°C to 35°C (If there is any doubt on the results, the measurements shall be made at +20 +/- 5°C)</p> <p>Relative humidity 45% to 75% (If there is any doubt on the results, the measurements shall be made at 60% to 70 %.)</p> <p>Air pressure 86 kPa to 106 kPa.</p> |
| Voltage Between Terminals U _{TT} | 1.5 x V _R VDC for 10 seconds (between terminations) @ +25°C ±5°C |
| Voltage Between Terminals and Case U _{TC} | 3000V _{AC} , 50/60Hz 60s (at +25 +/-5°C) |
| Dielectric Dissipation Factor Tgδ 0 | ≤2×10 ⁻⁴ |
| Dissipation factor | ≤0.002 (0.2%) at 1KHz; C ≤20μF at 25°C ≤0.003 (0.3%) at 1KHz; C >20μF at 25°C |
| Insulation Resistance | RC between leads, IR xC≥30,000 s at 100vdc 1minute at +25°C |
| Self-Inductance | <1nH per mm of lead spacing |
| Hot-Spot | ≤85°C |
| Life Expectancy | 100,000 hours (UR, Θhotspot=85°C) |
| Failure Rate | 100 Fit |
| Max. Altitude | 2000 m |
| Overvoltage | Maximum duration within one day |
| Apply 110% of rated voltage | 30% of on-load duration |
| Apply 115% of rated voltage | 30 mins |
| Apply 120% of rated voltage | 5 mins |
| Apply 130% of rated voltage | 1 min |

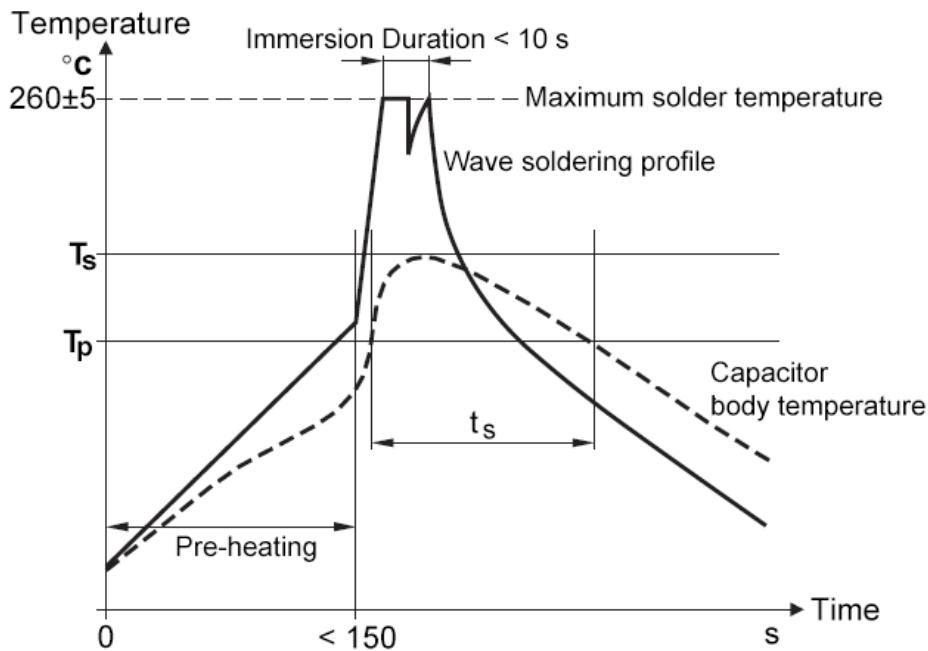
Expected Life Curve



Derating of Rated Voltage Vs Temperature



Wave Soldering Recommendations

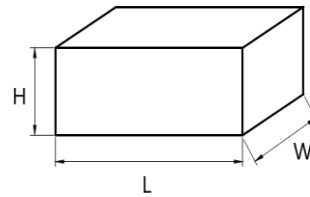


T_s : Capacitor body maximum temperature at wave soldering
 T_p : Capacitor body maximum temperature at pre-heating

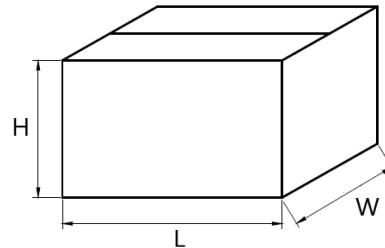
| Polypropylene Capacitors | Polyester Capacitors |
|--|--|
| During pre-heating: $T_p \leq 110^\circ\text{C}$ During soldering: $T_s \leq 120^\circ\text{C}$, $t_s \leq 60$ | During pre-heating: $T_p \leq 130^\circ\text{C}$ During soldering: $T_s \leq 160^\circ\text{C}$, $t_s \leq 60\text{s}$ |

