

Stacked Metallized Plastic Film Capacitor

Type: **ECQV(L)/(M)**

Designed for high density insertion applications.

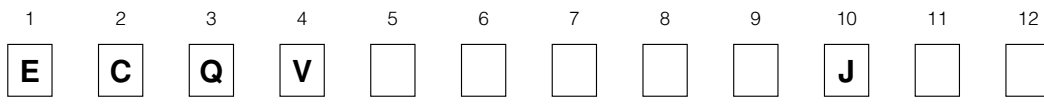
■ Features

- Small size and large capacitance
- Excellent electric characteristics in non-inductive construction
- Wide range for automatic insertion
- RoHS directive compliant

■ Recommended Applications

- General purpose
- Noise suppression for logic circuit

■ Explanation of Part Numbers



Product code

Dielectric & construction

Rated voltage

Capacitance

Cap. Tol.

Suffix

| | |
|----|---------|
| 1H | 50 VDC |
| 1J | 63 VDC |
| 1 | 100 VDC |

| | |
|---|---------|
| L | 50 VDC |
| M | 63 VDC |
| | 100 VDC |

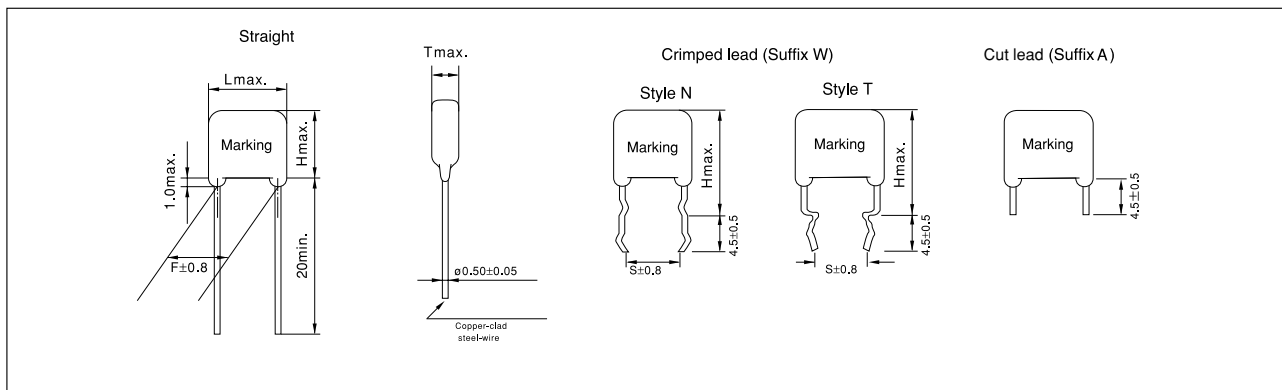
| Suffix | Lead Form |
|--------|------------------------|
| Blank | Straight |
| W | Crimped lead |
| A | Cut lead |
| 2 | Straight taping (Ammo) |
| 3 | Crimped taping (Ammo) |

■ Specifications

| | |
|--|---|
| Category temp. range (Including temperature-rise on unit surface) | -40 °C to +105 °C |
| Rated voltage | 50 VDC, 63 VDC, 100 VDC (Derating of rated voltage by 2.5 %/°C at more than 85 °C) |
| Capacitance range | 0.010 μF to 2.2 μF |
| Capacitance tolerance | ± 5 % (J) |
| Dissipation factor (tan δ) | tan δ ≤ 1.0 % (20 °C, 1 kHz) |
| Withstand voltage | Between terminals : Rated volt. (VDC) × 150 % 60 s |
| Insulation resistance (IR) | C ≤ 0.33 μF : IR ≥ 3000 MΩ C > 0.33 μF : IR ≥ 1000 MΩ · μF (20 °C, 50 VDC, 60 s ECQV1H, ECQV1J) (20 °C, 100 VDC, 60 s ECQV1) |

* In case of applying voltage in alternating current (50 Hz or 60 Hz sine wave) to a capacitor with DC rated voltage, please refer to the page of "Permissible voltage (R.M.S) in alternating current corresponding to DC rated voltage".

■ Dimensions in mm (not to scale)



■ Packaging Specifications for Bulk Package

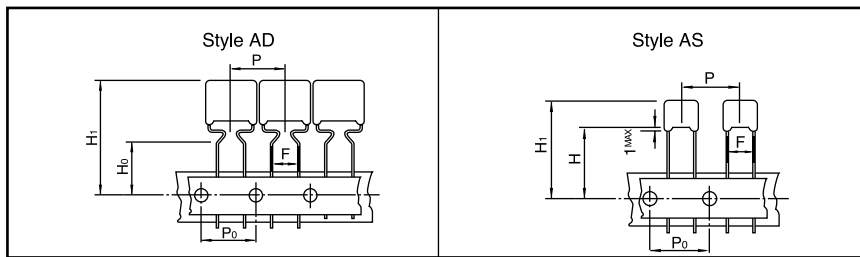
Packing quantity: 100 pcs./bag

Design, Specifications are subject to change without notice. Ask factory for technical specifications before purchase and/or use. Whenever a doubt about safety arises from this product, please inform us immediately for technical consultation without fail.



■ Taping Specifications for Automatic Insertion

● Taping style



* Refer to the page of taping specifications.

● Packaging Specifications

| Type | Rated volt. | Cap. range (μF) | Taping style | | | | | | Packing | suffix |
|----------|-------------|-----------------|--------------|----|---|---|---|---|---------|--------|
| | | | AD | AS | B | C | D | E | | |
| ECQV (L) | 50 VDC | 0.010 to 2.2 | ○ | | | | | | Ammo | JL3 |
| | | 0.010 to 1.0 | | ○ | | | | | Ammo | JL2 |
| ECQV (M) | 63 VDC | 0.010 to 1.0 | ○ | | | | | | Ammo | JM3 |
| | | 0.010 to 0.15 | | ○ | | | | | Ammo | JM2 |
| | 100 VDC | 0.010 to 0.47 | ○ | | | | | | Ammo | JM3 |
| | | 0.010 to 0.10 | | ○ | | | | | Ammo | JM2 |

● Lead Spacing

| Style | Lead Spacing |
|-------|--------------|
| AD | 5.0 mm |
| AS | 5.0 mm |

* See the column "Rating, Dimensions & Quantity Box" for packing quantity.

