



ELECTRONIC EQUIPMENT FILM CAPACITOR

HACD Series

- Maximum operating temperature 105°C.
- Allowable temperature rise 15K max.
- Downsizing of HACB series.



◆ SPECIFICATIONS

| Items | Characteristics | | | | | | | | |
|---|---|---|------|------|------|------|------|------|------|
| Category temperature range | -40 to +105°C | | | | | | | | |
| Rated voltage range | 630 to 4000V _{dc} | | | | | | | | |
| Capacitance tolerance | ±5%(J) | | | | | | | | |
| Voltage proof (Terminal - Terminal) | No degradation, at 150% of rated voltage shall be applied for 60 seconds. | | | | | | | | |
| Dissipation factor (tanδ) | No more than 0.05% : Equal or less than 1μF. No more than (c×0.015+0.05)% : More than 1μF. | | | | | | | | |
| Insulation resistance (Terminal - Terminal) | No less than 30000MΩ : Equal or less than 0.33μF. No less than 10000ΩF : More than 0.33μF. | | | | | | | | |
| | Rated voltage (V _{dc}) | 630 | 1000 | 1250 | 1600 | 2000 | 2500 | 3150 | 4000 |
| | Measurement voltage (V _{dc}) | 500 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 |
| Endurance | The following specifications shall be satisfied, after 1000hrs with applying rated voltage×125% at 105°C. | | | | | | | | |
| | Appearance | No serious degradation | | | | | | | |
| | Insulation resistance (Terminal - Terminal) | No less than 10000MΩ : Equal or less than 0.33μF. | | | | | | | |
| | Dissipation factor (tanδ) | Not more than initial specification at 1kHz. | | | | | | | |
| | Capacitance change | Within ±5% of initial value. | | | | | | | |
| Loading under damp heat | The following specifications shall be satisfied, after 500hrs with applying rated voltage at 40°C 90~95%RH. | | | | | | | | |
| | Appearance | No serious degradation. | | | | | | | |
| | Insulation resistance (Terminal - Terminal) | No less than 10000MΩ : Equal or less than 0.33μF. | | | | | | | |
| | Dissipation factor (tanδ) | Not more than initial specification at 1kHz. | | | | | | | |
| | Capacitance change | Within ±5% of initial value. | | | | | | | |

