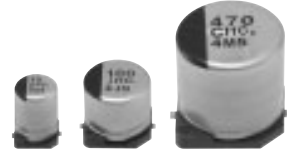
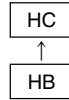


Surface Mount Type

Series: **HC** Type: **V**

Long life



■ Features

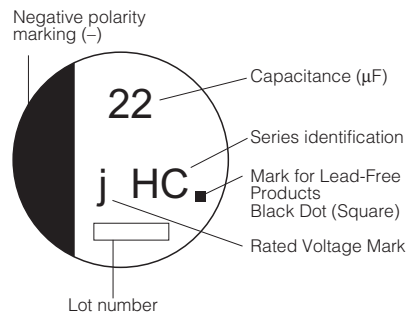
- Life time: 3000 h to 5000 h at 105 °C
- Vibration-proof product is available upon request. ($\phi 8 \leq$)
- RoHS directive compliant

■ Specifications

| | | |
|------------------------------|---|--|
| Category Temp. Range | -40 °C to +105 °C | |
| Rated W.V. Range | 6.3 V.DC to 50 V.DC | |
| Nominal Cap. Range | 0.1 μ F to 1000 μ F | |
| Capacitance Tolerance | ± 20 % (120 Hz/+20 °C) | |
| DC Leakage Current | $I \leq 0.01 CV$ or 3 (μ A) After 2 minutes (Whichever is greater) | |
| $\tan \delta$ | Please see the attached standard products list | |
| Endurance | After applying rated working voltage for +105 °C ± 2 °C and then being stabilized at +20 °C, Capacitors shall meet the following limits. $\phi 4$ to $\phi 6.3$ (3000 hours After applying rated working voltage) $\phi 8$ to $\phi 10$ (5000 hours After applying rated working voltage) | |
| | Capacitance change | ± 30 % of initially measured value |
| | $\tan \delta$ | ≤ 300 % of initially specified values |
| | DC leakage current | \leq initially specified values |
| Shelf life | After storage for 1000 hours at +105 °C ± 2 °C with no voltage applied and then being stabilized at +20 °C, capacitors shall meet the limits specified in Endurance. (With voltage treatment) | |
| Resistance to Soldering Heat | Capacitance change | ± 10 % of initially measured values |
| | $\tan \delta$ | \leq initially specified values |
| | DC leakage current | \leq initially specified values |

■ Marking

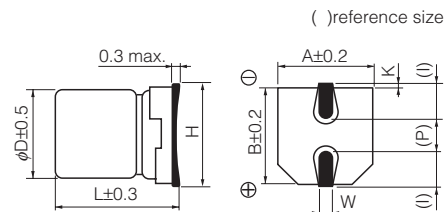
Example: 6.3 V 22 μ F
Marking color : BLACK



Rated Voltage Mark

| | |
|---|-------|
| j | 6.3 V |
| A | 10 V |
| C | 16 V |
| E | 25 V |
| V | 35 V |
| H | 50 V |

■ Dimensions in mm (not to scale)



| Size code | D | L | A, B | H max. | I | W | P | K |
|-----------|------|------|------|--------|-----|----------------|-----|--------------------|
| B | 4.0 | 5.8 | 4.3 | 5.5 | 1.8 | 0.65 ± 0.1 | 1.0 | 0.35-0.20 to +0.15 |
| C | 5.0 | 5.8 | 5.3 | 6.5 | 2.2 | 0.65 ± 0.1 | 1.5 | 0.35-0.20 to +0.15 |
| D | 6.3 | 5.8 | 6.6 | 7.8 | 2.6 | 0.65 ± 0.1 | 1.8 | 0.35-0.20 to +0.15 |
| D8 | 6.3 | 7.7 | 6.6 | 7.8 | 2.6 | 0.65 ± 0.1 | 1.8 | 0.35-0.20 to +0.15 |
| F | 8.0 | 10.2 | 8.3 | 10.0 | 3.4 | 0.90 ± 0.2 | 3.1 | 0.70 ± 0.2 |
| G | 10.0 | 10.2 | 10.3 | 12.0 | 3.5 | 0.90 ± 0.2 | 4.6 | 0.70 ± 0.2 |

Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use. Should a safety concern arise regarding this product, please be sure to contact us immediately.