■ Rating, Dimensions & Quantity/Ammo Box or Reel

● Type ECQV(L) Rated voltage : 50 VDC

| Part No. | Cap. (μF) | Dimensions (mm) | | | | | | | | Min. order Q'ty | |
|----------------|-----------|-------------------|-------------------|-------------------|--------------|-----|----------|--------------|------|-----------------|------|
| | | L _{max.} | T _{max.} | H _{max.} | | F | S | | ød | Taping | Bulk |
| | | | | Straight | Crimped lead | | Straight | Crimped lead | | | |
| ECQV1H103JL() | 0.010 | 7.3 | 3.2 | 5.0 | 9.0 | 5.0 | 5.0 | 0.50 | 2000 | | |
| ECQV1H123JL() | 0.012 | 7.3 | 3.2 | 5.0 | 9.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1H153JL() | 0.015 | 7.3 | 3.2 | 5.0 | 9.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1H183JL() | 0.018 | 7.3 | 3.2 | 5.0 | 9.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1H223JL() | 0.022 | 7.3 | 3.2 | 5.0 | 9.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1H273JL() | 0.027 | 7.3 | 3.2 | 5.0 | 9.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1H333JL() | 0.033 | 7.3 | 3.2 | 5.0 | 9.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1H393JL() | 0.039 | 7.3 | 3.2 | 5.0 | 9.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1H473JL() | 0.047 | 7.3 | 3.2 | 5.0 | 9.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1H563JL() | 0.056 | 7.3 | 3.2 | 5.0 | 9.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1H683JL() | 0.068 | 7.3 | 3.2 | 5.0 | 9.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1H823JL() | 0.082 | 7.3 | 3.6 | 5.0 | 9.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1H104JL() | 0.10 | 7.3 | 4.0 | 5.0 | 9.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1H124JL() | 0.12 | 7.3 | 4.0 | 5.0 | 9.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1H154JL() | 0.15 | 7.3 | 4.4 | 5.5 | 9.5 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1H184JL() | 0.18 | 7.3 | 4.5 | 5.5 | 9.5 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1H224JL() | 0.22 | 7.3 | 4.8 | 5.5 | 9.5 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1H274JL() | 0.27 | 7.3 | 4.6 | 7.0 | 11.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1H334JL() | 0.33 | 7.3 | 5.2 | 7.0 | 11.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1H394JL() | 0.39 | 7.3 | 5.7 | 7.3 | 11.3 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1H474JL() | 0.47 | 7.3 | 6.0 | 7.3 | 11.3 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1H564JL() | 0.56 | 7.3 | 5.8 | 10.0 | 14.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1H684JL() | 0.68 | 7.3 | 6.5 | 10.0 | 14.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1H824JL() | 0.82 | 7.3 | 6.8 | 10.0 | 14.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1H105JL() | 1.0 | 7.3 | 8.0 | 11.0 | 15.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1H125JL() | 1.2 | 10.2 | 6.5 | 10.0 | 14.0 | 7.5 | 5.0 | 0.50 | | | |
| ECQV1H155JL() | 1.5 | 10.2 | 7.2 | 10.0 | 14.0 | 7.5 | 5.0 | 0.50 | | | |
| ECQV1H185JL() | 1.8 | 10.2 | 7.2 | 12.0 | 16.5 | 7.5 | 5.0 | 0.50 | | | |
| ECQV1H225JL() | 2.2 | 10.2 | 7.9 | 12.0 | 16.5 | 7.5 | 5.0 | 0.50 | | | |

↑ Suffix for lead crimped or taped type

Style N: 0.010 μF to 1.0 μF
Style T: 1.2 μF to 2.2 μF

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- Rating, Dimensions & Quantity/Ammo Box or Reel
- Type ECQV(M) Rated voltage : 63 VDC

| Part No. | Cap. (μ F) | Dimensions (mm) | | | | | | | Min. order Q'ty | | |
|----------------|--------------------|-------------------|-------------------|-------------------|--------------|----------|--------------|------|-----------------|--------|------|
| | | L ^{max.} | T ^{max.} | H ^{max.} | | F | | S | ϕ d | Taping | Bulk |
| | | | | Straight | Crimped lead | Straight | Crimped lead | | | | |
| ECQV1J103JM() | 0.010 | 7.5 | 3.2 | 6.8 | 10.8 | 5.0 | 5.0 | 0.50 | 2000 | 500 | |
| ECQV1J123JM() | 0.012 | 7.5 | 3.2 | 6.8 | 10.8 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1J153JM() | 0.015 | 7.5 | 3.2 | 6.8 | 10.8 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1J183JM() | 0.018 | 7.5 | 3.2 | 6.8 | 10.8 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1J223JM() | 0.022 | 7.5 | 3.2 | 6.8 | 10.8 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1J273JM() | 0.027 | 7.5 | 3.2 | 6.8 | 10.8 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1J333JM() | 0.033 | 7.5 | 3.2 | 6.8 | 10.8 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1J393JM() | 0.039 | 7.5 | 3.2 | 6.8 | 10.8 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1J473JM() | 0.047 | 7.5 | 3.2 | 6.8 | 10.8 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1J563JM() | 0.056 | 7.5 | 3.2 | 6.8 | 10.8 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1J683JM() | 0.068 | 7.5 | 3.2 | 6.8 | 10.8 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1J823JM() | 0.082 | 7.5 | 3.2 | 6.8 | 10.8 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1J104JM() | 0.10 | 7.5 | 3.2 | 7.0 | 11.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1J124JM() | 0.12 | 7.5 | 3.8 | 7.0 | 11.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1J154JM() | 0.15 | 7.5 | 4.1 | 7.0 | 11.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1J184JM() | 0.18 | 10.2 | 3.5 | 9.0 | 14.0 | 7.5 | 5.0 | 0.50 | | | |
| ECQV1J224JM() | 0.22 | 10.2 | 3.5 | 9.0 | 14.0 | 7.5 | 5.0 | 0.50 | | | |
| ECQV1J274JM() | 0.27 | 10.2 | 3.5 | 9.0 | 14.0 | 7.5 | 5.0 | 0.50 | | | |
| ECQV1J334JM() | 0.33 | 10.2 | 3.8 | 9.0 | 14.0 | 7.5 | 5.0 | 0.50 | | | |
| ECQV1J394JM() | 0.39 | 10.2 | 4.0 | 9.0 | 14.0 | 7.5 | 5.0 | 0.50 | | | |
| ECQV1J474JM() | 0.47 | 10.2 | 4.5 | 9.0 | 14.0 | 7.5 | 5.0 | 0.50 | | | |
| ECQV1J564JM() | 0.56 | 10.2 | 4.9 | 9.0 | 14.0 | 7.5 | 5.0 | 0.50 | | | |
| ECQV1J684JM() | 0.68 | 10.2 | 5.5 | 10.0 | 15.0 | 7.5 | 5.0 | 0.50 | | | |
| ECQV1J824JM() | 0.82 | 10.2 | 6.1 | 10.0 | 15.0 | 7.5 | 5.0 | 0.50 | | | |
| ECQV1J105JM() | 1.0 | 10.2 | 6.9 | 10.0 | 15.0 | 7.5 | 5.0 | 0.50 | | | |

