

## NPCAP™-PXE 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 : φ5×4.5L to φ10×12.2L
- Solvent resistant type (see PRECAUTIONS AND GUIDELINES)
- RoHS2 Compliant
- Halogen Free

PXE

↓  
Downsized



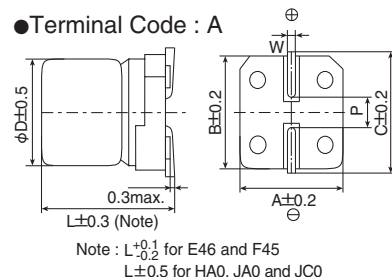
### SPECIFICATIONS

| Items                                                  | Characteristics                                                                                                                                                                                                 |                                                                                                                                                                                                             |    |    |
|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|
| Category                                               | -55 to +105℃                                                                                                                                                                                                    |                                                                                                                                                                                                             |    |    |
| Temperature Range                                      |                                                                                                                                                                                                                 |                                                                                                                                                                                                             |    |    |
| Rated Voltage Range                                    | 16 to 25V <sub>dc</sub>                                                                                                                                                                                         |                                                                                                                                                                                                             |    |    |
| Capacitance Tolerance                                  | ±20% (M) (at 20℃, 120Hz)                                                                                                                                                                                        |                                                                                                                                                                                                             |    |    |
| Leakage Current                                        | Shall not exceed values shown in STANDARD RATINGS. (at 20℃ after 2 minutes)                                                                                                                                     |                                                                                                                                                                                                             |    |    |
| *Note                                                  |                                                                                                                                                                                                                 |                                                                                                                                                                                                             |    |    |
| 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 (E46,F45 : 3,000 hours) at 105℃.                                    |                                                                                                                                                                                                             |    |    |
|                                                        | 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℃ after subjecting them to the DC rated voltage at 60℃, 90 to 95% RH for 1,000 hours (E46,F45 : 500 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 105℃ for 30 seconds through a protective resistor(R=1kΩ)and discharge for 5 minutes 30 seconds. |                                                                                                                                                                                                             |    |    |
|                                                        | Rated voltage (V <sub>dc</sub> )                                                                                                                                                                                | 16                                                                                                                                                                                                          | 20 | 25 |
|                                                        | Surge voltage (V <sub>dc</sub> )                                                                                                                                                                                | 18                                                                                                                                                                                                          | 23 | 29 |
|                                                        |                                                                                                                                                                                                                 |                                                                                                                                                                                                             |    |    |
|                                                        | 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℃ 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 105℃)                                                                                                                                                     |                                                                                                                                                                                                             |    |    |

\*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]

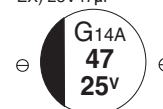
#### Terminal Code : A



| Size Code | φD  | L    | A    | B    | C    | W          | P   |
|-----------|-----|------|------|------|------|------------|-----|
| 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 |

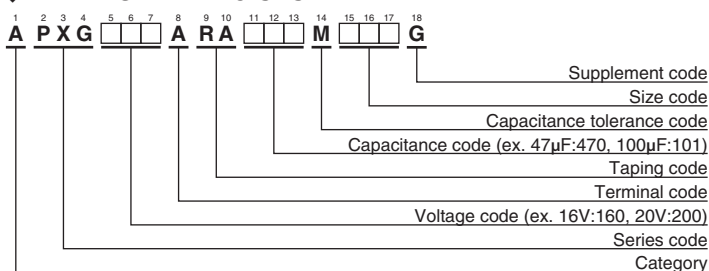
### MARKING

EX) 25V47μF



## NPCAP™-PXG Series

### ◆PART NUMBERING SYSTEM



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

### ◆STANDARD RATINGS

| WV<br>(V <sub>dc</sub> ) | Cap<br>(μF) | Size<br>code | Leakage current<br>(μA max./after 2min.) | ESR<br>(mΩ max./20°C, 100k to 300kHz) | Rated ripple current<br>(mA <sub>rms</sub> /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         |