

# HXA Series

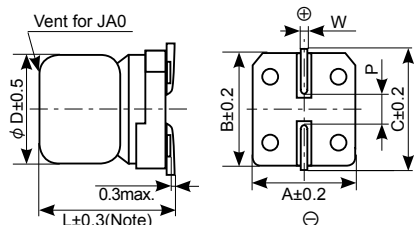
- High reliability and high voltage are realized by hybrid electrolyte
- Endurance with ripple current : 4,000 hours at 125°C
- Rated voltage range : 16 to 80Vdc, Capacitance range : 10 to 470μF
- For high temperature and high reliability applications.  
(Automotive equipment, Base station equipment, etc.)

## SPECIFICATIONS

| Items                                                  | Characteristics                                                                                                                                                                                                                                                                         |                                       |      |      |      |      |      |                   |
|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|------|------|------|------|------|-------------------|
| Category                                               | -55 to +125°C                                                                                                                                                                                                                                                                           |                                       |      |      |      |      |      |                   |
| Temperature Range                                      |                                                                                                                                                                                                                                                                                         |                                       |      |      |      |      |      |                   |
| Rated Voltage Range                                    | 16 to 80V <sub>dc</sub>                                                                                                                                                                                                                                                                 |                                       |      |      |      |      |      |                   |
| Capacitance Tolerance                                  | ±20% (M) (at 20°C , 120Hz)                                                                                                                                                                                                                                                              |                                       |      |      |      |      |      |                   |
| Leakage Current                                        | I=0.01CV<br>Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C after 2 minutes)                                                                                                                                                         |                                       |      |      |      |      |      |                   |
| Dissipation Factor (tan δ )                            | Rated voltage (V <sub>dc</sub> )                                                                                                                                                                                                                                                        | 16V                                   | 25V  | 35V  | 50V  | 63V  | 80V  | (at 20°C , 120Hz) |
|                                                        | tan δ (Max.)                                                                                                                                                                                                                                                                            | 0.16                                  | 0.14 | 0.12 | 0.10 | 0.08 | 0.08 |                   |
| Low Temperature Characteristics (Max. Impedance Ratio) | Z(-25°C ) / Z(+20°C ) ≤ 1.5<br>Z(-55°C ) / Z(+20°C ) ≤ 2.0 (at 100kHz)                                                                                                                                                                                                                  |                                       |      |      |      |      |      |                   |
| Endurance                                              | The following specifications shall be satisfied when the capacitors are restored to 20°C after subjected to DC voltage with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage) for 4,000 hours at 125°C .                                        |                                       |      |      |      |      |      |                   |
|                                                        | 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         |      |      |      |      |      |                   |
| Shelf Life                                             | The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 125°C without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to Item 4.1 of JIS C 5101-4. |                                       |      |      |      |      |      |                   |
|                                                        | 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         |      |      |      |      |      |                   |

## DIMENSIONS [mm]

- Terminal Code : A



Note : L±0.5 for HA0 and JA0

| Size Code | φ D | L    | A    | B    | C    | W          | P   |
|-----------|-----|------|------|------|------|------------|-----|
| 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 |
| HA0       | 8   | 10.0 | 8.3  | 8.3  | 9.0  | 0.7 to 1.1 | 3.1 |
| JA0       | 10  | 10.0 | 10.3 | 10.3 | 11.0 | 0.7 to 1.1 | 4.5 |

## MARKING

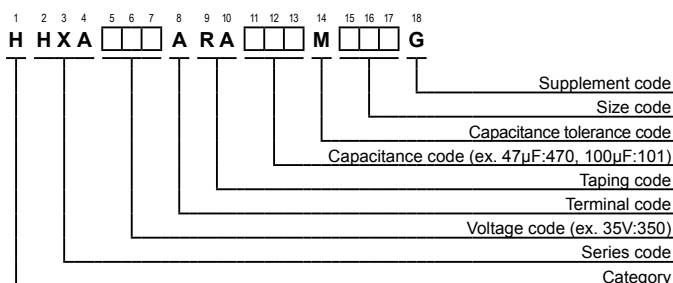
EX) 35V47μF



- Rated voltage symbol

| Rated voltage (Vdc) | Symbol |
|---------------------|--------|
| 16                  | C      |
| 25                  | E      |
| 35                  | V      |
| 50                  | H      |
| 63                  | J      |
| 80                  | K      |

## PART NUMBERING SYSTEM



Please contact us for mass production schedule.  
Specifications in this bulletin are subject to change without notice.