Style N: 0.010 μ F to 0.15 μ F
 Style T: 0.18 μ F to 1.0 μ F

Stacked Metallized Film

- Type ECQV(M) Rated voltage : 100 VDC

| Part No. | Cap. (μ F) | Dimensions (mm) | | | | | | | Min. order Q'ty | | |
|---------------|--------------------|-------------------|-------------------|-------------------|--------------|----------|--------------|------|-----------------|--------|------|
| | | L ^{max.} | T ^{max.} | H ^{max.} | | F | | S | ϕ d | Taping | Bulk |
| | | | | Straight | Crimped lead | Straight | Crimped lead | | | | |
| ECQV1103JM() | 0.010 | 7.5 | 3.2 | 7.0 | 12.0 | 5.0 | 5.0 | 0.50 | 2000 | 500 | |
| ECQV1123JM() | 0.012 | 7.5 | 3.2 | 7.0 | 12.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1153JM() | 0.015 | 7.5 | 3.2 | 7.0 | 12.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1183JM() | 0.018 | 7.5 | 3.2 | 7.0 | 12.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1223JM() | 0.022 | 7.5 | 3.2 | 7.0 | 12.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1273JM() | 0.027 | 7.5 | 3.2 | 7.0 | 12.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1333JM() | 0.033 | 7.5 | 3.2 | 7.0 | 12.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1393JM() | 0.039 | 7.5 | 3.2 | 7.0 | 12.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1473JM() | 0.047 | 7.5 | 3.2 | 7.0 | 12.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1563JM() | 0.056 | 7.5 | 3.2 | 7.0 | 12.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1683JM() | 0.068 | 7.5 | 4.0 | 7.0 | 12.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1823JM() | 0.082 | 7.5 | 4.1 | 7.0 | 12.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1104JM() | 0.10 | 7.5 | 4.5 | 7.0 | 12.0 | 5.0 | 5.0 | 0.50 | | | |
| ECQV1124JM() | 0.12 | 10.2 | 3.3 | 9.0 | 14.0 | 7.5 | 5.0 | 0.50 | | | |
| ECQV1154JM() | 0.15 | 10.2 | 3.3 | 9.0 | 14.0 | 7.5 | 5.0 | 0.50 | | | |
| ECQV1184JM() | 0.18 | 10.2 | 3.6 | 9.0 | 14.0 | 7.5 | 5.0 | 0.50 | | | |
| ECQV1224JM() | 0.22 | 10.2 | 4.0 | 9.0 | 14.0 | 7.5 | 5.0 | 0.50 | | | |
| ECQV1274JM() | 0.27 | 10.2 | 4.2 | 9.0 | 14.0 | 7.5 | 5.0 | 0.50 | | | |
| ECQV1334JM() | 0.33 | 10.2 | 4.8 | 10.0 | 15.0 | 7.5 | 5.0 | 0.50 | | | |
| ECQV1394JM() | 0.39 | 10.2 | 5.5 | 10.0 | 15.0 | 7.5 | 5.0 | 0.50 | | | |
| ECQV1474JM() | 0.47 | 10.2 | 6.8 | 10.5 | 15.5 | 7.5 | 5.0 | 0.50 | | | |

