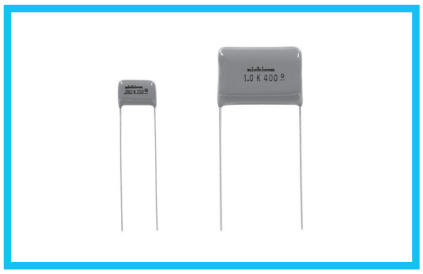
nichicon

# QXK-(ZH)

Metallized Polyester Film Capacitor

(Extended Standard Type)



- Highly reliable and superior performance in high frequency applications, self-healing and non-inductive construction, using a dielectric made of polyethylene terephthalate film covered with vacuum-evaporated metal.
- Finished by inner dipping with liquid epoxy resin and outer coating with flame-retardant epoxy resin, those double coating provides excellent humidity resistance.
- Designed to be compact and to cover larger capacitance range having advantage of tolerating to A.C.voltage and large current flow.
- Designed 1mm max. of epoxy on lead wire for best performance at soldering process on P.C. board assemblies.
- Compliant to the RoHS directive (2011/65/EU).

## Applications

- Filtering, DC-blocking, coupling and so on of general communications equipment and use in AC circuits for motor starting, charging / discharging, lighting, noise suppression and etc. Contact us for details for use in AC circuits.
- However, do not use this product for across-the-line applications.

## ■ Specifications

| Item | Performance Characteristics |
|---|---|
| Category Temperature Range | −40 to +105˚C (Rated temperature : 85˚C) |
| Rated Voltage ($U_R$) | 250, 400, 630VDC |
| Rated Capacitance Range | 0.01 to 3.3μF |
| Rated Capacitance Tolerance | ±5% (J), ±10% (K) |
| Dielectric Loss Tangent | 0.8% or less (at 1kHz 20˚C) |
| Insulation Resistance | C ≦ 0.33μF : 9000 MΩ or more C > 0.33μF : 3000 ΩF or more |
| Withstand Voltage | Between Terminals : Rated Voltage × 175%, 1 to 5 secs.<br>Between Terminals and Coverage : Rated Voltage × 200%, 1 to 5 secs. |
| Encapsulation | Flame-retardant epoxy resin |

Category voltage = $U_R$ × 0.7

## Type numbering system (Example : 630V 0.01μF)

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Q X K 2 J 1 0 3 K T P T Z H

- 12 T: AC usage applicable Straight lead type : T; AC usage applicable Cut / formed lead type :
- 10 P: Configuration (TP : Polyester film, Tinned CP wire)
- 9 K: Capacitance tolerance (J : ±5% K : ±10%)
- 6 7 8 1 0 3: Rated capacitance (0.01μF)
- 4 5 2 J: Rated voltage (630V)
- 3 K: Series name
- 1 2 Q X: Type

| F size | Code |
|---|---|
| 10.0 | 7ZHFJ |
| 12.5 | 7ZHFL |
| 17.5 | 7ZHFP |
| 22.5 | 7ZHFT |
| 27.5 | 7ZHFX |

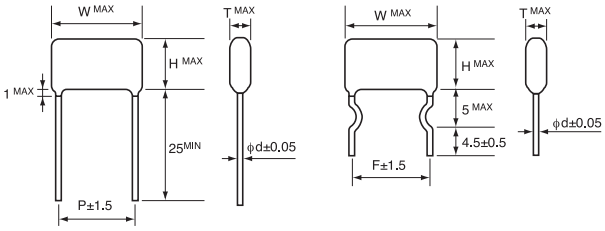
## AC Voltage

- AC voltage (Operating at 50 / 60Hz AC circuit) shall be as follows. However, do not use this product for across-the-line applications.

| DC Rated Voltage | 250VDC | 400VDC | 630VDC |
|---|---|---|---|
| AC Voltage | 125VAC | 200VAC | 250VAC |

- When used in high frequency circuit, refer to Table 2 and 3 in pages 384, 387 for the values of effective voltage, current and effective VA.

## ■ Drawing




Straight lead type. Cut / formed lead type.

