

NPCAP™-PXM Series

- Super low ESR, impedance and high heat resistance have been obtained by using conductive polymer as electrolyte.
- High moisture resistance, Bias Humidity: 1,000 hours at 85°C, 85%RH
- Rated voltage range: 2.5 to 16V_{dc}, Capacitance range: 56~1,200μF
- 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
- AEC-Q200 compliant : Please contact Chemi-Con for more details, test data, information.

PXM

Higher ripple

PXT



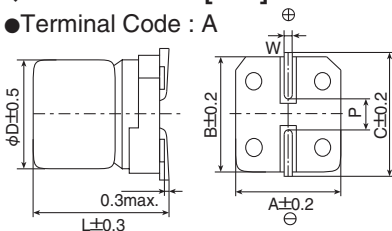
◆SPECIFICATIONS

| Items | Characteristics | | | | | | | | | | | | | | | | | | | | |
|---|--|----------------------------------|-----------------------|--------------------|--------------------------------------|--------------|---------------------------------------|-----|---------------------------------------|-----------------|---|------------|-----------------------|--------------------|-----------------------------|--------------|---------------------------------------|-----|---------------------------------------|-----------------|-------------------------------|
| Category Temperature Range | -55 to +105°C | | | | | | | | | | | | | | | | | | | | |
| Rated Voltage Range | 2.5 to 16V _{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 5,000 hours at 105°C. <table border="1"> <tr><td>Appearance</td><td>No significant damage</td></tr> <tr><td>Capacitance change</td><td>≤ ±20% of the initial value</td></tr> <tr><td>D.F. (tan δ)</td><td>≤ 150% of the initial specified value</td></tr> <tr><td>ESR</td><td>≤ 150% of the initial specified value</td></tr> <tr><td>Leakage current</td><td>≤ The initial specified value</td></tr> </table> | 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 | | | | | | | | | | |
| Appearance | No significant damage | | | | | | | | | | | | | | | | | | | | |
| Capacitance change | ≤ ±20% of the initial value | | | | | | | | | | | | | | | | | | | | |
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| ESR | ≤ 150% 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 85°C85% RH for 1,000 hours. <table border="1"> <tr><td>Appearance</td><td>No significant damage</td></tr> <tr><td>Capacitance change</td><td>≤ ±30% of the initial value</td></tr> <tr><td>D.F. (tan δ)</td><td>≤ 200% of the initial specified value</td></tr> <tr><td>ESR</td><td>≤ 200% of the initial specified value</td></tr> <tr><td>Leakage current</td><td>≤ The initial specified value</td></tr> </table> | Appearance | No significant damage | Capacitance change | ≤ ±30% 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 | | | | | | | | | | |
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| 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°C for 30 seconds through a protective resistor(R=1kΩ) and discharge for 5 minutes 30 seconds. <table border="1"> <tr><td>Rated voltage (V_{dc})</td><td>2.5</td><td>6.3</td><td>10</td><td>16</td></tr> <tr><td>Surge voltage (V_{dc})</td><td>2.9</td><td>7.2</td><td>12</td><td>18</td></tr> </table> <table border="1"> <tr><td>Appearance</td><td>No significant damage</td></tr> <tr><td>Capacitance change</td><td>≤ ±20% of the initial value</td></tr> <tr><td>D.F. (tan δ)</td><td>≤ 150% of the initial specified value</td></tr> <tr><td>ESR</td><td>≤ 150% of the initial specified value</td></tr> <tr><td>Leakage current</td><td>≤ The initial specified value</td></tr> </table> | Rated voltage (V _{dc}) | 2.5 | 6.3 | 10 | 16 | Surge voltage (V _{dc}) | 2.9 | 7.2 | 12 | 18 | 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 |
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| Appearance | No significant damage | | | | | | | | | | | | | | | | | | | | |
| Capacitance change | ≤ ±20% of the initial value | | | | | | | | | | | | | | | | | | | | |
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| 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. <table border="1"> <tr><td>Appearance</td><td>No significant damage</td></tr> <tr><td>Capacitance value</td><td>Within the specified tolerance range</td></tr> <tr><td>D.F. (tan δ)</td><td>≤ The initial specified value</td></tr> <tr><td>ESR</td><td>≤ The initial specified value</td></tr> <tr><td>Leakage current</td><td>≤ The initial specified value (Voltage treatment)</td></tr> </table> | 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) | | | | | | | | | | |
| 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°C.

