

# Dongguan Heyue Electronics Co., Ltd

## FOR APPROVAL

DIMENSIONS(mm)

■ Chip Type

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

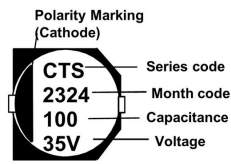
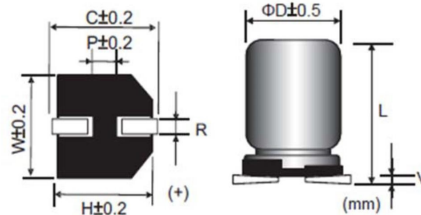
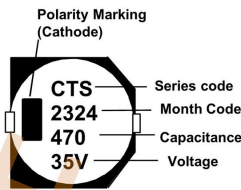


Fig.2  $\Phi D \geq 12.5\text{mm}$



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)
	HTS1C471M1010VG-A	470	±20	16	18.4	125	10*10	75.2	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;
- 7. 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;
- 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 洩漏電流	After 2 minutes application of rated voltage,leakage current is not more than 0.01cv or 3(uA),whichecker 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
Coefficient	0.60	0.85	0.93	1.00
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