

NPCAP™-PXH Series

- Super low ESR, impedance and high heat resistance have been obtained by using conductive polymer as electrolyte.
- Suitable for DC-DC converters, voltage regulators and decoupling applications.
- Endurance : 125°C 1,000 hours
- Rated voltage range : 2.5 to 20V_{dc}, Capacitance range : 22 to 1,000μF
- Case size range : φ6.3×5.7L to φ10×7.7L
- Solvent resistant type (see PRECAUTIONS AND GUIDELINES)
- RoHS2 Compliant
- Halogen Free

PXH

Higher temperature
PXA



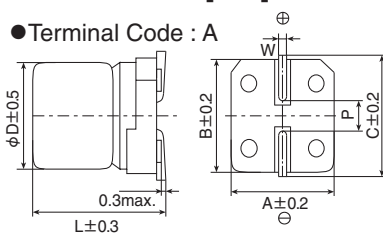
◆ SPECIFICATIONS

| Items | Characteristics |
|---|---|
| Category | |
| Temperature Range | -55 to +125°C |
| Rated Voltage Range | 2.5 to 20V _{dc} |
| Capacitance Tolerance | ±20% (M) (at 20°C, 120Hz) |
| Leakage Current *Note | Shall not exceed values shown in STANDARD RATINGS. (at 20°C after 2 minutes) |
| Dissipation Factor (tan δ) | 0.12 max. (at 20°C, 120Hz) |
| Low Temperature Characteristics (Max. Impedance Ratio) | Z(-25°C)/Z(+20°C) ≤ 1.15 Z(-55°C)/Z(+20°C) ≤ 1.25 (at 100kHz) |
| Endurance | The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 1,000 hours at 125°C. |
| Appearance | No significant damage |
| Capacitance change | ≤ ±20% of the initial value |
| D.F. (tan δ) | ≤ 200% of the initial specified value |
| ESR | ≤ 200% of the initial specified value |
| Leakage current | ≤ The initial specified value |
| Bias Humidity | The following specifications shall be satisfied when the capacitors are restored to 20°C after subjecting them to the DC rated voltage at 60°C, 90 to 95% RH for 1,000 hours. |
| 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 |
| Surge Voltage | The capacitors shall be subjected to 1,000 cycles each consisting of charge with the surge voltage specified at 125°C for 30 seconds through a protective resistor(R=1kΩ) and discharge for 5 minutes 30 seconds. |
| Rated voltage (V _{dc}) | 2.5 4.0 6.3 10 16 20 |
| Surge voltage (V _{dc}) | 2.9 4.6 7.2 12 18 23 |
| 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) |
| Failure Rate | 0.5% per 1,000 hours maximum (Confidence level 60% at 125°C) |

*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 125°C.

◆ DIMENSIONS [mm]

- Terminal Code : A



| Size code | φD | L | A | B | C | W | P |
|-----------|-----|-----|------|------|------|------------|-----|
| F60 | 6.3 | 5.7 | 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 |
| J80 | 10 | 7.7 | 10.3 | 10.3 | 11.0 | 0.7 to 1.1 | 4.5 |

