

Metallized Polypropylene Film Capacitors

Type: **MKP for DC-link EZPE 800VDC Series**

Non-inductive construction using metallized polypropylene film with flame retardant epoxy resin and case.



■ Features

- High safety, Self-healing and Self-protecting function built-in
- Long product life, High reliability
- Low loss, Low ESR
- Flame retardant (Case and sealing resin)
- RoHS directive compliant

■ Recommended Applications

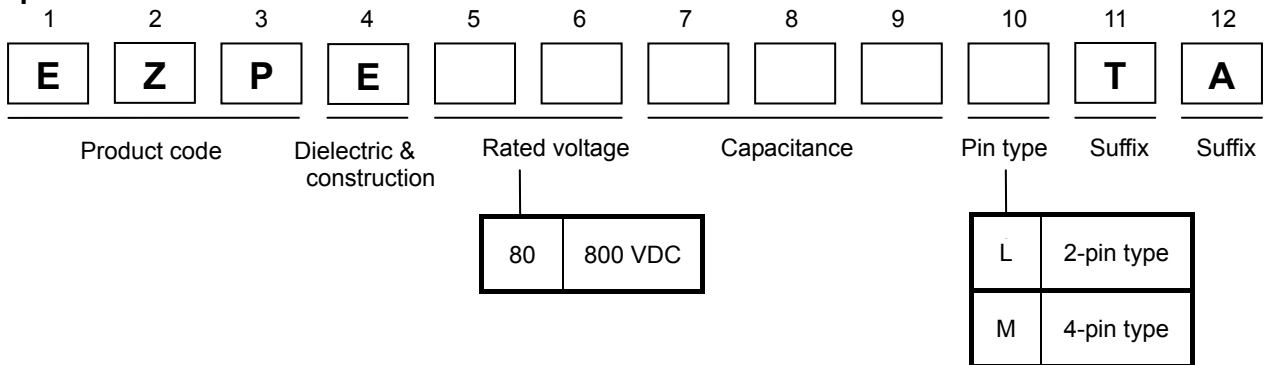
For DC filtering, DC link circuit

- Solar inverters
- Wind power generation
- Industrial power supplies
- Inverter circuit in appliances (Air Conditioners etc.)

■ Construction

- Dielectric : Polypropylene film
- Electrodes : Metallized dielectric with segmented pattern
- Plastic case : UL94 V-0
- Sealing : UL94 V-0
- Terminals : Tinned wires, 2-pin and 4-pin versions