Packaging Information

| Inner Box Specifications (Dimensions) | | | |
|---------------------------------------|--------|-------|--------|
| Box # | L ±3mm | W±3mm | H ±3mm |
| # 1 | 331 | 331 | 25 |
| # 2 | 331 | 331 | 35 |
| # 3 | 331 | 331 | 50 |
| # 4 | 331 | 331 | 80 |
| # 5 | 350 | 170 | 35 |
| # 6 | 350 | 170 | 50 |
| # 7 | 350 | 170 | 80 |



| Outer Box Specifications (Dimensions) | | | |
|---------------------------------------|--------|-------|--------|
| Box # | L ±5mm | W±5mm | H ±5mm |
| # 1 | 350 | 340 | 265 |
| # 2 | 370 | 360 | 350 |



Packaging Quantity

| Pitch | Code | W | H | T | Long Leads | Short Leads |
|-------|------|------|-------|------|------------|-------------|
| 27.5 | G15 | 32.0 | 18.0 | 9.0 | 200 | 306 |
| | G18 | 32.0 | 20.0 | 11.0 | 200 | 252 |
| | G21 | 32.0 | 22.0 | 13.0 | 200 | 207 |
| | G27 | 32.0 | 24.5 | 15.0 | 200 | 180 |
| | G33 | 32.0 | 28.0 | 18.0 | 100 | 153 |
| | G34 | 32.0 | 33.0 | 18.0 | 100 | 153 |
| | G37 | 32.0 | 31.0 | 21.0 | 100 | 126 |
| | G57 | 32.0 | 35.0 | 20.0 | 100 | 144 |
| 37.5 | G40 | 32.0 | 37.0 | 22.0 | 100 | 126 |
| | K22 | 42.5 | 36.0 | 19.0 | - | 112 |
| | K23 | 42.5 | 38.0 | 20.0 | - | 105 |
| | K24 | 42.5 | 40.0 | 20.0 | - | 105 |
| | K26 | 42.5 | 33.5 | 22.0 | - | 98 |
| | K27 | 42.5 | 37.0 | 22.0 | - | 98 |
| | K30 | 42.5 | 18.0 | 24.0 | - | 91 |
| | K32 | 42.5 | 44.0 | 24.0 | - | 91 |
| 52.5 | K42 | 42.5 | 45.0 | 30.0 | - | 70 |
| | K47 | 42.5 | 50.0 | 35.0 | - | 63 |
| | M10 | 57.5 | 45.0 | 25.0 | - | 60 |
| | M16 | 57.5 | 45.0 | 30.0 | - | 50 |
| | M20 | 57.5 | 50.0 | 35.0 | - | 45 |
| | M30 | 57.5 | 22.0 | 43.0 | - | 35 |
| | M31 | 57.5 | 45.0 | 45.0 | - | 35 |
| | M32 | 57.5 | 55.0 | 45.0 | - | 35 |
| M43 | 57.5 | 65.0 | 70.0 | - | 20 | |
| M54 | 57.5 | 65.0 | 130.0 | - | 10 | |

Cautions and Warnings

- Don't exceed the upper category temperature.
- For longtime storage, maximum relative humidity 80%, no dew allowed on the capacitor.
- Do not use or store capacitor in corrosive atmosphere, in the dusty environment's regular maintenance and cleaning especially of the terminals is required to avoid conductive path between terminal / or terminal and ground.
- Don't apply any mechanical stress to the capacitor terminals, and avoid any compressive, tensile or flexural stress.
- Don't move the capacitor after fixed to the PC board, and don't pick up the PC board by the fixed capacitor.
- Don't place the capacitor on a PC board whose holes pitch differs from the specified space.
- Avoid overload of the capacitors
- Do not have unlimited service life expectancy, the max service life expectancy may vary depending on the application the capacitor is used in.

Disclaimer

All product, product specifications and data in this datasheet are subject to change without notice to improve reliability, function or design or otherwise. The customer is responsible for checking and verifying the extent to which the Information contained in this publication is applicable to an order at the time the order is placed. All Information given herein is believed to be accurate and reliable, but it is presented without guarantee, warranty, or responsibility of any kind, expressed or implied.

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