◆DIMENSIONS [mm]

●Terminal Code : A



| Size Code | φD | L | A | B | C | W | P |
|-----------|-----|-----|------|------|------|------------|-----|
| E61 | 5 | 5.8 | 5.3 | 5.3 | 5.9 | 0.5 to 0.8 | 1.4 |
| F61 | 6.3 | 5.8 | 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

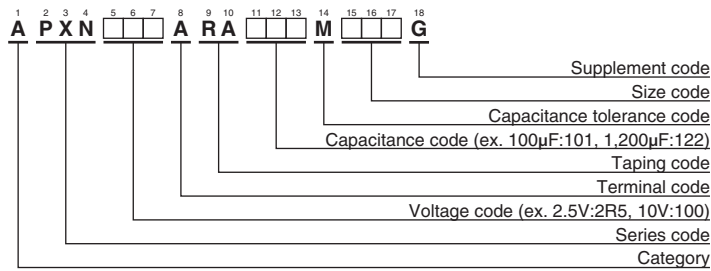
EX) 6.3V220μF



PXM series is a conductive polymer aluminum solid capacitor. All conductive polymer aluminum solid capacitors, including the PXM series may temporarily exhibit increased leakage current due to heat stress during the reflow soldering process. However, applying stepped voltage under the category temperature range gradually decreases the increased leakage current to normal levels. The speed or recovery time that leakage current decreases by self-healing depends on the temperature and voltage: (The closer to category upper limit temperature and rated voltage, the more rapid the leakage current decrease). Conductive polymer aluminum solid capacitors do not utilize liquid electrolyte. Therefore it takes a longer period of time to accomplish self-healing than aluminum electrolytic capacitors that have liquid electrolyte impregnation.

NPCAP™-PXN 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/105°C, 100kHz) | Part No. |
|-----------------------|----------|-----------|---------------------------------------|------------------------------------|--|--------------------|
| 2.5 | 330 | E61 | 700 | 30 | 2,500 | APXN2R5ARA331ME61G |
| | 560 | F61 | 700 | 25 | 2,800 | APXN2R5ARA561MF61G |
| 6.3 | 220 | E61 | 700 | 30 | 2,500 | APXN6R3ARA221ME61G |
| | 330 | F61 | 700 | 25 | 2,800 | APXN6R3ARA331MF61G |
| | 560 | H70 | 705 | 20 | 3,500 | APXN6R3ARA561MH70G |
| | 1,200 | J80 | 1,510 | 20 | 3,500 | APXN6R3ARA122MJ80G |
| 10 | 120 | E61 | 700 | 35 | 2,000 | APXN100ARA121ME61G |
| | 180 | F61 | 700 | 30 | 2,500 | APXN100ARA181MF61G |
| | 270 | H70 | 700 | 25 | 3,300 | APXN100ARA271MH70G |
| | 560 | J80 | 1,120 | 25 | 3,400 | APXN100ARA561MJ80G |
| 16 | 56 | E61 | 700 | 35 | 2,000 | APXN160ARA560ME61G |
| | 100 | F61 | 700 | 30 | 2,500 | APXN160ARA101MF61G |
| | 150 | H70 | 700 | 25 | 3,300 | APXN160ARA151MH70G |
| | 330 | J80 | 1,050 | 25 | 3,400 | APXN160ARA331MJ80G |

◆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 |

PXN series is a conductive polymer aluminum solid capacitor. All conductive polymer aluminum solid capacitors, including the PXN series may temporarily exhibit increased leakage current due to heat stress during the reflow soldering process. However, applying stepped voltage under the category temperature range gradually decreases the increased leakage current to normal levels. The speed or recovery time that leakage current decreases by self-healing depends on the temperature and voltage: (The closer to category upper limit temperature and rated voltage, the more rapid the leakage current decrease). Conductive polymer aluminum solid capacitors do not utilize liquid electrolyte. Therefore it takes a longer period of time to accomplish self-healing than aluminum electrolytic capacitors that have liquid electrolyte impregnation.