■ Explanation of Part Numbers



■ Specifications

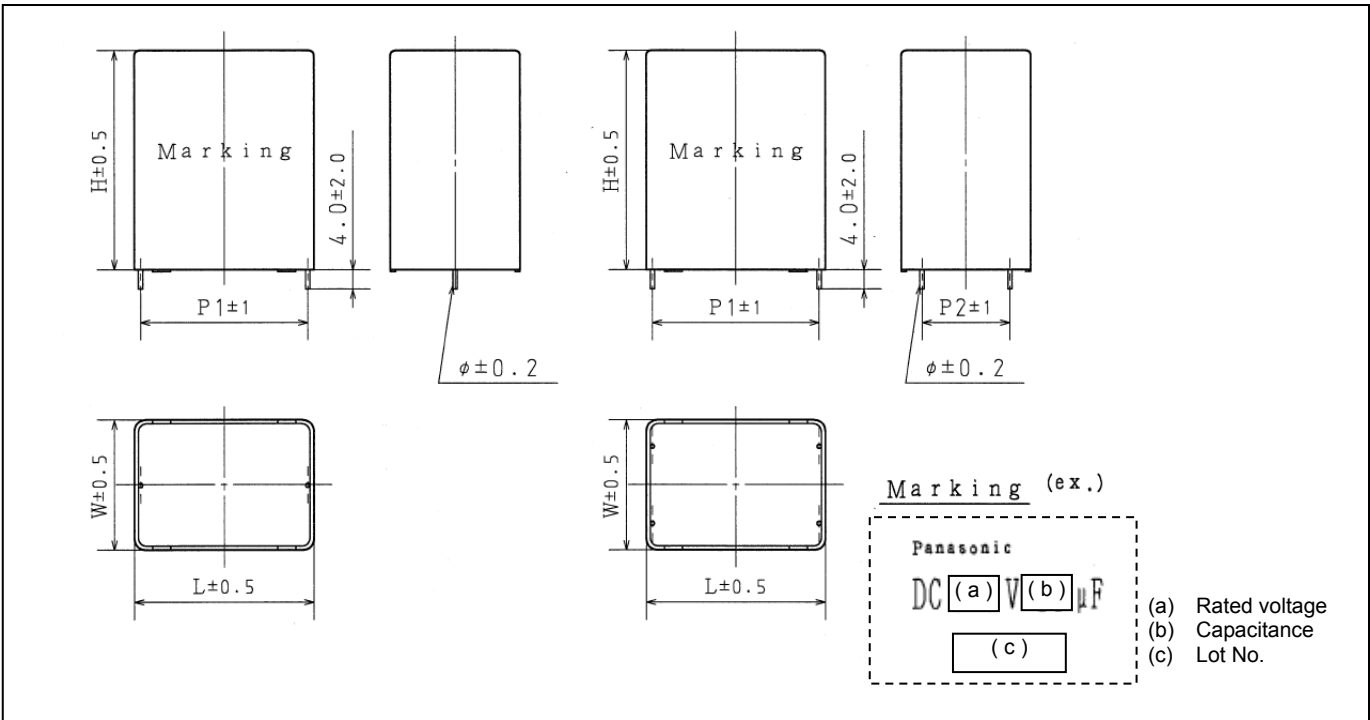
| | |
|---|---|
| Category temperature range (T_C) (*1) | - 40 °C to + 85 °C |
| Rated voltage (V_R) (*2) | 800 VDC (700 VDC at 85 °C ; Derating of rated voltage at more than 70 °C (*3)) |
| Rated capacitance (C_R) | 10 µF to 60 µF |
| Capacitance tolerance | ± 10 % |
| Withstanding DC voltage | Between terminals : Rated voltage (VDC) × 150 % 10 s Terminal to case : 2110 VAC (50 Hz or 60 Hz) 10 s |
| Insulation resistance (C_R) | $CR \geq 10,000 \Omega \cdot F$ (20 °C, 500 VDC, 60 s) |

*1 : The temperature of capacitor surface (case)

*2 : Use for DC voltage only

*3 : Refer to the page of " DC voltage derating "

■Dimensions in mm (not to scale)



■Rating, Dimensions & Quantity / Ammo Box

●Type EZPE Rated voltage : 800 VDC at 70 °C (700VDC at 85 °C)

| Part Number | C_R [μ F] | Dimensions [mm] | | | | | | dv/dt [V/ μ s] | Permissible current | | ESR _{typ} [m Ω] (*3) | tan δ [%] (*4) | Mass [g] | MOQ [pcs] (*5) |
|--------------|---------------------|-----------------|----|------|------|------|--------|-----------------------|---|--|---|-----------------------------|-------------|----------------------|
| | | W | H | L | P1 | P2 | ϕ | | Peak Current [A _{o-p}] (*1) | RMS Current [A _{rms}] (*2) | | | | |
| EZPE80106LTA | 10 | 20 | 42 | 41.5 | 37.5 | - | 1.2 | 22 | 220 | 7.0 | 15.8 | 0.22 | 44 | 600 |
| EZPE80156MTA | 15 | 20 | 42 | 41.5 | 37.5 | 10.2 | 1.2 | 22 | 330 | 9.0 | 10.5 | 0.22 | 43 | 600 |
| EZPE80206MTA | 20 | 30 | 51 | 41.5 | 37.5 | 10.2 | 1.2 | 22 | 440 | 11.0 | 7.7 | 0.22 | 82 | 400 |
| EZPE80256MTA | 25 | 30 | 51 | 41.5 | 37.5 | 10.2 | 1.2 | 22 | 550 | 13.0 | 6.4 | 0.22 | 80 | 400 |
| EZPE80306MTA | 30 | 30 | 51 | 41.5 | 37.5 | 20.3 | 1.2 | 22 | 660 | 15.0 | 5.3 | 0.22 | 78 | 400 |
| EZPE80356MTA | 35 | 30 | 51 | 57.5 | 52.5 | 10.2 | 1.2 | 15 | 525 | 12.0 | 9.7 | 0.33 | 110 | 200 |
| EZPE80406MTA | 40 | 30 | 51 | 57.5 | 52.5 | 20.3 | 1.2 | 15 | 600 | 13.0 | 8.3 | 0.33 | 107 | 200 |
| EZPE80456MTA | 45 | 30 | 51 | 57.5 | 52.5 | 20.3 | 1.2 | 15 | 675 | 14.0 | 7.0 | 0.33 | 104 | 200 |
| EZPE80506MTA | 50 | 35 | 56 | 57.5 | 52.5 | 20.3 | 1.2 | 15 | 750 | 15.0 | 6.3 | 0.33 | 140 | 200 |
| EZPE80556MTA | 55 | 35 | 56 | 57.5 | 52.5 | 20.3 | 1.2 | 15 | 825 | 16.0 | 5.9 | 0.33 | 138 | 200 |
| EZPE80606MTA | 60 | 35 | 56 | 57.5 | 52.5 | 20.3 | 1.2 | 15 | 900 | 17.0 | 5.6 | 0.33 | 136 | 200 |

