# NPCAP™-PXF Series

- Super low ESR, impedance and high heat resistance have been obtained by using conductive polymer as electrolyte.
- Rated voltage range : 2 to 10Vdc, Capacitance range : 120 to 1,000µF
- Case size range : φ5×3.9L to φ8×7.7L
- Suitable for DC-DC converters, voltage regulators and decoupling applications used on computer motherboards etc.
- Solvent resistant type (see PRECAUTIONS AND GUIDELINES)
- RoHS2 Compliant
- Halogen Free


## ◆SPECIFICATIONS

| Items | Characteristics |
|---|---|
| **Category Temperature Range** | -55 to +105℃ |
| **Rated Voltage Range** | 2 to 10Vdc |
| **Capacitance Tolerance** | ±20% (M) (at 20℃, 120Hz) |
| **Leakage Current** *Note | Shall not exceed values shown in STANDARD RATINGS. (at 20℃ after 2 minutes) |
| **Dissipation Factor (tan δ)** | 0.12 max. (at 20℃, 120Hz) |
| **Low Temperature Characteristics (Max. Impedance Ratio)** | Z(-25℃)/Z(+20℃)≦1.15<br>Z(-55℃)/Z(+20℃)≦1.25 (at 100kHz) |
| **Endurance** | The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage is applied for 15,000 hours (E40, E46, F46 : 3,000 hours ) at 105℃. |
| | Appearance : No significant damage<br>Capacitance change : ≦±20% of the initial value<br>D.F. (tan δ) : ≦150% of the initial specified value<br>ESR : ≦150% of the initial specified value<br>Leakage current : ≦The initial specified value |
| **Bias Humidity** | The following specifications shall be satisfied when the capacitors are restored to 20℃ after subjecting them to the DC rated voltage at 60℃, 90 to 95% RH for 1,000 hours (E40, E46, F46 : 500 hours ) . |
| | Appearance : No significant damage<br>Capacitance change : ≦±20% of the initial value<br>D.F. (tan δ) : ≦150% of the initial specified value<br>ESR : ≦150% of the initial specified value<br>Leakage current : ≦The initial specified value |
| **Surge Voltage** | The capacitors shall be subjected to 1,000 cycles each consisting of charge with the surge voltage specified at 105℃ for 30 seconds through a protective resistor(R=1kΩ) and discharge for 5 minutes 30 seconds. |

| Rated voltage (Vdc) | 2.0 | 2.5 | 4.0 | 6.3 | 10 |
|---|---|---|---|---|---|
| Surge voltage (Vdc) | 2.3 | 2.9 | 4.6 | 7.2 | 12 |

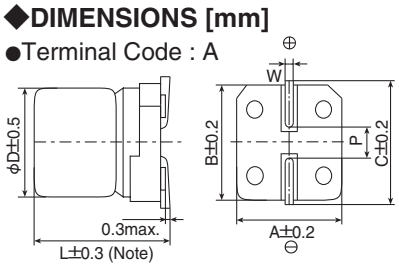
| | |
|---|---|
| Appearance | No significant damage |
| Capacitance change | ≦±20% of the initial value |
| D.F. (tan δ) | ≦150% of the initial specified value |
| ESR | ≦150% of the initial specified value |
| Leakage current | ≦The initial specified value |

| | |
|---|---|
| **Soldering Heat** | The following specifications shall be satisfied when the solder temperature is reduced back to 20°C to measure dip resistance after soldering has been performed under the recommended soldering conditions. |
| Appearance | No significant damage |
| Capacitance value | Within the specified tolerance range |
| D.F. (tan δ) | ≦The initial specified value |
| ESR | ≦The initial specified value |
| Leakage current | ≦The initial specified value (Voltage treatment) |

*Note : If any doubt arises, measure the leakage current after the following voltage treatment.
Voltage treatment : DC rated voltage is applied to the capacitors for 120 minutes at 105℃.

## ◆DIMENSIONS [mm]

●Terminal Code : A

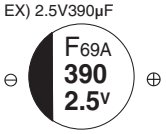



Note : $L^{+0.1}_{-0.2}$ for E40, E46 and F46

| Size Code | φD | L | A | B | C | W | P |
|---|---|---|---|---|---|---|---|
| E40 | 5 | 3.9 | 5.3 | 5.3 | 5.9 | 0.5 to 0.8 | 1.4 |
| E46 | 5 | 4.5 | 5.3 | 5.3 | 5.9 | 0.5 to 0.8 | 1.4 |
| E61 | 5 | 5.8 | 5.3 | 5.3 | 5.9 | 0.5 to 0.8 | 1.4 |
| F46 | 6.3 | 4.5 | 6.6 | 6.6 | 7.2 | 0.5 to 0.8 | 1.9 |
| F61 | 6.3 | 5.8 | 6.6 | 6.6 | 7.2 | 0.5 to 0.8 | 1.9 |
| F80 | 6.3 | 7.7 | 6.6 | 6.6 | 7.2 | 0.5 to 0.8 | 1.9 |
| H70 | 8 | 6.7 | 8.3 | 8.3 | 9.0 | 0.7 to 1.1 | 3.1 |
| H80 | 8 | 7.7 | 8.3 | 8.3 | 9.0 | 0.7 to 1.1 | 3.1 |