◆ STANDARD RATINGS

| WV (V _{dc}) | Cap (μF) | Dimensions (mm) | | | | | Maximum ripple current (Arms) | WV (Vac) | Part Number | Previous Part Number (Just for your reference) |
|-----------------------|----------|-----------------|------|--------------------|--------------------|------------|-------------------------------|----------|--------------------|--|
| | | W | H | T | F | φd | | | | |
| 630 | 0.047 | 17.7 | 9.8 | 9.3 | 12.5 | 0.8 | 2.65 | 250 | FHACD631V473J0LGZ0 | HACD2J473J |
| | 0.056 | | 10.4 | 10.0 | | | 2.89 | | FHACD631V563J0LGZ0 | HACD2J563J |
| | 0.068 | | 11.0 | 10.5 | | | 3.19 | | FHACD631V683J0LGZ0 | HACD2J683J |
| | 0.082 | | 11.6 | 11.1 | | | 3.50 | | FHACD631V823J0LGZ0 | HACD2J823J |
| | 0.1 | | 12.3 | 11.7 | | | 3.86 | | FHACD631V104J0LGZ0 | HACD2J104J |
| | 0.12 | | 13.1 | 12.5 | | | 4.23 | | FHACD631V124J0LGZ0 | HACD2J124J |
| | 0.15 | | 14.1 | 13.5 | | | 4.73 | | FHACD631V154J0LGZ0 | HACD2J154J |
| | 0.18 | | 15.1 | 14.4 | | | 5.18 | | FHACD631V184J0LGZ0 | HACD2J184J |
| | 0.22 | | 13.8 | 13.2 | | | 4.31 | | FHACD631V224J1LHZ0 | HACD2J224J |
| | 0.27 | 14.9 | 14.2 | 4.78 | FHACD631V274J1LHZ0 | HACD2J274J | | | | |
| | 0.33 | 16.1 | 15.3 | 5.28 | FHACD631V334J1LHZ0 | HACD2J334J | | | | |
| | 0.39 | 17.1 | 16.3 | 5.74 | FHACD631V394J1LHZ0 | HACD2J394J | | | | |
| | 0.47 | 18.5 | 17.6 | 6.30 | FHACD631V474J1LHZ0 | HACD2J474J | | | | |
| | 0.56 | 19.9 | 18.9 | 6.88 | FHACD631V564J1LHZ0 | HACD2J564J | | | | |
| | 0.68 | 19.0 | 18.1 | 6.19 | FHACD631V684J2LEZ0 | HACD2J684J | | | | |
| | 0.82 | 20.5 | 19.6 | 6.79 | FHACD631V824J2LEZ0 | HACD2J824J | | | | |
| | 1.0 | 22.3 | 21.3 | 7.50 | FHACD631V105J2LEZ0 | HACD2J105J | | | | |
| | 1.2 | 24.2 | 23.0 | 8.22 | FHACD631V125J2LEZ0 | HACD2J125J | | | | |
| 1.5 | 26.7 | 25.4 | 9.19 | FHACD631V155J2LEZ0 | HACD2J155J | | | | | |
| 1000 | 0.033 | 17.7 | 10.0 | 9.6 | 12.5 | 0.8 | 2.43 | 270 | FHACD102V333J0LGZ0 | HACD3A333J |
| | 0.039 | | 10.4 | 10.0 | | | 2.64 | | FHACD102V393J0LGZ0 | HACD3A393J |
| | 0.047 | | 11.0 | 10.5 | | | 2.90 | | FHACD102V473J0LGZ0 | HACD3A473J |
| | 0.056 | | 11.5 | 11.0 | | | 3.17 | | FHACD102V563J0LGZ0 | HACD3A563J |
| | 0.068 | | 12.2 | 11.7 | | | 3.49 | | FHACD102V683J0LGZ0 | HACD3A683J |
| | 0.082 | | 13.0 | 12.4 | | | 3.83 | | FHACD102V823J0LGZ0 | HACD3A823J |
| | 0.1 | | 13.9 | 13.3 | | | 4.23 | | FHACD102V104J0LGZ0 | HACD3A104J |
| | 0.12 | | 14.9 | 14.2 | | | 4.64 | | FHACD102V124J0LGZ0 | HACD3A124J |
| | 0.15 | | 13.7 | 13.1 | | | 3.90 | | FHACD102V154J1LHZ0 | HACD3A154J |
| | 0.18 | 14.7 | 14.0 | 4.27 | FHACD102V184J1LHZ0 | HACD3A184J | | | | |
| | 0.22 | 15.8 | 15.1 | 4.72 | FHACD102V224J1LHZ0 | HACD3A224J | | | | |
| | 0.27 | 17.1 | 16.3 | 5.23 | FHACD102V274J1LHZ0 | HACD3A274J | | | | |
| | 0.33 | 18.6 | 17.7 | 5.79 | FHACD102V334J1LHZ0 | HACD3A334J | | | | |
| | 0.39 | 19.9 | 19.0 | 6.29 | FHACD102V394J1LHZ0 | HACD3A394J | | | | |