*1 : When rising temperature of capacitor surface by continuous peak current (included pulse current), use within limit specified for temperature of capacitor surface and self heating temperature rise.

*2 : Maximum RMS current @ 70 °C, 10 kHz
Use within limit for self heating temperature rise at capacitor surface.

*3 : Typical values @ 20°C, 10 kHz
ESR : less than $2.5 \times ESR_{typ}$

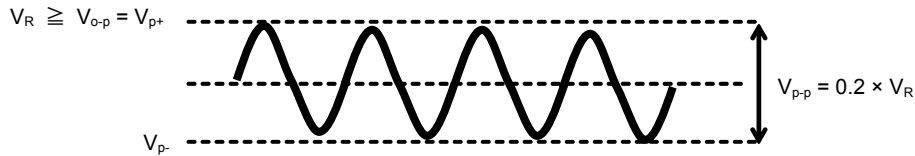
*4 : Maximum dissipation factor @ 20°C, 1 kHz

*5 : Minimum order quantity consists of 4 packing units.

■ Permissible Conditions

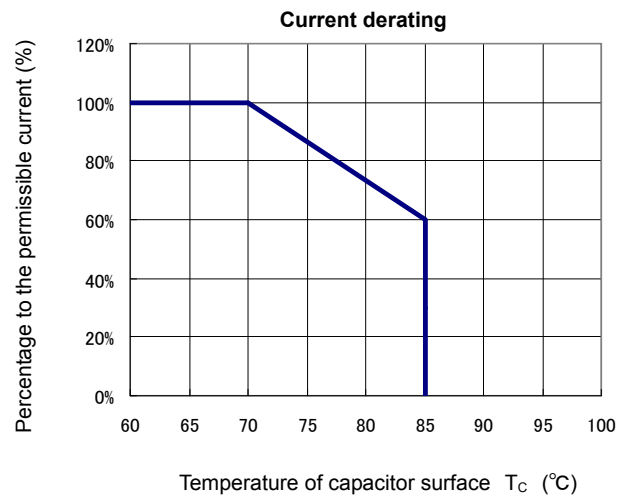
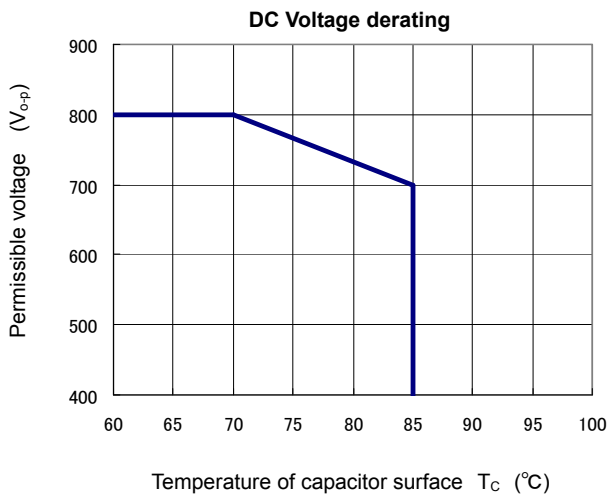
● Permissible Voltage

- These capacitors are designed only for DC voltage, so should not be used for AC line.
- Use the peak voltage (V_{o-p}) within the rated voltage.
- Use the peak to peak voltage (V_{p-p}) within $0.2 \times V_R$.