↑ Suffix for lead crimped or taped type

Style N: 0.010 μ F to 0.10 μ F
 Style T: 0.12 μ F to 0.47 μ F

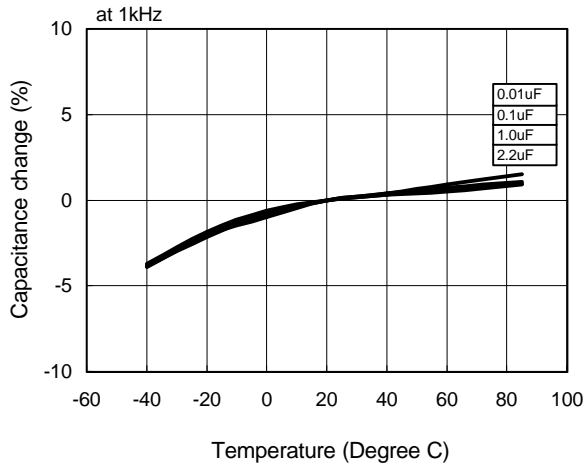
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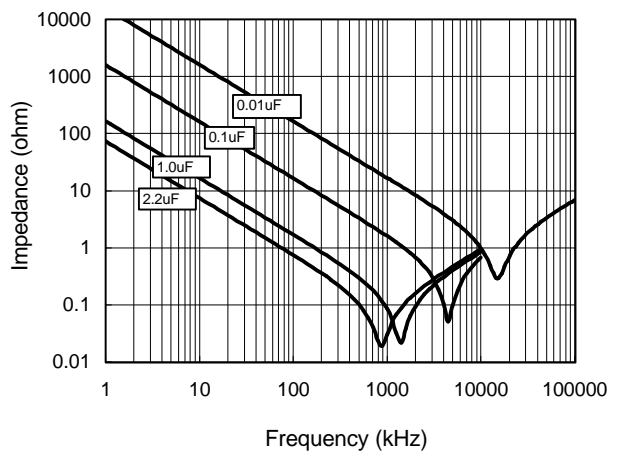
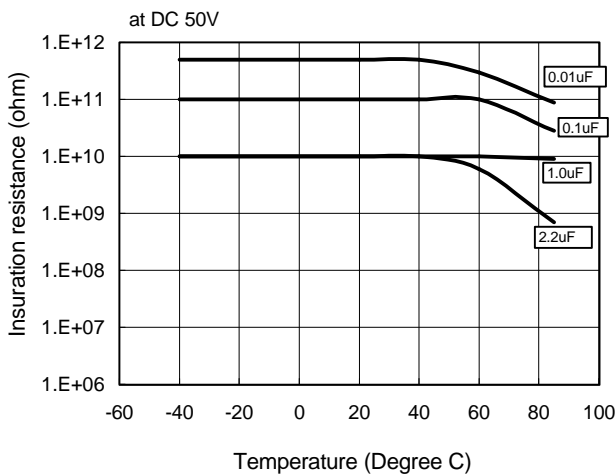
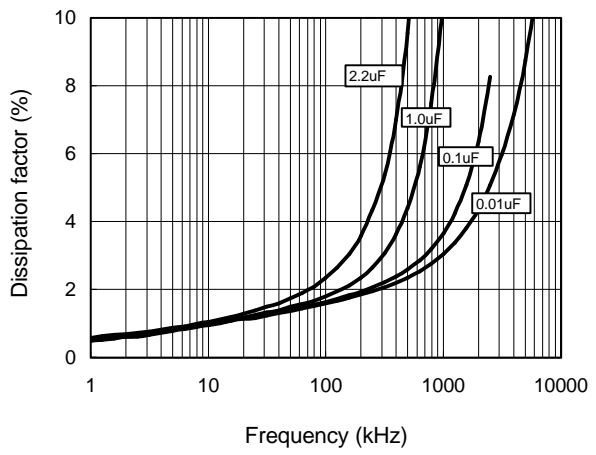
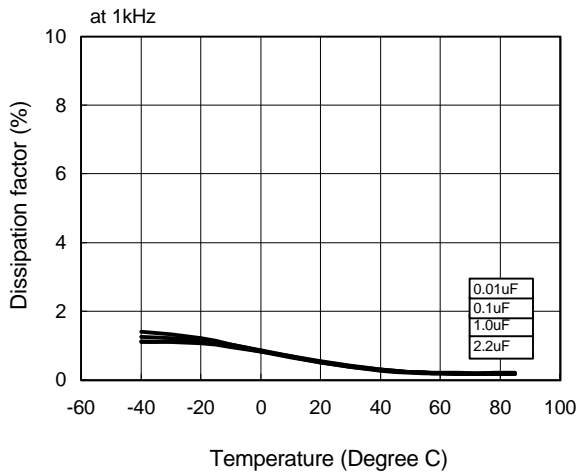
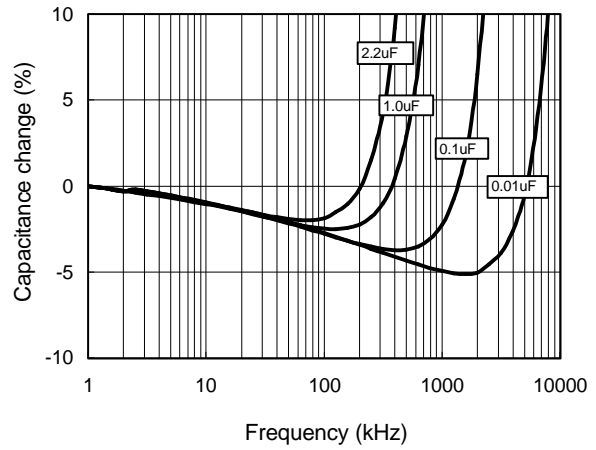
ECQV(L) Type 50VDC Series (Polyester Film)

Erectrical Characteristics <Typical Data>

Temperature Characteristics



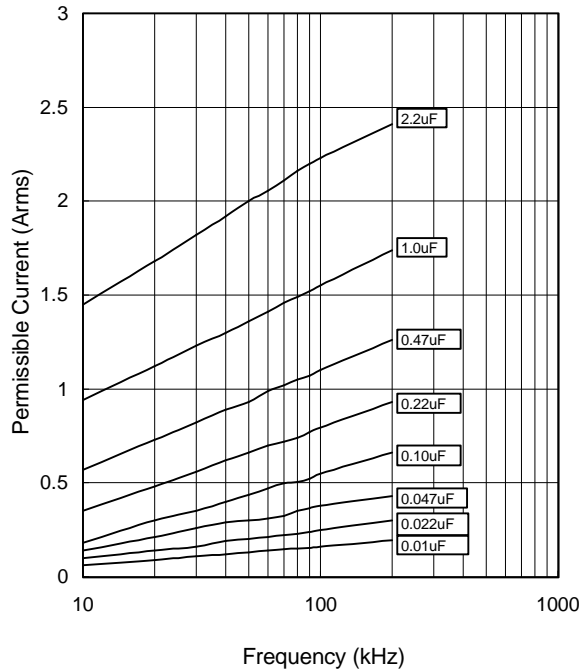
Frequency Characteristics



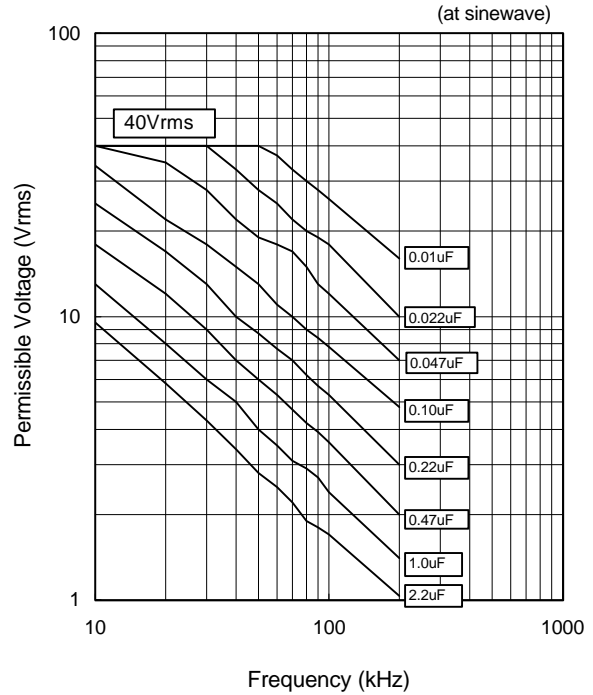
ECQV(L) Type 50VDC Series (Polyester Film)