Standard Products

Endurance : 105 °C 3000 h (φ8, φ10 : 5000 h)

| W.V. (V) | Cap. (±20 %) (μF) | Case size | | | Specification | | Part No. (RoHS:compliant) | Reflow | Min. Packaging Q'ty |
|-------------|-------------------------|--------------|----------------|--------------|---|-------------------------------|------------------------------|--------|------------------------|
| | | Dia. (mm) | Length (mm) | Size Code | Ripple Current (120 Hz) (+105 °C) (mA r.m.s.) | tan δ (120 Hz) (+20 °C) | | | Taping (pcs) |
| 6.3 | 22 | 4 | 5.8 | B | 26 | 0.30 | EEEHC0J220R | (1) | 2000 |
| | 47 | 5 | 5.8 | C | 46 | 0.30 | EEEHC0J470R | (1) | 1000 |
| | 100 | 6.3 | 5.8 | D | 71 | 0.30 | EEEHC0J101P | (1) | 1000 |
| | 220 | 6.3 | 7.7 | D8 | 101 | 0.30 | EEEHC0J221XP | (1) | 900 |
| | 330 | 8 | 10.2 | F | 230 | 0.30 | EEEHC0J331P | (2) | 500 |
| 10 | 1000 | 10 | 10.2 | G | 313 | 0.50 | EEEHC0J102P | (2) | 500 |
| | 33 | 5 | 5.8 | C | 43 | 0.26 | EEEHC1A330R | (1) | 1000 |
| 16 | 220 | 8 | 10.2 | F | 160 | 0.26 | EEEHC1A221P | (2) | 500 |
| | 10 | 4 | 5.8 | B | 28 | 0.20 | EEEHC1C100R | (1) | 2000 |
| | 22 | 5 | 5.8 | C | 39 | 0.20 | EEEHC1C220R | (1) | 1000 |
| | 47 | 6.3 | 5.8 | D | 70 | 0.20 | EEEHC1C470P | (1) | 1000 |
| | 100 | 6.3 | 7.7 | D8 | 81 | 0.20 | EEEHC1C101XP | (1) | 900 |
| 25 | 470 | 10 | 10.2 | G | 340 | 0.20 | EEEHC1C471P | (2) | 500 |
| | 33 | 6.3 | 5.8 | D | 65 | 0.16 | EEEHC1E330P | (1) | 1000 |
| | 47 | 6.3 | 7.7 | D8 | 65 | 0.16 | EEEHC1E470XP | (1) | 900 |
| | 100 | 8 | 10.2 | F | 130 | 0.16 | EEEHC1E101P | (2) | 500 |
| 35 | 330 | 10 | 10.2 | G | 238 | 0.16 | EEEHC1E331P | (2) | 500 |
| | 4.7 | 4 | 5.8 | B | 15 | 0.14 | EEEHC1V4R7R | (1) | 2000 |
| | 10 | 5 | 5.8 | C | 28 | 0.14 | EEEHC1V100R | (1) | 1000 |
| | 22 | 6.3 | 5.8 | D | 55 | 0.14 | EEEHC1V220P | (1) | 1000 |
| | 33 | 6.3 | 7.7 | D8 | 57 | 0.14 | EEEHC1V330XP | (1) | 900 |
| 50 | 220 | 10 | 10.2 | G | 220 | 0.14 | EEEHC1V221P | (2) | 500 |
| | 0.1 | 4 | 5.8 | B | 1 | 0.12 | EEEHC1HR10R | (1) | 2000 |
| | 0.22 | 4 | 5.8 | B | 2.6 | 0.12 | EEEHC1HR22R | (1) | 2000 |
| | 0.33 | 4 | 5.8 | B | 3.2 | 0.12 | EEEHC1HR33R | (1) | 2000 |
| | 0.47 | 4 | 5.8 | B | 5 | 0.12 | EEEHC1HR47R | (1) | 2000 |
| | 1 | 4 | 5.8 | B | 10 | 0.12 | EEEHC1H1R0R | (1) | 2000 |
| | 2.2 | 4 | 5.8 | B | 16 | 0.12 | EEEHC1H2R2R | (1) | 2000 |
| | 3.3 | 4 | 5.8 | B | 16 | 0.12 | EEEHC1H3R3R | (1) | 2000 |
| | 4.7 | 5 | 5.8 | C | 23 | 0.12 | EEEHC1H4R7R | (1) | 1000 |
| | 10 | 6.3 | 5.8 | D | 35 | 0.12 | EEEHC1H100P | (1) | 1000 |
| | 22 | 6.3 | 7.7 | D8 | 49 | 0.12 | EEEHC1H220XP | (1) | 900 |
| | 33 | 8 | 10.2 | F | 91 | 0.12 | EEEHC1H330P | (2) | 500 |
| | 47 | 8 | 10.2 | F | 100 | 0.12 | EEEHC1H470P | (2) | 500 |
| 100 | 10 | 10.2 | G | 160 | 0.12 | EEEHC1H101P | (2) | 500 | |

The taping dimensions are explained on p.177 of our Catalog. Please use it as a reference guide.
Reflow Profile(Fig-1 to Fig-11) listed on p.175 of our Catalog.