(1) The maximum ripple current : +85°C max., 100kHz, sine wave

(2) WV(V_{ac}) : 50Hz or 60Hz, sine wave



ELECTRONIC EQUIPMENT FILM CAPACITOR

HACD Series

◆STANDARD RATINGS

| WV (Vdc) | Cap (μF) | Dimensions (mm) | | | | | Maximum ripple current (Arms) | WV (Vac) | Part Number | Previous Part Number (Just for your reference) | | |
|----------|----------|-----------------|------|------|--------------------|------------|-------------------------------|--------------------|--------------------|--|--------------------|------------|
| | | W | H | T | F | φd | | | | | | |
| 1000 | 0.47 | 27.7 | 18.9 | 18.0 | 22.5 | 1.0 | 5.63 | 270 | FHACD102V474J2LEZ0 | HACD3A474J | | |
| | 0.56 | | 20.4 | 19.4 | | | 6.15 | | FHACD102V564J2LEZ0 | HACD3A564J | | |
| | 0.68 | | 22.1 | 21.1 | | | 6.78 | | FHACD102V684J2LEZ0 | HACD3A684J | | |
| | 0.82 | | 24.0 | 22.9 | | | 7.44 | | FHACD102V824J2LEZ0 | HACD3A824J | | |
| | 1.0 | | 26.2 | 25.0 | | | 8.22 | | FHACD102V105J2LEZ0 | HACD3A105J | | |
| | 1.2 | | 28.5 | 27.1 | | | 9.00 | | FHACD102V125J2LEZ0 | HACD3A125J | | |
| 1250 | 0.018 | 17.7 | 9.7 | 9.3 | 12.5 | 0.8 | 2.04 | 300 | FHACD1C2V183J0LGZ0 | HACD3B183J | | |
| | 0.022 | | 10.4 | 9.9 | | | 2.25 | | FHACD1C2V223J0LGZ0 | HACD3B223J | | |
| | 0.027 | | 11.0 | 10.5 | | | 2.50 | | FHACD1C2V273J0LGZ0 | HACD3B273J | | |
| | 0.033 | | 11.6 | 11.1 | | | 2.76 | | FHACD1C2V333J0LGZ0 | HACD3B333J | | |
| | 0.039 | | 12.3 | 11.7 | | | 3.00 | | FHACD1C2V393J0LGZ0 | HACD3B393J | | |
| | 0.047 | | 13.0 | 12.4 | | | 3.29 | | FHACD1C2V473J0LGZ0 | HACD3B473J | | |
| | 0.056 | 13.8 | 13.2 | 3.60 | FHACD1C2V563J0LGZ0 | HACD3B563J | | | | | | |
| | 0.068 | 14.8 | 14.2 | 3.96 | FHACD1C2V683J0LGZ0 | HACD3B683J | | | | | | |
| | 0.082 | 13.3 | 12.7 | 3.24 | FHACD1C2V823J1LHZ0 | HACD3B823J | | | | | | |
| | 0.1 | 14.3 | 13.6 | 3.57 | FHACD1C2V104J1LHZ0 | HACD3B104J | | | | | | |
| | 0.12 | 15.3 | 14.6 | 3.91 | FHACD1C2V124J1LHZ0 | HACD3B124J | | | | | | |
| | 0.15 | 16.7 | 15.9 | 4.38 | FHACD1C2V154J1LHZ0 | HACD3B154J | | | | | | |
| | 0.18 | 17.9 | 17.1 | 4.79 | FHACD1C2V184J1LHZ0 | HACD3B184J | | | | | | |
| | 0.22 | 19.5 | 18.6 | 5.30 | FHACD1C2V224J1LHZ0 | HACD3B224J | | | | | | |
| | 0.27 | 18.5 | 17.7 | 4.77 | FHACD1C2V274J2LEZ0 | HACD3B274J | | | | | | |
| | 0.33 | 20.1 | 19.2 | 5.28 | FHACD1C2V334J2LEZ0 | HACD3B334J | | | | | | |
| | 0.39 | 21.6 | 20.6 | 5.74 | FHACD1C2V394J2LEZ0 | HACD3B394J | | | | | | |
| | 0.47 | 23.4 | 22.3 | 6.30 | FHACD1C2V474J2LEZ0 | HACD3B474J | | | | | | |
| | 0.56 | 25.3 | 24.1 | 6.87 | FHACD1C2V564J2LEZ0 | HACD3B564J | | | | | | |
| | 0.68 | 27.6 | 26.3 | 7.58 | FHACD1C2V684J2LEZ0 | HACD3B684J | | | | | | |
