

# Dongguan Heyue Electronics Co., Ltd

## FOR APPROVAL

DIMENSIONS(mm)

■ Chip Type

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

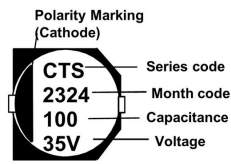
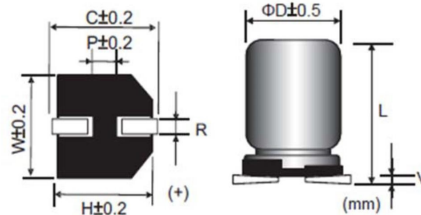
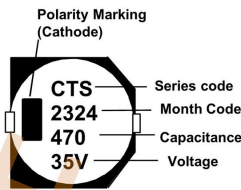


Fig.2  $\Phi D \geq 12.5\text{mm}$



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

Customer:	Electrolytic Capacitors										Heyue
	HTS Series										Code

Electric Characteristics:

P/N	Heyue P/N	Cap. (uF)	Cap. Tol. (%)	Rate Volt. (V-DC)	Surge Volt. (V-DC)	Oper. Temp. (°C)	Nominal Case Size D*L(mm)	Leakage Current Max (uA)	D.F. MAX (%)	R.C 100KHz (mA rms)	ESR 100KHz at 25°C (Ω)Max	Load Life (hours)
	HTS1E471M1010VG-A	470	±20	25	28.8	125	10*10	117.5	20	500	0.110	2000

### REMARKS:

- Leakage Current Test:** 10V~100V at 20°C for 2 minutes ;
  - Operating temperature:** 10V~100V -40°C~ +125°C ;
  - .Dissipation Factor Test:** at 20°C, 120 Hz.
  - Capactitance Test:** at 20°C, 120 Hz.
  - Ripple Current Test:** at 125°C, 100K Hz ;
  - Load Life:** 6.3Φ~10Φ:2000 hours;Φ12.5:3000 hours;Φ16:5000 hours; with application of rated voltage at 125°C.
- Capacitance Change:** Within ±30% of initial value;  
**tanδ:** 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°C after exposing them for 1000 hours 125°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 ±30% of initial value;  
**tanδ:** 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 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 散逸因素 (損失角) (tan δ)	Measurement Frequency:120Hz. Temperature:20°C											
	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 低溫特性	Measurement Frequency:120Hz.											
	Rate Voltage(V)	10	16	25	35	50	63	100				
Impedance Ratio(MAX) 阻抗比率(MAX)	Z(-25°C)/Z(20°C)	5	5	2	2	2	2	2				
	Z(-40°C)/Z(20°C)	8	8	4	3	3	3	3				

### ●Frequency Coefficient of Permissible Ripple Current

Frequency (Hz)	100 ≤ F < 1K	1K ≤ F < 10K	10K ≤ F < 100K	100K ≤ 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°C rise. When long life performance is required in actual use, the rms ripple current has to be reduced.

Production date:2023.09.14