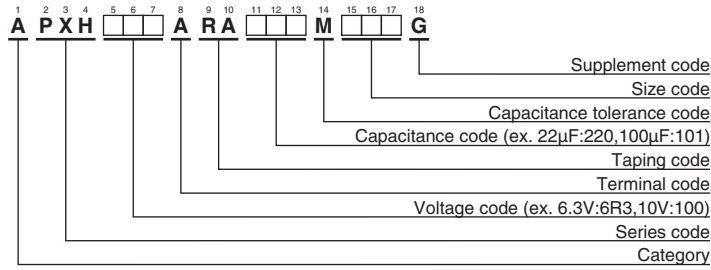
◆ MARKING

EX) 20V22μF



NPCAP™-PXH 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°C, 100k to 300kHz) | Rated ripple current (mArms/100kHz) | | Part No. |
|--------------------------|-------------|-----------|--|---------------------------------------|--|------------------------------------|--------------------|
| | | | | | -55°C ≤ Tx ≤ +105°C ^{*1} | +105°C < Tx ≤ +125°C ^{*1} | |
| 2.5 | 220 | F60 | 110 | 35 | 2,500 | 770 | APXH2R5ARA221MF60G |
| | 560 | H70 | 280 | 30 | 3,100 | 960 | APXH2R5ARA561MH70G |
| | 1,000 | J80 | 500 | 25 | 3,700 | 1,100 | APXH2R5ARA102MJ80G |
| 4 | 150 | F60 | 120 | 35 | 2,450 | 770 | APXH4R0ARA151MF60G |
| | 220 | H70 | 176 | 30 | 3,020 | 960 | APXH4R0ARA221MH70G |
| | 680 | J80 | 544 | 25 | 3,700 | 1,100 | APXH4R0ARA681MJ80G |
| 6.3 | 82 | F60 | 103 | 40 | 2,400 | 720 | APXH6R3ARA820MF60G |
| | 100 | F60 | 126 | 40 | 2,400 | 720 | APXH6R3ARA101MF60G |
| | 150 | H70 | 189 | 30 | 3,020 | 960 | APXH6R3ARA151MH70G |
| | 220 | H70 | 277 | 30 | 3,020 | 960 | APXH6R3ARA221MH70G |
| 10 | 470 | J80 | 592 | 25 | 3,700 | 1,100 | APXH6R3ARA471MJ80G |
| | 56 | F60 | 112 | 45 | 2,250 | 680 | APXH100ARA560MF60G |
| | 120 | H70 | 240 | 35 | 2,800 | 880 | APXH100ARA121MH70G |
| | 150 | H70 | 300 | 35 | 2,800 | 880 | APXH100ARA151MH70G |
| 16 | 330 | J80 | 660 | 30 | 3,700 | 1,010 | APXH100ARA331MJ80G |
| | 39 | F60 | 125 | 50 | 2,050 | 650 | APXH160ARA390MF60G |
| | 82 | H70 | 262 | 40 | 2,700 | 830 | APXH160ARA820MH70G |
| | 150 | J80 | 480 | 35 | 3,020 | 930 | APXH160ARA151MJ80G |
| 20 | 180 | J80 | 576 | 35 | 3,020 | 930 | APXH160ARA181MJ80G |
| | 22 | F60 | 88.0 | 60 | 1,650 | 590 | APXH200ARA220MF60G |
| | 47 | H70 | 188 | 45 | 2,000 | 780 | APXH200ARA470MH70G |
| | 82 | J80 | 328 | 45 | 2,400 | 820 | APXH200ARA820MJ80G |

*1 Tx : Ambient temperature (°C)

◆RATED RIPPLE CURRENT MULTIPLIERS

● Frequency Multipliers

| Frequency (Hz) | 120 | 1k | 10k | 50k | 100k to 500k |
|---------------------------|------|------|------|------|--------------|
| 2.5 to 6.3V _{dc} | 0.05 | 0.30 | 0.55 | 0.70 | 1.00 |
| 10 to 20V _{dc} | 0.05 | 0.25 | 0.55 | 0.55 | 1.00 |

Mouser Electronics

Authorized Distributor

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[APXH6R3ARA471MJ80G](#) [APXH160ARA820MH70G](#) [APXH160ARA151MJ80G](#) [APXH4R0ARA681MJ80G](#)
[APXH160ARA181MJ80G](#) [APXH200ARA220MF60G](#) [APXH6R3ARA101MF60G](#) [APXH100ARA121MH70G](#)
[APXH100ARA151MH70G](#) [APXH6R3ARA151MH70G](#) [APXH2R5ARA102MJ80G](#) [APXH2R5ARA221MF60G](#)
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