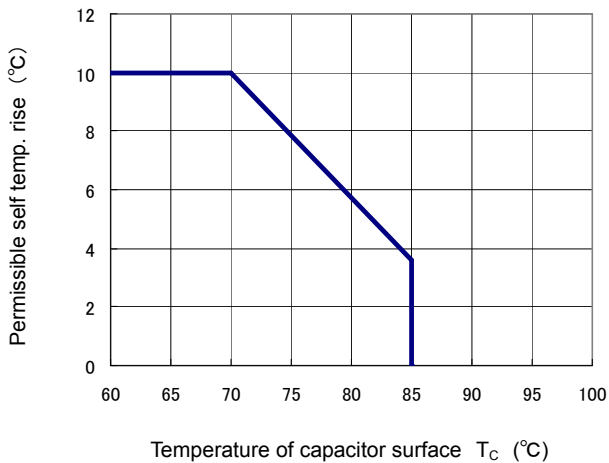
● DC Voltage, Peak current and RMS current derating

Derating of voltage (V_{o-p}), RMS current (A_{rms}), and peak current (A_{o-p}) according to the following diagram when the temperature of the capacitor surface exceeds 70 °C.



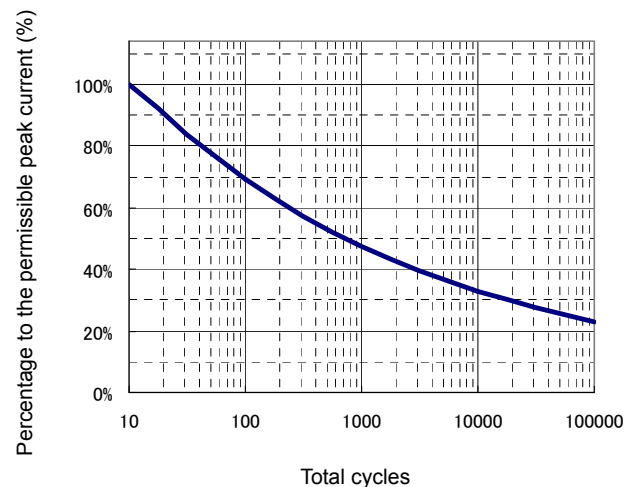
● Permissible self heating temperature rise

Permissible self heating temperature rise is within following diagram when the temperature of the capacitor surface exceeds 70 °C.