Applicable Specifications

Permissible Current



Permissible Voltage

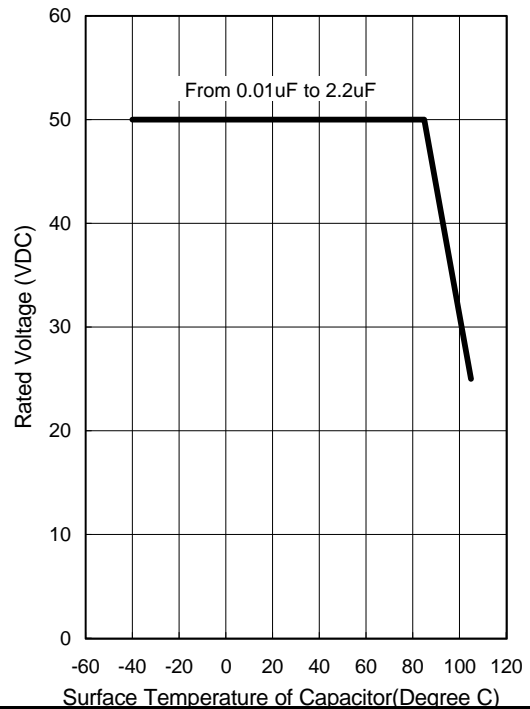


Pulse Handling Capability (dV/dt)

(Max 10000cycles)

| Rating Voltage | Capacitance Value(uF) | Code | dV/dt(V/us) | Current(o-p) (A) |
|----------------|-----------------------|------|-------------|------------------|
| 50VDC | 0.010 | 103 | 37 | 0.37 |
| | 0.015 | 153 | | 0.56 |
| | 0.022 | 223 | | 0.81 |
| | 0.033 | 333 | | 1.22 |
| | 0.047 | 473 | | 1.74 |
| | 0.068 | 683 | | 2.52 |
| | 0.100 | 104 | 32 | 3.20 |
| | 0.150 | 154 | | 4.80 |
| | 0.220 | 224 | | 7.04 |
| | 0.330 | 334 | | 10.56 |
| | 0.470 | 474 | | 15.04 |
| | 0.680 | 684 | 21.76 | 12 |
| | 1.000 | 105 | 32.00 | |
| | 1.500 | 155 | 18.00 | |
| 2.200 | 225 | | 26.40 | |

Voltage Derating by Temperature



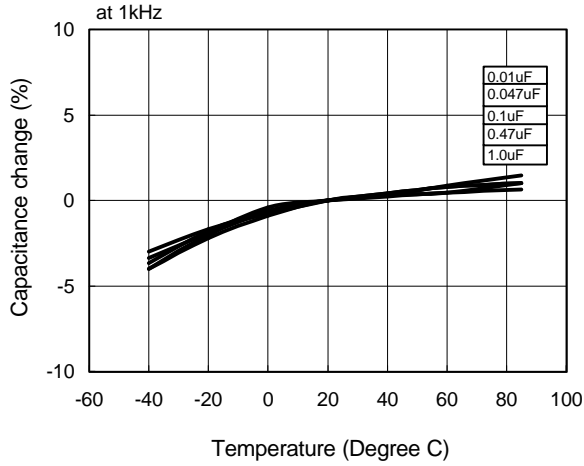
* Please consult Panasonic if your condition exceeds the above spec.



