

NPCAP™-P<sub>X</sub>G Series

- Super low ESR, high ripple current capability
- Rated voltage range : 16 to 25V<sub>dc</sub>, Capacitance range : 10 to 1,000μF
- Case size : φ 5×4.5L to φ 10×12.2L
- Solvent resistant type (see PRECAUTIONS AND GUIDELINES)
- RoHS2 Compliant
- Halogen Free

P<sub>X</sub>G

↓  
Downsized  
PXE P2-26



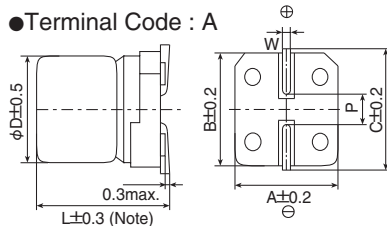
◆ SPECIFICATIONS

| Items  | Characteristics  |            |                       |                    |                             |              |                                       |     |                                       |                 |                               |
|--|--|------------|-----------------------|--------------------|-----------------------------|--------------|---------------------------------------|-----|---------------------------------------|-----------------|-------------------------------|
| Category   |  |            |                       |                    |                             |              |                                       |     |                                       |                 |                               |
| Temperature Range                                      | -55 to +105°C  |            |                       |                    |                             |              |                                       |     |                                       |                 |                               |
| Rated Voltage Range                                    | 16 to 25V <sub>dc</sub>  |            |                       |                    |                             |              |                                       |     |                                       |                 |                               |
| Capacitance Tolerance                                  | ±20% (M) (at 20°C, 120Hz)  |            |                       |                    |                             |              |                                       |     |                                       |                 |                               |
| Surge Voltage  | Rated voltage × 1.15 (at 105°C)  |            |                       |                    |                             |              |                                       |     |                                       |                 |                               |
| Leakage Current  | 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<br>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 15,000 hours (E46,F45 : 3,000 hours) at 105°C.<br><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  |            |                       |                    |                             |              |                                       |     |                                       |                 |                               |
| D.F. (tan δ)   | ≤ 150% of the initial specified value  |            |                       |                    |                             |              |                                       |     |                                       |                 |                               |
| 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 60°C, 90 to 95% RH for 1,000 hours (E46,F45 : 500 hours).<br><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  |            |                       |                    |                             |              |                                       |     |                                       |                 |                               |
| 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 105°C for 30 seconds through a protective resistor (R=1kΩ) and discharge for 5 minutes 30 seconds.<br><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  |            |                       |                    |                             |              |                                       |     |                                       |                 |                               |
| D.F. (tan δ)   | ≤ 150% of the initial specified value  |            |                       |                    |                             |              |                                       |     |                                       |                 |                               |
| ESR  | ≤ 150% of the initial specified value  |            |                       |                    |                             |              |                                       |     |                                       |                 |                               |
| Leakage current  | ≤ The initial specified value  |            |                       |                    |                             |              |                                       |     |                                       |                 |                               |
| Failure Rate   | 0.5% per 1,000 hours maximum (Confidence level 60% at 105°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 105°C.

◆ DIMENSIONS [mm]

● Terminal Code : A



Note : L+0.1/-0.2 for E46 and F45  
L±0.5 for HA0, JA0 and JC0

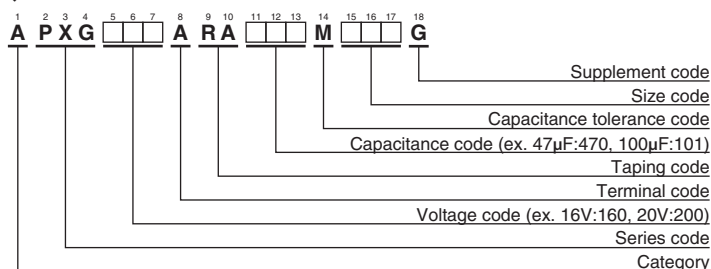
| Size Code | φD  | L    | A    | B    | C    | W          | P   |
|-----------|-----|------|------|------|------|------------|-----|
| E46       | 5   | 4.5  | 5.3  | 5.3  | 5.9  | 0.5 to 0.8 | 1.4 |
| E61       | 5   | 5.8  | 5.3  | 5.3  | 5.9  | 0.5 to 0.8 | 1.4 |
| F45       | 6.3 | 4.4  | 6.6  | 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 |
| HA0       | 8   | 10.0 | 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 |
| JA0       | 10  | 10.0 | 10.3 | 10.3 | 11.0 | 0.7 to 1.1 | 4.5 |
| JC0       | 10  | 12.2 | 10.3 | 10.3 | 11.0 | 0.7 to 1.1 | 4.5 |