## HXA Series

### ◆ STANDARD RATINGS

| WV<br>(V <sub>dc</sub> ) | Cap<br>(μF) | Size code | ESR<br>(mΩmax/20°C, 100kHz) | Rated ripple current<br>(mA <sub>rms</sub> /125°C, 100kHz) | Part No.           |
|--------------------------|-------------|-----------|-----------------------------|------------------------------------------------------------|--------------------|
| 16                       | 82          | F61       | 45                          | 950                                                        | HHXA160ARA820MF61G |
|                          | 150         | F80       | 27                          | 1,300                                                      | HHXA160ARA151MF80G |
|                          | 270         | HA0       | 22                          | 1,700                                                      | HHXA160ARA271MHA0G |
|                          | 470         | JA0       | 18                          | 2,100                                                      | HHXA160ARA471MJA0G |
| 25                       | 56          | F61       | 50                          | 900                                                        | HHXA250ARA560MF61G |
|                          | 100         | F80       | 30                          | 1,400                                                      | HHXA250ARA101MF80G |
|                          | 220         | HA0       | 27                          | 1,600                                                      | HHXA250ARA221MHA0G |
|                          | 330         | JA0       | 20                          | 2,000                                                      | HHXA250ARA331MJA0G |
| 35                       | 47          | F61       | 60                          | 900                                                        | HHXA350ARA470MF61G |
|                          | 68          | F80       | 35                          | 1,400                                                      | HHXA350ARA680MF80G |
|                          | 150         | HA0       | 27                          | 1,600                                                      | HHXA350ARA151MHA0G |
|                          | 270         | JA0       | 20                          | 2,000                                                      | HHXA350ARA271MJA0G |
| 50                       | 22          | F61       | 80                          | 750                                                        | HHXA500ARA220MF61G |
|                          | 33          | F80       | 40                          | 1,100                                                      | HHXA500ARA330MF80G |
|                          | 68          | HA0       | 30                          | 1,250                                                      | HHXA500ARA680MHA0G |
|                          | 100         | JA0       | 28                          | 1,600                                                      | HHXA500ARA101MJA0G |
| 63                       | 10          | F61       | 120                         | 700                                                        | HHXA630ARA100MF61G |
|                          | 22          | F80       | 80                          | 900                                                        | HHXA630ARA220MF80G |
|                          | 33          | HA0       | 40                          | 1,100                                                      | HHXA630ARA330MHA0G |
|                          | 56          | JA0       | 30                          | 1,400                                                      | HHXA630ARA560MJA0G |
| 80                       | 22          | HA0       | 45                          | 1,100                                                      | HHXA800ARA220MHA0G |
|                          | 39          | JA0       | 35                          | 1,200                                                      | HHXA800ARA390MJA0G |

### ◆ RECOMMENDED REFLOW SOLDERING CONDITIONS

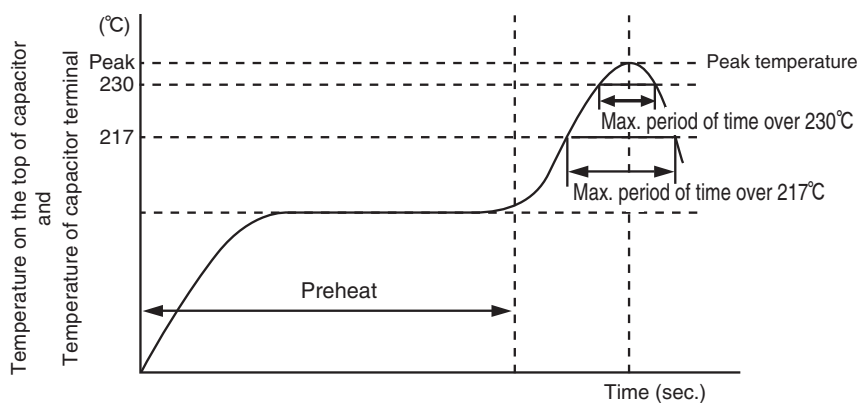
The following conditions are recommended for air convection and infrared reflow soldering on the SMD products on to a glass epoxy circuit boards by cream solder. The dimensions of the glass epoxy boards with resist are 90×50×0.8mm.

The temperatures shown are the surface temperature values on the top of the can and on the capacitor terminals.

Reflow should be performed twice or less.

Please ensure that the capacitor became cold enough to the room temperature (5 to 35°C) before the second reflow.

#### ● Reflow Profile



| Size Code | Preheat                       | Time maintained<br>above 217°C | Time maintained<br>above 230°C | Peak temp. | Reflow number   |
|-----------|-------------------------------|--------------------------------|--------------------------------|------------|-----------------|
| F61, F80  | 150 to 180°C<br>120 sec. max. | 50 sec. max.                   | 40 sec. max.                   | 260°C max. | 2-cycle allowed |
| HA0, JA0  |                               | 50 sec. max.                   | 40 sec. max.                   | 260°C max. | 1-cycle only    |
|           |                               |                                |                                | 245°C max. | 2-cycle allowed |

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Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

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