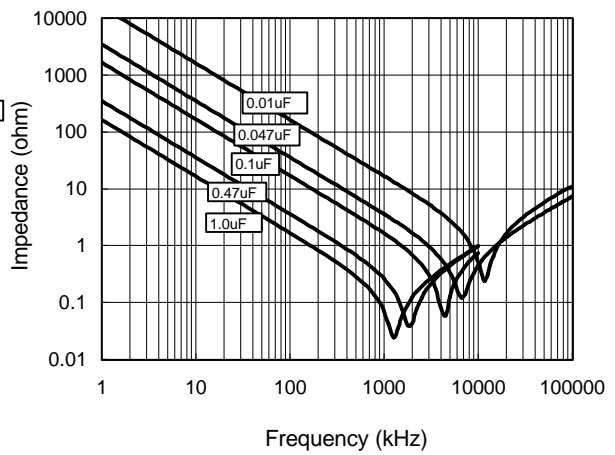
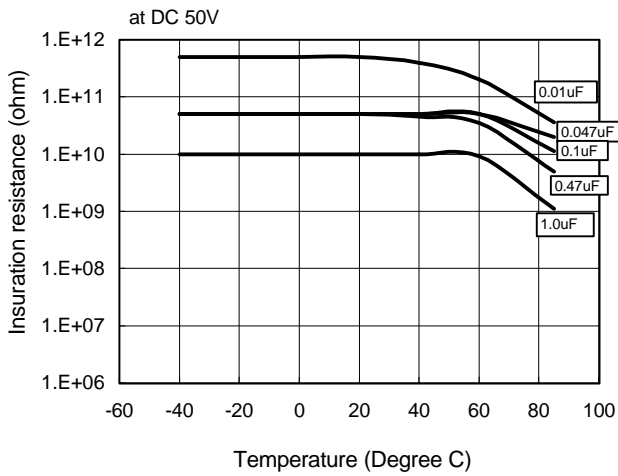
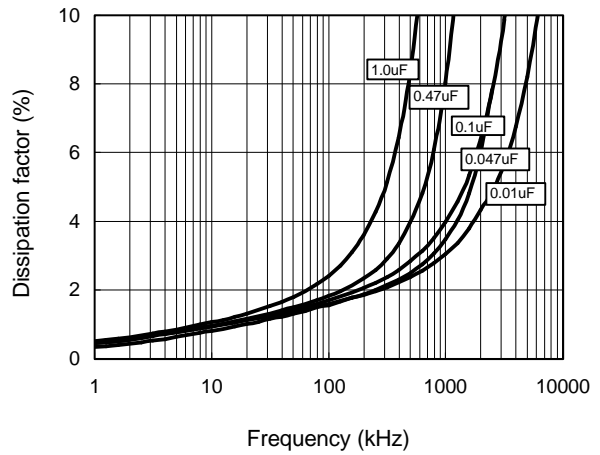
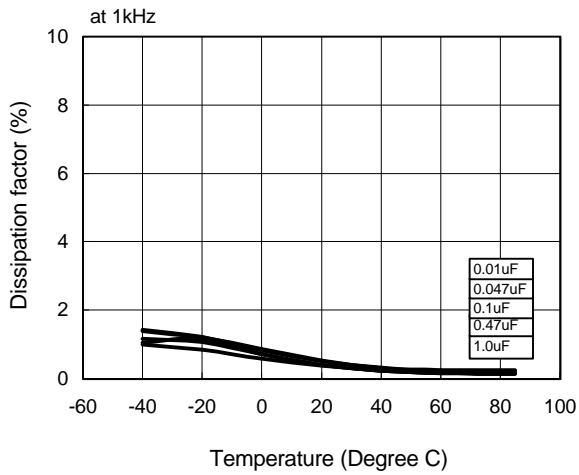
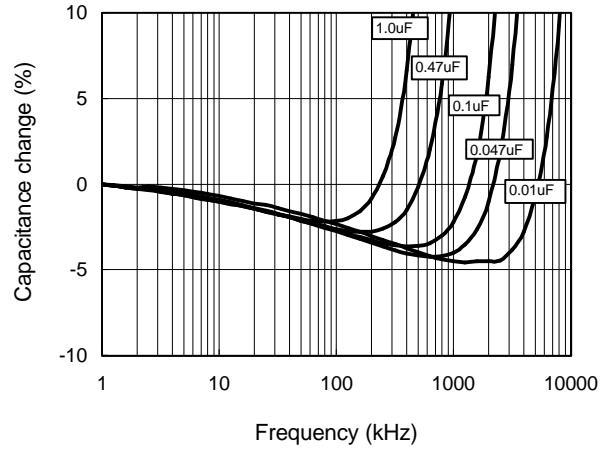
ECQV(M) Type 63VDC Series (Polyester Film)

Erectrical Characteristics <Typical Data>

Temperature Characteristics



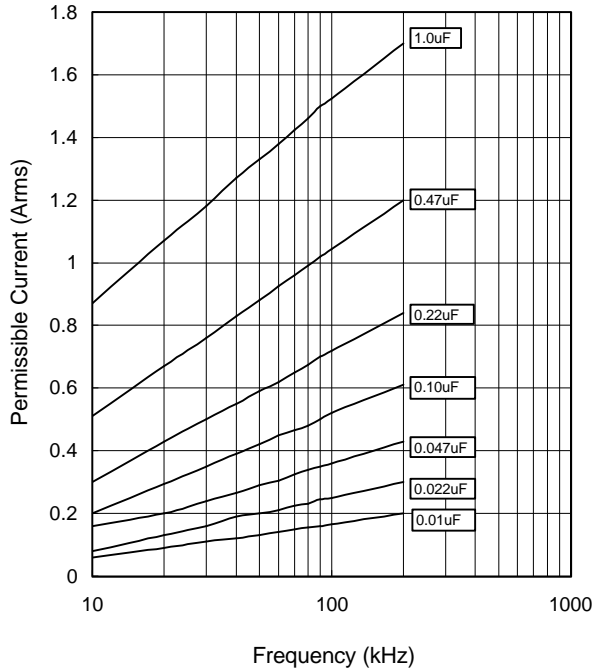
Frequency Characteristics



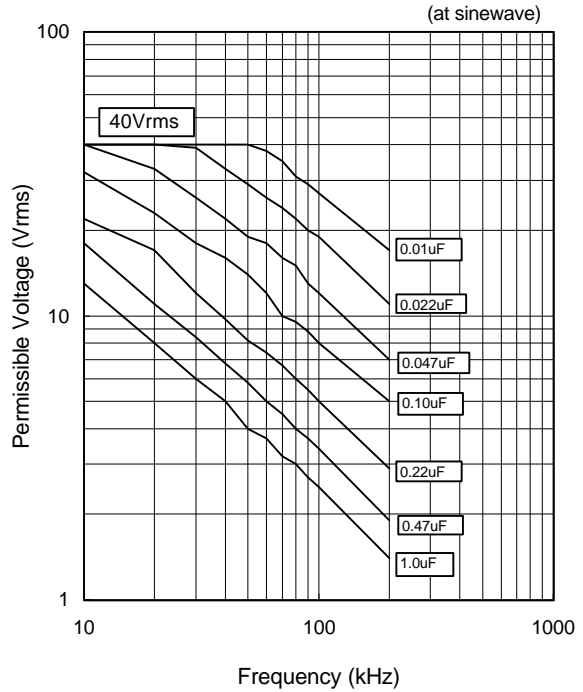
ECQV(M) Type 63VDC Series (Polyester Film)

Applicable Specifications

Permissible Current



Permissible Voltage

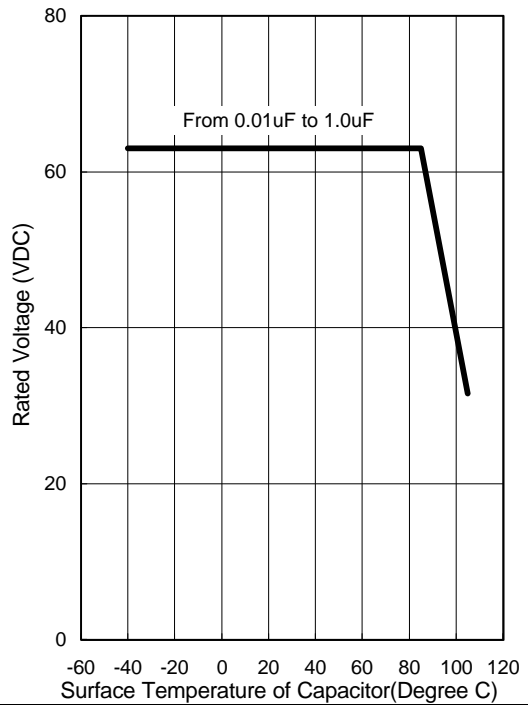


Pulse Handling Capability (dV/dt)