| | 0.82 | 23.2 | 22.1 | 5.55 | FHACD1C2V824J2LEZ0 | HACD3B824J | | | | | | |
| | 1.0 | 25.4 | 24.2 | 6.13 | FHACD1C2V105J2LEZ0 | HACD3B105J | | | | | | |
| | 1.2 | 27.5 | 26.2 | 6.72 | FHACD1C2V125J2LEZ0 | HACD3B125J | | | | | | |
| | 1600 | 0.0068 | 19.7 | 10.0 | 9.5 | 15.0 | 0.8 | | 1.72 | 350 | FHACD162V682JKLDZ0 | HACD3C682J |
| 0.0082 | | 10.6 | | 10.1 | 1.89 | | | FHACD162V822JKLDZ0 | HACD3C822J | | | |
| 0.01 | | 11.2 | | 10.6 | 2.09 | | | FHACD162V103JKLDZ0 | HACD3C103J | | | |
| 0.012 | | 11.8 | | 11.2 | 2.29 | | | FHACD162V123JKLDZ0 | HACD3C123J | | | |
| 0.015 | | 12.6 | | 12.0 | 2.56 | | | FHACD162V153JKLDZ0 | HACD3C153J | | | |
| 0.018 | | 13.4 | | 12.8 | 2.80 | | | FHACD162V183JKLDZ0 | HACD3C183J | | | |
| 0.022 | | 14.4 | 13.7 | 3.10 | FHACD162V223JKLDZ0 | HACD3C223J | | | | | | |
| 0.027 | | 15.0 | 14.3 | 3.43 | FHACD162V273JKLDZ0 | HACD3C273J | | | | | | |
| 0.033 | | 16.3 | 15.5 | 3.80 | FHACD162V333JKLDZ0 | HACD3C333J | | | | | | |
| 0.039 | | 13.0 | 12.4 | 2.60 | FHACD162V393J1LHZ0 | HACD3C393J | | | | | | |
| 0.047 | | 13.8 | 13.2 | 2.85 | FHACD162V473J1LHZ0 | HACD3C473J | | | | | | |
| 0.056 | | 14.7 | 14.0 | 3.11 | FHACD162V563J1LHZ0 | HACD3C563J | | | | | | |
| 0.068 | | 15.8 | 15.1 | 3.43 | FHACD162V683J1LHZ0 | HACD3C683J | | | | | | |
| 0.082 | | 17.0 | 16.2 | 3.77 | FHACD162V823J1LHZ0 | HACD3C823J | | | | | | |
| 0.1 | | 18.4 | 17.6 | 4.16 | FHACD162V104J1LHZ0 | HACD3C104J | | | | | | |
| 0.12 | | 17.2 | 16.4 | 3.68 | FHACD162V124J2LEZ0 | HACD3C124J | | | | | | |
| 0.15 | | 18.9 | 18.0 | 4.12 | FHACD162V154J2LEZ0 | HACD3C154J | | | | | | |
| 0.18 | | 20.4 | 19.4 | 4.51 | FHACD162V184J2LEZ0 | HACD3C184J | | | | | | |
| 0.22 | | 22.2 | 21.1 | 4.99 | FHACD162V224J2LEZ0 | HACD3C224J | | | | | | |
| 0.27 | | 24.2 | 23.1 | 5.53 | FHACD162V274J2LEZ0 | HACD3C274J | | | | | | |
| 0.33 | | 26.5 | 25.3 | 6.11 | FHACD162V334J2LEZ0 | HACD3C334J | | | | | | |
| 2000 | | 0.0033 | 19.7 | 9.3 | 8.9 | 15.0 | 0.8 | 1.39 | 350 | | FHACD202V332JKLDZ0 | HACD3D332J |
| | | 0.0039 | | 9.7 | 9.2 | | | 1.52 | | | FHACD202V392JKLDZ0 | HACD3D392J |
| | | 0.0047 | | 10.2 | 9.7 | | | 1.66 | | | FHACD202V472JKLDZ0 | HACD3D472J |
| | 0.0056 | 10.9 | | 10.4 | 1.82 | | | FHACD202V562JKLDZ0 | | HACD3D562J | | |
| | 0.0068 | 11.8 | | 11.2 | 2.00 | | | FHACD202V682JKLDZ0 | | HACD3D682J | | |
| | 0.0082 | 12.6 | | 12.0 | 2.20 | | | FHACD202V822JKLDZ0 | | HACD3D822J | | |
| | 0.01 | 13.5 | | 12.9 | 2.43 | | | FHACD202V103JKLDZ0 | | HACD3D103J | | |
| | 0.012 | 14.4 | | 13.7 | 2.66 | | | FHACD202V123JKLDZ0 | | HACD3D123J | | |
| | 0.015 | 15.6 | | 14.9 | 2.97 | | | FHACD202V153JKLDZ0 | | HACD3D153J | | |
| | 0.018 | 16.7 | | 16.0 | 3.26 | | | FHACD202V183JKLDZ0 | | HACD3D183J | | |