## ■ Dimensions

Unit : mm

| Cap.(μF) | Code \ V(Code) / Size | 250VDC (2E) | | | | | | 400VDC (2G) | | | | | | 630VDC (2J) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | T | W | H | d | P | F | T | W | H | d | P | F | T | W | H | d | P | F |
| **0.01** | 103 | | | | | | | | | | | | | 4.8 | 15.5 | 9.4 | 0.6 | 12.5 | 12.5 |
| **0.015** | 153 | | | | | | | | | | | | | 5.5 | 15.5 | 10.0 | 0.6 | 12.5 | 12.5 |
| **0.022** | 223 | | | | | | | 4.9 | 13.5 | 9.5 | 0.6 | 10.5 | 10.0 | 6.3 | 15.5 | 10.8 | 0.6 | 12.5 | 12.5 |
| **0.033** | 333 | | | | | | | 5.6 | 13.5 | 10.2 | 0.6 | 10.5 | 10.0 | 7.1 | 15.5 | 12.3 | 0.6 | 12.5 | 12.5 |
| **0.047** | 473 | 4.7 | 13.5 | 9.3 | 0.6 | 10.5 | 10.0 | 5.5 | 15.5 | 10.1 | 0.6 | 12.5 | 12.5 | 6.2 | 20.5 | 11.5 | 0.6 | 17.5 | 17.5 |
| **0.068** | 683 | 4.7 | 13.5 | 9.3 | 0.6 | 10.5 | 10.0 | 6.3 | 15.5 | 10.9 | 0.6 | 12.5 | 12.5 | 6.7 | 20.5 | 13.5 | 0.6 | 17.5 | 17.5 |
| **0.1** | 104 | 5.3 | 13.5 | 9.9 | 0.6 | 10.5 | 10.0 | 7.3 | 15.5 | 11.9 | 0.6 | 12.5 | 12.5 | 7.8 | 20.5 | 14.6 | 0.6 | 17.5 | 17.5 |
| **0.15** | 154 | 5.5 | 15.5 | 10.1 | 0.6 | 12.5 | 12.5 | 6.6 | 20.5 | 11.8 | 0.6 | 17.5 | 17.5 | 8.0 | 26.0 | 15.3 | 0.8 | 22.5 | 22.5 |
| **0.22** | 224 | 6.3 | 15.5 | 10.9 | 0.6 | 12.5 | 12.5 | 7.7 | 20.5 | 12.9 | 0.6 | 17.5 | 17.5 | 8.9 | 26.0 | 17.6 | 0.8 | 22.5 | 22.5 |
| **0.33** | 334 | 7.4 | 15.5 | 12.0 | 0.6 | 12.5 | 12.5 | 8.6 | 20.5 | 15.3 | 0.6 | 17.5 | 17.5 | 10.9 | 26.0 | 19.8 | 0.8 | 22.5 | 22.5 |
| **0.47** | 474 | 6.7 | 20.5 | 11.9 | 0.6 | 17.5 | 17.5 | 10.1 | 20.5 | 16.9 | 0.6 | 17.5 | 17.5 | 11.3 | 31.0 | 20.2 | 0.8 | 27.5 | 27.5 |
| **0.68** | 684 | 7.2 | 20.5 | 14.0 | 0.6 | 17.5 | 17.5 | 9.5 | 26.0 | 18.4 | 0.8 | 22.5 | 22.5 | | | | | | |
| **1.0** | 105 | 8.6 | 20.5 | 15.3 | 0.6 | 17.5 | 17.5 | 11.5 | 26.0 | 20.4 | 0.8 | 22.5 | 22.5 | | | | | | |
| **1.5** | 155 | 8.3 | 26.0 | 17.1 | 0.8 | 22.5 | 22.5 | 12.3 | 31.0 | 21.1 | 0.8 | 27.5 | 27.5 | | | | | | |
| **2.2** | 225 | 10.0 | 26.0 | 18.8 | 0.8 | 22.5 | 22.5 | | | | | | | | | | | | |
| **3.3** | 335 | 10.7 | 31.0 | 19.6 | 0.8 | 27.5 | 27.5 | | | | | | | | | | | | |

F : lead pitch for cut / formed lead wires