(Max 10000cycles)

| Rating Voltage | Capacitance Value(uF) | Code | dV/dt(V/us) | Current(o-p) (A) |
|----------------|-----------------------|------|-------------|------------------|
| 63VDC | 0.010 | 103 | 49 | 0.49 |
| | 0.015 | 153 | | 0.74 |
| | 0.022 | 223 | | 1.08 |
| | 0.033 | 333 | | 1.62 |
| | 0.047 | 473 | | 2.30 |
| | 0.068 | 683 | | 3.33 |
| | 0.100 | 104 | 45 | 4.90 |
| | 0.150 | 154 | | 7.35 |
| | 0.220 | 224 | | 9.90 |
| | 0.330 | 334 | | 14.85 |
| | 0.470 | 474 | 33 | 21.15 |
| | 0.680 | 684 | | 30.60 |
| | 1.000 | 105 | | 33.00 |

Voltage Derating by Temperature



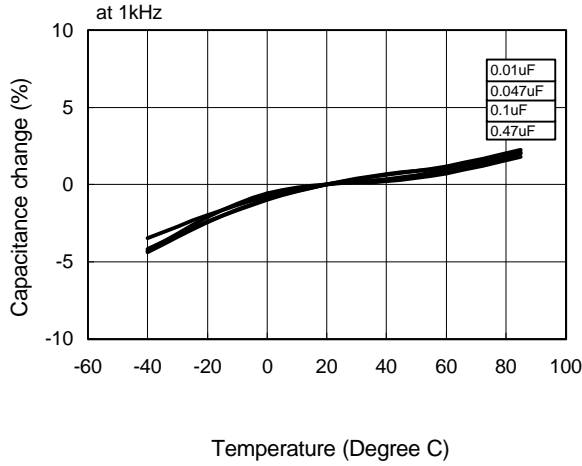
* Please consult Panasonic if your condition exceeds the above spec.



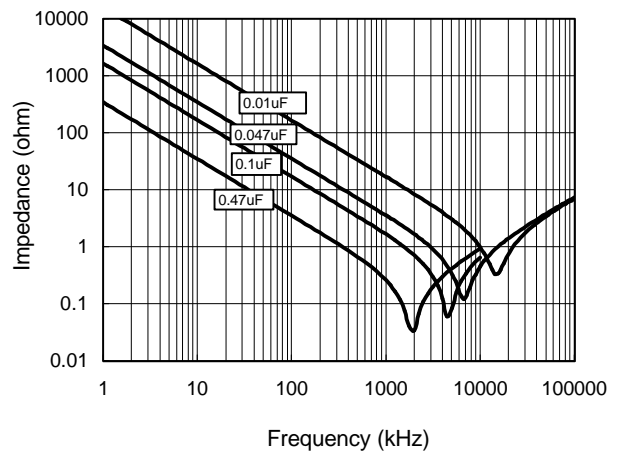
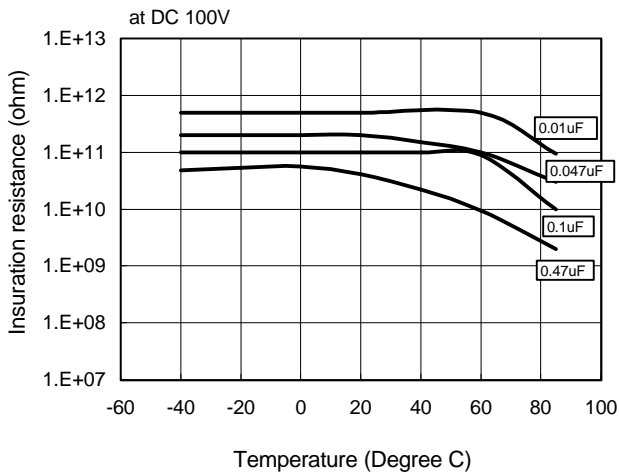
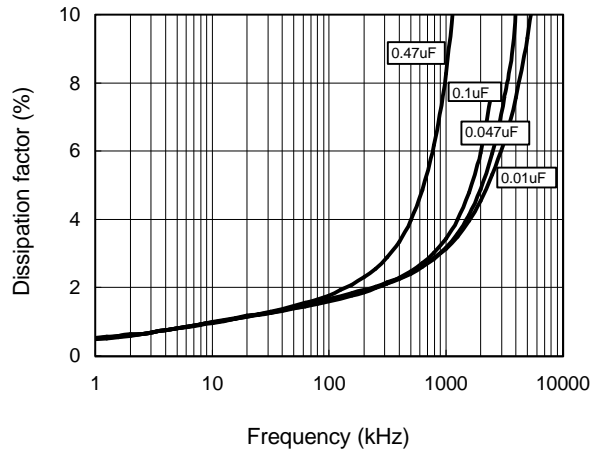
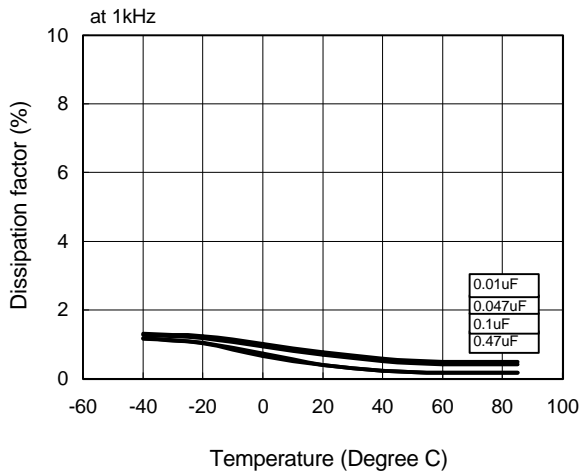
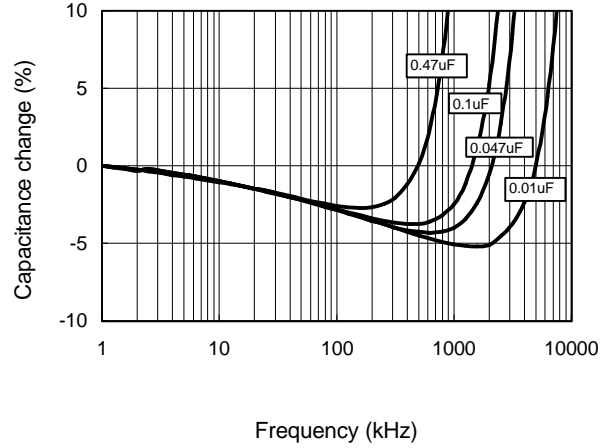
ECQV(M) Type 100VDC Series (Polyester Film)

