Hongda Capacitors®
Email: sales@hongdacap.com.hk
Skype: Hongdacapacitors
Web: www.hongdacap.com.hk
Tel: +86 (0)769 82207248

HFS Series CHIP TYPE, LONG LIFE WITH EXTRA LOWER IMPEDANCE

Extra lower impedance

Endurance 2000~5000 hours

Miniature (size small than FZ series)

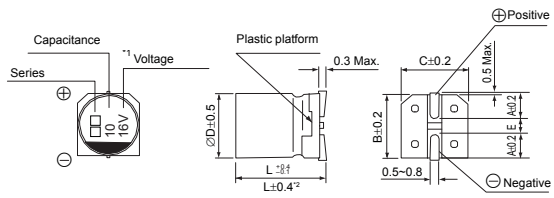
RoHS & REACH compliant, Halogen-free

SPECIFICATIONS

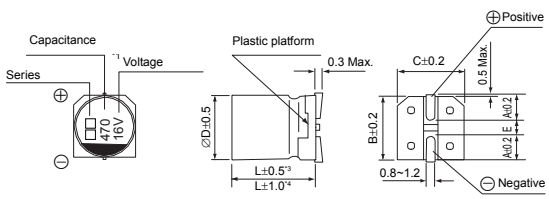
Items	Characteristics
Category Temperature Range	-55 ~ +105°C
Voltage Range	6.3 ~ 50V
Capacitance Range	10 ~ 2200μF
Capacitance Tolerance	±20% at 120Hz, 20°C
Leakage Current	Leakage current ≤0.01CV or 3μA, whichever is greater (after 2 minutes application of rated voltage at 20°C) C: Nominal capacitance (μF) , V: Rated voltage (V)
Dissipation Factor (tan δ)	Measurement frequency : 120Hz, Temperature : 20°C Rated Voltage (V) | 6.3 | 10 | 16 | 25 | 35 | 50 tan δ (max.) | 0.26 | 0.19 | 0.16 | 0.14 | 0.12 | 0.10
Stability at Low Temperature	Measurement frequency : 120Hz Rated Voltage (V) | 6.3 ~ 16 | 25 ~ 50 Impedance Ratio ZT/Z20 (max.) Z(-25°C) / Z(20°C) | 2 | 2 Z(-40°C) / Z(20°C) | 3 | 3 Z(-55°C) / Z(20°C) | 4 | 3
Endurance	After 5000 hrs. (2000 hrs. for ∅4~∅6.3×5.8) application of the rated voltage at 105°C, they meet the characteristics listed below. Capacitance Change | Within ±35% of initial value Dissipation Factor | 300% or less of initial specified value Leakage Current | initial specified value or less
Shelf Life	After leaving capacitors under no load at 105°C for 1000 hours, they meet the specified value for load life characteristics listed above.
Resistance to Soldering Heat	After reflow soldering and restored at room temperature, they meet the characteristics listed below. Capacitance Change | Within ±10% of initial value Dissipation Factor | initial specified value or less Leakage Current | initial specified value or less
Marking	Black print on the case top.

DRAWING (Unit: mm)

(∅4~∅6.3×7.7)



(∅8×10.5~∅10)



*1. Voltage mark for 6.3V is [6V]
*2. Applicable to ∅6.3×7.7
*3. Applicable to ∅8×10.5~∅10

DIMENSIONS (Unit: mm)

ØD x L	4 x 5.8	5 x 5.8	6.3 x 5.8/7.7	8 x 10.5	10 x 10.5
A	2.0	2.2	2.6	3.0	3.3
B	4.3	5.3	6.6	8.4	10.4
C	4.3	5.3	6.6	8.4	10.4
E ± 0.2	1.0	1.4	1.9	3.1	4.7
L	5.8	5.8	5.8/7.7	10.5	10.5

DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT & IMPEDANCE

WV / Code / μF		6.3			10			16		
		0J			1A			1C		
47	476							4 × 5.8	0.85	160
68	686				4 × 5.8	0.85	160	5 × 5.8	0.36	240
100	107	4 × 5.8	0.85	160				5 × 5.8	0.36	240
150	157				5 × 5.8	0.36	240	6.3 × 5.8	0.26	300
220	227	5 × 5.8	0.36	240	6.3 × 5.8	0.26	300	6.3 × 5.8	0.26	300
330	337	6.3 × 5.8	0.26	300	6.3 ×7.7	0.16	600	6.3 ×7.7	0.16	600
470	477	6.3 × 7.7	0.16	600	6.3 ×7.7	0.16	600			
680	687	6.3 × 7.7	0.16	600				8 × 10.5	0.08	850
820	827							8 × 10.5	0.08	850
1000	108				8 × 10.5	0.08	850	10 × 10.5	0.06	1190
1200	128							10 × 10.5	0.06	1190
1500	158	8 × 10.5	0.08	850	10 × 10.5	0.06	1190	Case size	Impedance	Ripple current
2200	228	10 × 10.5	0.06	1190						

WV / Code / μF		25			35			50		
		1E			1V			1H		
10	106							5 × 5.8 (4 × 5.8)	0.88 (2.30)	165 (85)
22	226	4 × 5.8	0.85	160	4 × 5.8	0.85	160	5 × 5.8	0.88	165
33	336	4 × 5.8	0.85	160	5 × 5.8	0.36	240			
47	476	5 × 5.8	0.36	240	5 × 5.8	0.36	240	6.3 × 5.8	0.68	195
68	686	5 × 5.8	0.36	240	6.3 × 5.8	0.26	300			
100	107	6.3 × 5.8	0.26	300	6.3 × 5.8	0.26	300	6.3 × 7.7	0.34	350
150	157	6.3 × 7.7	0.16	600	6.3 × 7.7	0.16	600			
220	227	6.3 × 7.7	0.16	600				8 × 10.5	0.18	670
330	337	6.3 × 7.7	0.16	600	8 × 10.5	0.08	850	10 × 10.5	0.12	900
390	397				8 × 10.5	0.08	850			
470	477	8 × 10.5	0.08	850						
560	567	8 × 10.5	0.08	850	10 × 10.5	0.06	1190			
680	687				10 × 10.5	0.06	1190			
820	827	10 × 10.5	0.06	1190				Case size	Impedance	Ripple current
1000	108	10 × 10.5	0.06	1190						

•Case size ∅D×L(mm), Impedance (Ω) at 20°C, 100KHz, Ripple current (mA rms) at 105°C, 100KHz

FREQUENCY COEFFICIENT OF ALLOWABLE RIPPLE CURRENT

Frequency		50Hz	120Hz	300Hz	1KHz	10KHz~
Coefficient	10 ~ 68μF	0.35	0.50	0.64	0.83	1.00
	100 ~ 2200μF	0.40	0.55	0.70	0.85	1.00

The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5~10°C rise. When long life performance is required in actual use, the rms ripple current has to be reduced.

◆ How to order

HFS	106	M	0035	0405	R	-
↓	↓	↓	↓	↓	↓	↓
Type	Capacitance code	Tolerance	Rated Voltage	Size Code	Package	Additional characters may be added for special requirements
HFS	pF Code: 1st two digits represent significant figures 3rd digit represents mulitplier (number of zeros to follow) 106 = 10uF 107 = 100uF	M: +/-20%	Code 0035: 35VDC For DC Voltage 0006: 6.3VDC 0035: 35VDC	Code 0405: Size 4x5.4mm Size for V-chip E-cap 0405: Size 4x5.4mm 1010: Size 10x10.5mm	R: Tape & Reel	