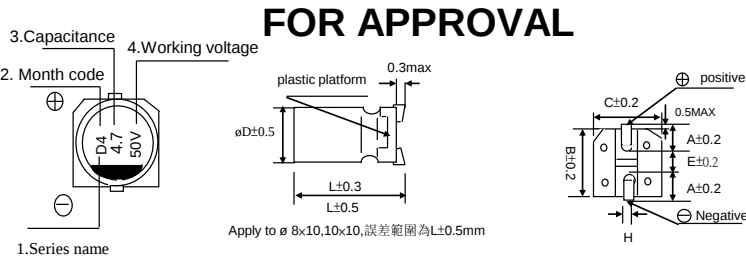


# Dongguan Heyue Electronics Co., Ltd

DIMENSIONS(mm)

■ Chip Type



| ΦD | 4*5.4   | 5*5.4   | 6.3*5.4 | 6.3*6   | 6.3*7.7 | 8*10    | 10*10   |
|----|---------|---------|---------|---------|---------|---------|---------|
| A  | 1.8     | 2.1     | 2.4     | 2.4     | 2.4     | 2.9     | 3.2     |
| B  | 4.3     | 5.3     | 6.6     | 6.6     | 6.6     | 8.3     | 10.3    |
| C  | 4.3     | 5.3     | 6.6     | 6.6     | 6.6     | 8.3     | 10.3    |
| E  | 1.0     | 1.3     | 2.2     | 2.2     | 2.2     | 3.1     | 4.5     |
| L  | 5.4     | 5.4     | 5.4     | 6.0     | 7.7     | 10      | 10      |
| H  | 0.5~0.8 | 0.5~0.8 | 0.5~0.8 | 0.5~0.8 | 0.5~0.8 | 0.8~1.1 | 0.8~1.1 |

| Customer: | Electrolytic Capacitors |  |  |  |  |  |  |  |  |  | Heyue |  |
|-----------|-------------------------|--|--|--|--|--|--|--|--|--|-------|--|
|           | HD Series               |  |  |  |  |  |  |  |  |  | Code  |  |

Electric Characteristics:

| P/N | Heyue<br>P/N     | Cap.<br>(uF) | Cap.<br>Tol.<br>(%) | Rate<br>Volt.<br>(V-DC) | Surge<br>Volt.<br>(V-DC) | Oper.<br>Temp.<br>(℃) | Nominal<br>Case Size<br>D*L(mm) | Leakage<br>Current<br>Max (uA) | D.F.<br>MAX<br>(%) | R.C<br>100KHz<br>(mA rms) | IMP<br>100KHz<br>at 25℃ (Ω)Max | Load<br>Life<br>(hours ) |
|-----|------------------|--------------|---------------------|-------------------------|--------------------------|-----------------------|---------------------------------|--------------------------------|--------------------|---------------------------|--------------------------------|--------------------------|
|     | HD1H220M0605VG-A | 22           | ±20                 | 50                      | 57.5                     | 105                   | 6.3*5.4                         | 11                             | 10                 | 165                       | 2.2                            | 2000                     |

REMARKS:

1. Leakage Current Test: 6.3V ~100V at 20℃ for 2 minutes ;
2. Operating temperature: 6.3V~100V -55℃~ +105℃ ;
3. .Dissipation Factor Test: at 20℃, 120 Hz.
4. Capacitance Test: at 20℃, 120 Hz.
5. Ripple Current Test: at 105℃, 100K Hz ;
6. Load Life: 3000 hours, with application of rated voltage at 105℃.  
(L<10mm, 2000 hours; )
- Capacitance Change: Within ±30% of initial value;
- tanδ: 300% or less of initial specified value;
- Leakage Current: Initial specified value or less;
7. Shelf Life: The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1000 hours 105℃ without voltage applide. Before the measurement, the capacitor shall be preconditioned by applying voltage according to them 4.1 of JIS C5101-4.
- Capacitance Change: Within ±30% of initial value;
- tanδ: 300% or less of initial specified value;
- Leakage Current: Initial specified value or less;
8. when have characteristic requested : Load life & shelf life test and etc. , judgment standard reference to our catalogue.
- 9.Remarks: Heyue Part Number with suffix code "A" is specially offered for automotive project, which meets AEC-Q200 standard.

●SPECIFICATION

|                                            |                                                                                                                     |      |      |      |      |      |      |      |      |      |  |
|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------|------|------|------|------|------|------|------|------|------|--|
| Leakage Current<br>洩漏電流                    | After 2 minutes application of rated voltage,leakage current is not more than 0.01cv or 3(uA),whichever is greater. |      |      |      |      |      |      |      |      |      |  |
| Dissipation Factor<br>散逸因素（損失角）<br>(tan δ) | Measurement Frequency:120Hz. Temperature:20℃                                                                        |      |      |      |      |      |      |      |      |      |  |
|                                            | Rate Voltage(V)                                                                                                     | 6.3  | 10   | 16   | 25   | 35   | 50   | 63   | 80   | 100  |  |
|                                            | tan δ （MAX）                                                                                                         | 0.30 | 0.26 | 0.22 | 0.16 | 0.13 | 0.10 | 0.08 | 0.08 | 0.07 |  |
| Low Temperature Stability<br>低溫特性          | Measurement Frequency:120Hz.                                                                                        |      |      |      |      |      |      |      |      |      |  |
|                                            | Rate Voltage(V)                                                                                                     | 6.3  | 10   | 16   | 25   | 35   | 50   | 63   | 80   | 100  |  |
| Impedance Ratio(MAX)                       | Z(-25℃)/Z(20℃)                                                                                                      | 4    | 3    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |  |
| 阻抗比率(MAX)                                  | Z(-55℃)/Z(20℃)                                                                                                      | 8    | 5    | 4    | 3    | 3    | 3    | 3    | 3    | 3    |  |

●Frequency Coefficient of Permissible Ripple Current

| Frequency(Hz) | 120 ≤ F< 1K | 1K ≤ F< 10K | 10K ≤ F< 100K | 100K ≤ F |
|---------------|-------------|-------------|---------------|----------|
| ≤33           | 0.35        | 0.70        | 0.90          | 1.00     |
| 33~150        | 0.40        | 0.85        | 0.92          | 1.00     |
| >150          | 0.60        | 0.85        | 0.95          | 1.00     |

The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5℃ rise.

When long life performance is required in actual use, the rms ripple current has to be reduced.