● Total cycles applied peak current

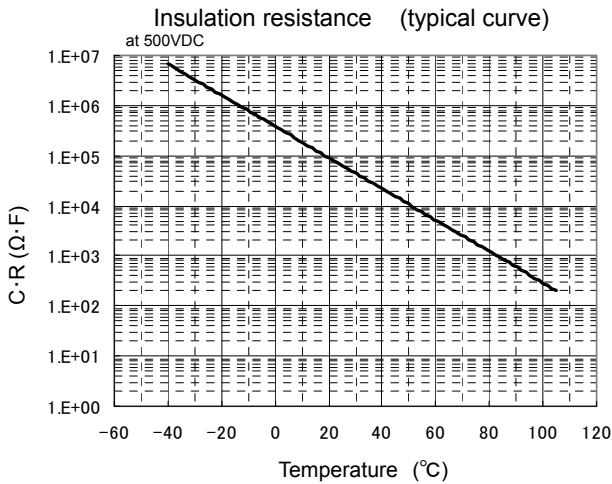
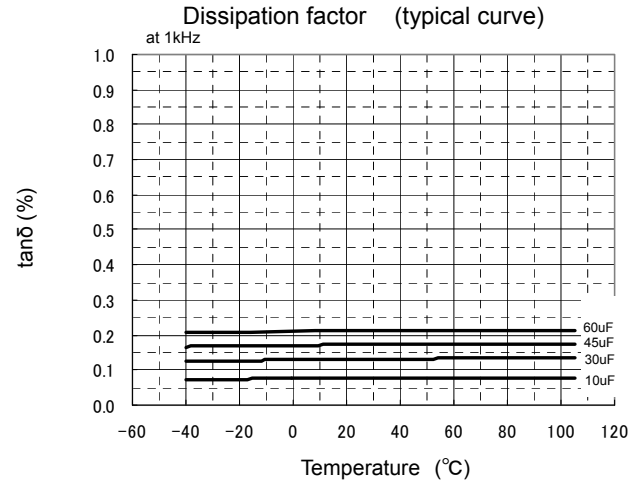
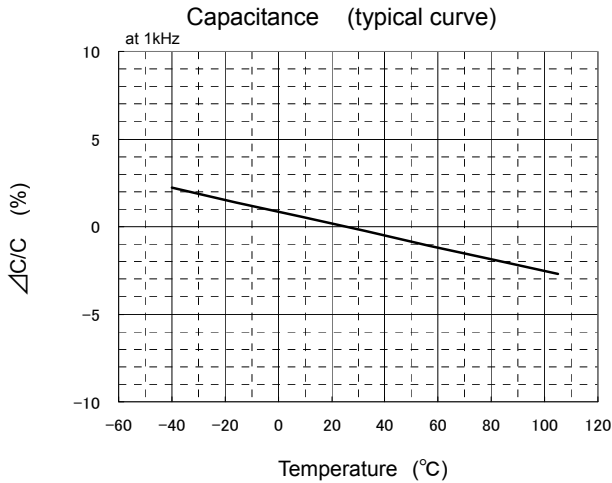
Total cycles applied peak current (A_{o-p}) (including pulse current) are within following diagram.



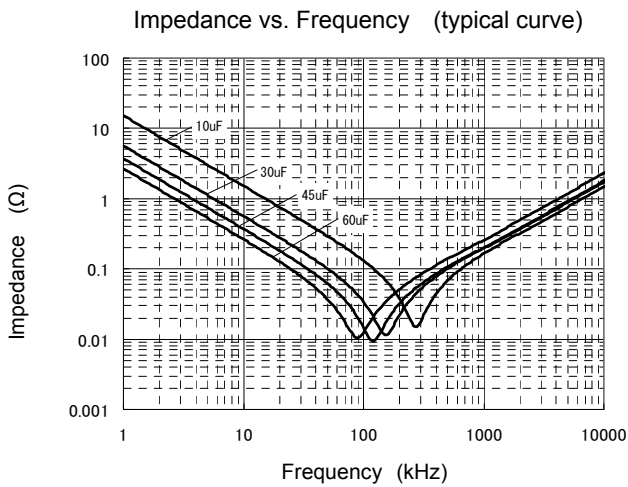
Please consult Panasonic if your condition exceeds the above spec.

■ Characteristics <Reference>

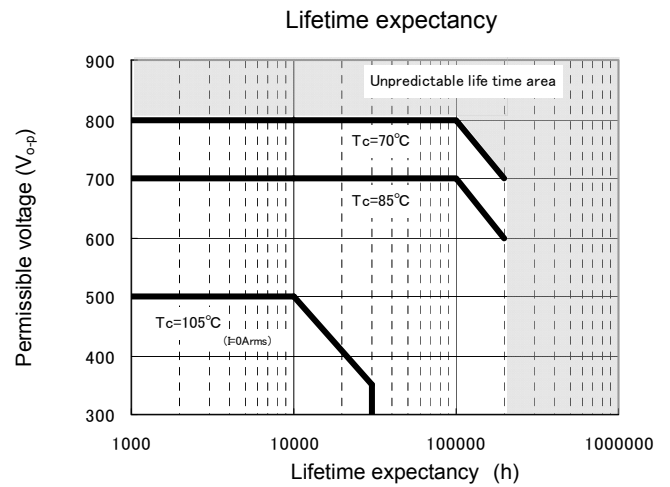
● Temperature Characteristics



● Frequency Characteristics



● Lifetime expectancy



* Life time : reach $\Delta C/C = -10\%$, Judgement of Panasonic