Erectrical Characteristics <Typical Data>

Temperature Characteristics



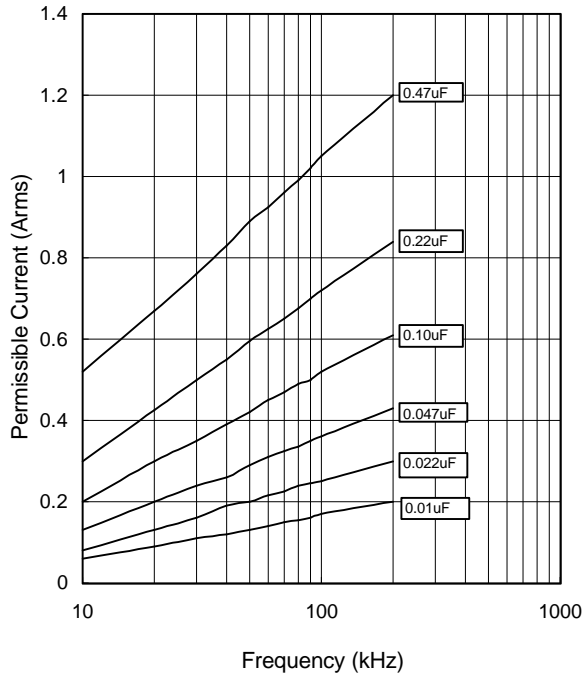
Frequency Characteristics



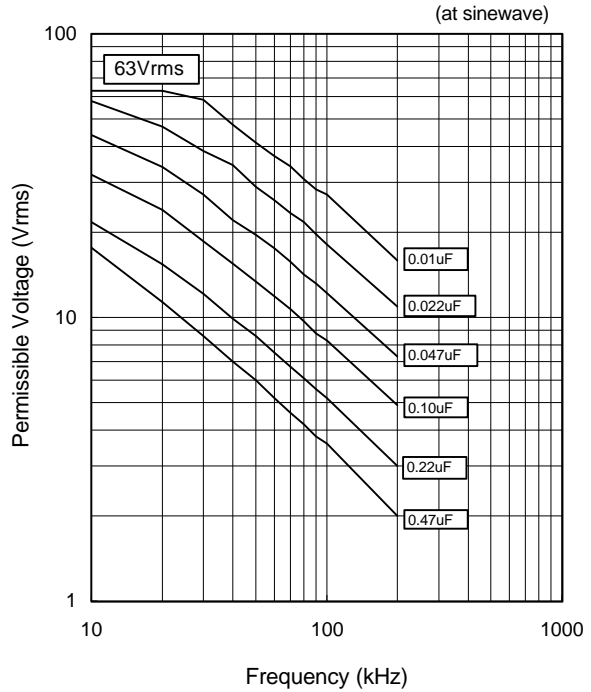
ECQV(M) Type 100VDC Series (Polyester Film)

Applicable Specifications

Permissible Current



Permissible Voltage

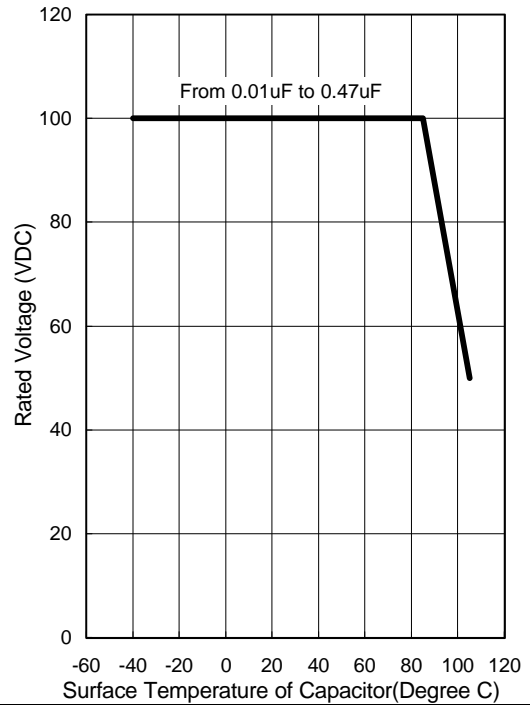


Pulse Handling Capability (dV/dt)

(Max 10000cycles)

| Rating Voltage | Capacitance Value(uF) | Code | dV/dt(V/us) | Current(o-p) (A) |
|----------------|-----------------------|------|-------------|------------------|
| 100VDC | 0.010 | 103 | 55 | 0.55 |
| | 0.015 | 153 | | 0.83 |
| | 0.022 | 223 | | 1.21 |
| | 0.033 | 333 | | 1.82 |
| | 0.047 | 473 | | 2.59 |
| | 0.068 | 683 | 43 | 3.74 |
| | 0.100 | 104 | | 5.50 |
| | 0.150 | 154 | | 6.45 |
| | 0.220 | 224 | | 9.46 |
| | 0.330 | 334 | | 14.19 |
| | 0.470 | 474 | | 20.21 |

Voltage Derating by Temperature



* Please consult Panasonic if your condition exceeds the above spec.