

# Dongguan Heyue Electronics Co., Ltd

DIMENSIONS(mm)

■ Chip Type

## FOR APPROVAL

Fig.1  $\Phi D=6.3\sim 10\text{mm}$

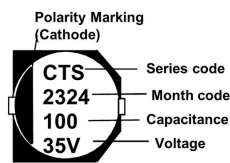
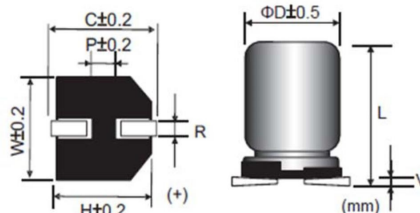
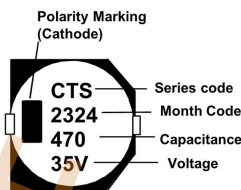


Fig.2  $\Phi D \geq 12.5\text{mm}$



| Size      | $\Phi D$ | L              | W    | H    | C    | R       | P   | Vmax |
|-----------|----------|----------------|------|------|------|---------|-----|------|
| 6.3*6     | 6.3      | 6.0 $\pm$ 0.3  | 6.6  | 6.6  | 7.2  | 0.5~0.8 | 2.1 | 0.3  |
| 6.3*7.7   | 6.3      | 7.7 $\pm$ 0.3  | 6.6  | 6.6  | 7.2  | 0.5~0.8 | 2.1 | 0.3  |
| 8*10      | 8.0      | 10 $\pm$ 0.5   | 8.3  | 8.3  | 9.0  | 0.7~1.1 | 3.2 | 0.3  |
| 10*10     | 10.0     | 10 $\pm$ 0.5   | 10.3 | 10.3 | 11.0 | 0.7~1.3 | 4.5 | 0.3  |
| 12.5*13.5 | 12.5     | 13.5 $\pm$ 0.5 | 13.0 | 13.0 | 13.7 | 1.1~1.4 | 4.5 | 0.4  |
| 16*16.5   | 16.0     | 16.5 $\pm$ 0.5 | 17.0 | 17.0 | 18.0 | 1.4~1.8 | 6.4 | 0.4  |
| 18*21.5   | 18.0     | 21.5 $\pm$ 1.0 | 19.0 | 19.0 | 20.0 | 1.4~1.8 | 6.4 | 0.4  |

| Customer:                 |                   |              | Electrolytic Capacitors<br>HTS Series |                         |                          |                       |                                 |                                |                    |                           | Heyue                          |                          |  |
|---------------------------|-------------------|--------------|---------------------------------------|-------------------------|--------------------------|-----------------------|---------------------------------|--------------------------------|--------------------|---------------------------|--------------------------------|--------------------------|--|
|                           |                   |              |                                       |                         |                          |                       |                                 |                                |                    |                           | 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) | ESR<br>100KHz<br>at 25℃ (Ω)Max | Load<br>Life<br>(hours ) |  |
|                           | HTS1C102M1213VG-A | 1000         | ±20                                   | 16                      | 18.4                     | 125                   | 12.5*13.5                       | 160                            | 20                 | 1200                      | 0.080                          | 3000                     |  |

### REMARKS:

- Leakage Current Test: 10V ~100V at 20 $^{\circ}$ C for 2 minutes ;
- Operating temperature: 10V~100V -40 $^{\circ}$ C ~ +125 $^{\circ}$ C ;
- .Dissipation Factor Test: at 20 $^{\circ}$ C , 120 Hz.
- Capacitance Test: at 20 $^{\circ}$ C , 120 Hz.
- Ripple Current Test: at 125 $^{\circ}$ C , 100K Hz ;
- Load Life: 6.3 $\Phi$ ~10 $\Phi$ :2000 hours;  $\Phi$ 12.5:3000 hours;  $\Phi$ 16:5000 hours;  
with application of rated voltage at 125 $^{\circ}$ C .
- Capacitance Change: Within  $\pm 30\%$  of initial value;  
tan $\delta$ : 300% or less of initial specified value;
- Leakage Current: Initial specified value or less;
- Shelf Life: The following specifications shall be satisfied when the capacitors are restored to 20 $^{\circ}$ C after exposing them for 1000 hours 125 $^{\circ}$ C 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  $\pm 30\%$  of initial value;  
tan $\delta$ : 300% or less of initial specified value;
- Leakage Current: Initial specified value or less;
- when have characteristic requested: Load life & shelf life test and etc. , judgment standard reference to our catalogue.
- 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)                                                                                                     | 10   | 16   | 25   | 35   | 50   | 63   | 100  |
|                                            | tan δ （MAX）                                                                                                         | 0.24 | 0.20 | 0.20 | 0.14 | 0.14 | 0.12 | 0.10 |
| Low Temperature Stability<br>低溫特性          | Measurement Frequency:120Hz.                                                                                        |      |      |      |      |      |      |      |
|                                            | Rate Voltage(V)                                                                                                     | 10   | 16   | 25   | 35   | 50   | 63   | 100  |
| Impedance Ratio(MAX)                       | Z(-25℃)/Z(20℃ )                                                                                                     | 5    | 5    | 2    | 2    | 2    | 2    | 2    |
| 阻抗比率(MAX)                                  | Z(-40℃)/Z(20℃ )                                                                                                     | 8    | 8    | 4    | 3    | 3    | 3    | 3    |

### ●Frequency Coefficient of Permissible Ripple Current

| Frequency (Hz) | 100 $\leq$ F < 1K | 1K $\leq$ F < 10K | 10K $\leq$ F < 100K | 100K $\leq$ F |
|----------------|-------------------|-------------------|---------------------|---------------|
| 全系列            | 0.60              | 0.85              | 0.93                | 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 $^{\circ}$ C rise. When long life performance is required in actual use, the rms ripple current has to be reduced.

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