◆ MARKING

EX) 25V47μF



◆ PART NUMBERING SYSTEM



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

## NPCAP™-PXC Series

### ◆STANDARD RATINGS

| WV (V <sub>dc</sub> ) | Cap (μF) | Size code | Leakage current (μA max./after 2min.) | ESR (mΩ max./20°C, 100k to 300kHz) | Rated ripple current (mA rms/105°C, 100kHz) | Part No.           |
|-----------------------|----------|-----------|---------------------------------------|------------------------------------|---|--------------------|
| 16                    | 39       | E46       | 312                                   | 50                                 | 1,860                                       | APXG160ARA390ME46G |
|                       | 68       | F45       | 544                                   | 40                                 | 2,450                                       | APXG160ARA680MF45G |
|                       | 100      | E61       | 320                                   | 27                                 | 3,000                                       | APXG160ARA101ME61G |
|                       | 180      | F61       | 576                                   | 22                                 | 3,300                                       | APXG160ARA181MF61G |
|                       | 220      | F80       | 704                                   | 22                                 | 3,300                                       | APXG160ARA221MF80G |
|                       | 270      | H70       | 864                                   | 22                                 | 3,300                                       | APXG160ARA271MH70G |
|                       | 330      | H70       | 1,050                                 | 22                                 | 3,300                                       | APXG160ARA331MH70G |
|                       | 330      | H80       | 1,050                                 | 21                                 | 3,400                                       | APXG160ARA331MH80G |
|                       | 330      | HA0       | 1,050                                 | 21                                 | 3,400                                       | APXG160ARA331MHA0G |
|                       | 560      | HA0       | 1,790                                 | 18                                 | 3,900                                       | APXG160ARA561MHA0G |
|                       | 560      | J80       | 1,790                                 | 20                                 | 3,800                                       | APXG160ARA561MJ80G |
|                       | 820      | JA0       | 2,620                                 | 16                                 | 4,200                                       | APXG160ARA821MJA0G |
|                       | 820      | JC0       | 2,620                                 | 12                                 | 5,400                                       | APXG160ARA821MJC0G |
|                       | 1,000    | JA0       | 3,200                                 | 18                                 | 4,100                                       | APXG160ARA102MJA0G |
| 1,000                 | JC0      | 3,200     | 12                                    | 5,400                              | APXG160ARA102MJC0G                          |                    |
| 20                    | 27       | E46       | 270                                   | 55                                 | 1,770                                       | APXG200ARA270ME46G |
|                       | 47       | E61       | 188                                   | 30                                 | 2,800                                       | APXG200ARA470ME61G |
|                       | 47       | F45       | 470                                   | 42                                 | 2,400                                       | APXG200ARA470MF45G |
|                       | 56       | E61       | 224                                   | 30                                 | 2,800                                       | APXG200ARA560ME61G |
|                       | 120      | F61       | 480                                   | 25                                 | 3,200                                       | APXG200ARA121MF61G |
|                       | 150      | F80       | 600                                   | 25                                 | 3,200                                       | APXG200ARA151MF80G |
|                       | 180      | H70       | 720                                   | 25                                 | 3,200                                       | APXG200ARA181MH70G |
|                       | 220      | H80       | 880                                   | 23                                 | 3,300                                       | APXG200ARA221MH80G |
|                       | 220      | HA0       | 880                                   | 23                                 | 3,400                                       | APXG200ARA221MHA0G |
|                       | 390      | HA0       | 1,560                                 | 20                                 | 3,700                                       | APXG200ARA391MHA0G |
|                       | 390      | J80       | 1,560                                 | 22                                 | 3,650                                       | APXG200ARA391MJ80G |
|                       | 560      | JA0       | 2,240                                 | 18                                 | 4,100                                       | APXG200ARA561MJA0G |
| 25                    | 10       | E46       | 125                                   | 60                                 | 1,700                                       | APXG250ARA100ME46G |
|                       | 22       | E61       | 110                                   | 40                                 | 2,450                                       | APXG250ARA220ME61G |
|                       | 22       | F45       | 275                                   | 45                                 | 2,350                                       | APXG250ARA220MF45G |
|                       | 27       | E61       | 135                                   | 40                                 | 2,450                                       | APXG250ARA270ME61G |
|                       | 39       | F61       | 195                                   | 30                                 | 2,800                                       | APXG250ARA390MF61G |
|                       | 47       | F61       | 235                                   | 30                                 | 2,800                                       | APXG250ARA470MF61G |
|                       | 56       | F61       | 280                                   | 30                                 | 2,800                                       | APXG250ARA560MF61G |
|                       | 56       | F80       | 280                                   | 28                                 | 2,800                                       | APXG250ARA560MF80G |
|                       | 68       | H70       | 340                                   | 28                                 | 3,000                                       | APXG250ARA680MH70G |
|                       | 82       | H80       | 410                                   | 26                                 | 3,100                                       | APXG250ARA820MH80G |
|                       | 100      | HA0       | 500                                   | 24                                 | 3,300                                       | APXG250ARA101MHA0G |
|                       | 120      | HA0       | 600                                   | 22                                 | 3,500                                       | APXG250ARA121MHA0G |
|                       | 150      | J80       | 750                                   | 25                                 | 3,400                                       | APXG250ARA151MJ80G |
|                       | 220      | JA0       | 1,100                                 | 20                                 | 3,800                                       | APXG250ARA221MJA0G |

### ◆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         |