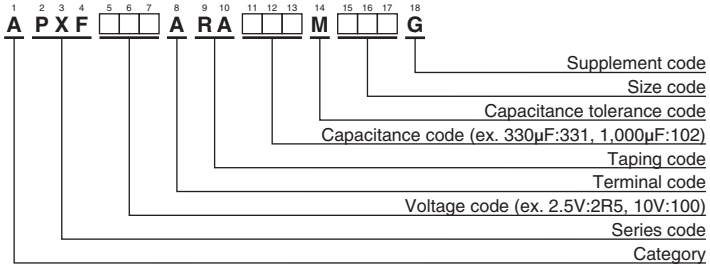
## ◆MARKING

EX) 2.5V390µF



# NPCAP™-PXF Series

## ◆PART NUMBERING SYSTEM




Please refer to "Product code guide (conductive polymer type)"

## ◆STANDARD RATINGS

| WV ($V_{dc}$) | Cap (μF) | Size code | Leakage current (μA max./after 2min.) | ESR (mΩ max./20℃, 100k to 300kHz) | Rated ripple current (mArms/105℃, 100kHz) | Part No. |
|---|---|---|---|---|---|---|
| 2 | 680 | F61 | 700 | 12 | 3,500 | APXF2R0ARA681MF61G |
| 2.5 | 220 | E40 | 700 | 12 | 3,300 | APXF2R5ARA221ME40G |
| | 220 | E46 | 700 | 25 | 2,100 | APXF2R5ARA221ME46G |
| | 330 | E61 | 700 | 10 | 3,900 | APXF2R5ARA331ME61G |
| | 330 | F46 | 700 | 12 | 3,500 | APXF2R5ARA331MF46G |
| | 390 | E61 | 700 | 10 | 3,900 | APXF2R5ARA391ME61G |
| | 390 | F61 | 292 | 10 | 3,900 | APXF2R5ARA391MF61G |
| | 470 | F80 | 352 | 9 | 4,200 | APXF2R5ARA471MF80G |
| | 560 | F61 | 700 | 10 | 3,900 | APXF2R5ARA561MF61G |
| | 560 | F80 | 420 | 9 | 4,200 | APXF2R5ARA561MF80G |
| | 560 | H70 | 420 | 10 | 4,500 | APXF2R5ARA561MH70G |
| | 680 | H70 | 510 | 10 | 4,500 | APXF2R5ARA681MH70G |
| | 1,000 | H80 | 750 | 9 | 4,500 | APXF2R5ARA102MH80G |
| 4 | 330 | F61 | 396 | 10 | 3,900 | APXF4R0ARA331MF61G |
| | 390 | F80 | 468 | 9 | 4,200 | APXF4R0ARA391MF80G |
| | 470 | H70 | 564 | 10 | 4,500 | APXF4R0ARA471MH70G |
| | 560 | H70 | 672 | 10 | 4,500 | APXF4R0ARA561MH70G |
| | 680 | H80 | 816 | 9 | 4,500 | APXF4R0ARA681MH80G |
| 6.3 | 150 | E40 | 700 | 20 | 2,700 | APXF6R3ARA151ME40G |
| | 150 | E46 | 700 | 25 | 2,100 | APXF6R3ARA151ME46G |
| | 150 | E61 | 700 | 12 | 3,500 | APXF6R3ARA151ME61G |
| | 220 | E61 | 700 | 12 | 3,500 | APXF6R3ARA221ME61G |
| | 220 | F61 | 415 | 10 | 3,900 | APXF6R3ARA221MF61G |
| | 270 | F80 | 510 | 9 | 4,200 | APXF6R3ARA271MF80G |
| | 330 | F61 | 700 | 10 | 3,900 | APXF6R3ARA331MF61G |
| | 330 | F80 | 623 | 9 | 4,200 | APXF6R3ARA331MF80G |
| | 330 | H70 | 623 | 10 | 4,500 | APXF6R3ARA331MH70G |
| | 390 | H70 | 737 | 10 | 4,500 | APXF6R3ARA391MH70G |
| | 470 | H80 | 888 | 9 | 4,500 | APXF6R3ARA471MH80G |
| | 560 | H80 | 1,050 | 9 | 4,500 | APXF6R3ARA561MH80G |
| 10 | 120 | E61 | 240 | 22 | 2,600 | APXF100ARA121ME61G |
| | 270 | F61 | 540 | 20 | 2,800 | APXF100ARA271MF61G |

Production of the products shown in [ ] is scheduled to be discontinued.

## ◆RATED RIPPLE CURRENT MULTIPLIERS

●Frequency Multipliers

| Frequency (Hz) | 120 | 1k | 10k | 50k | 100k to 500k |
|---|---|---|---|---|---|
| SMD type | 0.05 | 0.30 | 0.55 | 0.70 | 1.00 |

■ Always read "Notes on Use" before using the product in order to enable you to use the product correctly and prevent any faults and accidents from occurring.

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CAT. No. E1001X 2023

# Mouser Electronics

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