(1)The maximum ripple current : +85°C max., 100kHz, sine wave

(2)WV(Vac) : 50Hz or 60Hz, sine wave

◆STANDARD RATINGS

| WV (Vdc) | Cap (μF) | Dimensions (mm) | | | | | Maximum ripple current (Arms) | WV (Vac) | Part Number | Previous Part Number (Just for your reference) | | | | | |
|----------|----------|-----------------|--------|------|------|--------------------|-------------------------------|----------|--------------------|--|-----|------|-----|--------------------|------------|
| | | W | H | T | F | φd | | | | | | | | | |
| 2000 | 0.022 | 22.7 | 13.1 | 12.5 | 17.5 | 0.8 | 2.27 | 350 | FHACD202V223J1LHZ0 | HACD3D223J | | | | | |
| | 0.027 | | 14.0 | 13.4 | | | 2.51 | | FHACD202V273J1LHZ0 | HACD3D273J | | | | | |
| | 0.033 | | 15.1 | 14.4 | | | 2.78 | | FHACD202V333J1LHZ0 | HACD3D333J | | | | | |
| | 0.039 | | 16.1 | 15.3 | | | 3.02 | | FHACD202V393J1LHZ0 | HACD3D393J | | | | | |
| | 0.047 | | 17.3 | 16.5 | | | 3.32 | | FHACD202V473J1LHZ0 | HACD3D473J | | | | | |
| | 0.056 | | 18.6 | 17.7 | | | 3.62 | | FHACD202V563J1LHZ0 | HACD3D563J | | | | | |
| | 0.068 | 27.7 | 17.5 | 16.6 | 22.5 | 1.0 | 3.22 | | FHACD202V683J2LEZ0 | HACD3D683J | | | | | |
| | 0.082 | | 18.8 | 18.0 | | | 3.54 | | FHACD202V823J2LEZ0 | HACD3D823J | | | | | |
| | 0.1 | | 20.5 | 19.5 | | | 3.91 | | FHACD202V104J2LEZ0 | HACD3D104J | | | | | |
| | 0.12 | | 22.1 | 21.1 | | | 4.28 | | FHACD202V124J2LEZ0 | HACD3D124J | | | | | |
| | 0.15 | | 24.4 | 23.2 | | | 4.79 | | FHACD202V154J2LEZ0 | HACD3D154J | | | | | |
| | 0.18 | | 26.4 | 25.2 | | | 5.24 | | FHACD202V184J2LEZ0 | HACD3D184J | | | | | |
| | 0.22 | 42.7 | 22.6 | 21.5 | 37.5 | 1.0 | 3.93 | | FHACD202V224JTLJZ0 | HACD3D224J | | | | | |
| | 0.27 | | 24.7 | 23.5 | | | 4.35 | | FHACD202V274JTLJZ0 | HACD3D274J | | | | | |
| | 0.33 | | 27.0 | 25.7 | | | 4.81 | | FHACD202V334JTLJZ0 | HACD3D334J | | | | | |
| | | | | | | | | | | | | | | | |
| 2500 | 0.015 | 34.7 | 12.7 | 12.1 | 30.0 | 1.0 | 2.11 | 500 | FHACD252V153JRLQZ0 | HACD3E153J | | | | | |
| | 0.018 | | 13.6 | 13.0 | | | 2.31 | | FHACD252V183JRLQZ0 | HACD3E183J | | | | | |
| | 0.022 | | 14.8 | 14.1 | | | 2.55 | | FHACD252V223JRLQZ0 | HACD3E223J | | | | | |
| | 0.027 | | 16.1 | 15.3 | | | 2.83 | | FHACD252V273JRLQZ0 | HACD3E273J | | | | | |
| | 0.033 | | 17.4 | 16.6 | | | 3.13 | | FHACD252V333JRLQZ0 | HACD3E333J | | | | | |
| | 0.039 | | 18.8 | 17.9 | | | 3.40 | | FHACD252V393JRLQZ0 | HACD3E393J | | | | | |
| | 0.047 | | 20.4 | 19.4 | | | 3.73 | | FHACD252V473JRLQZ0 | HACD3E473J | | | | | |
| | 0.056 | | 22.0 | 21.0 | | | 4.07 | | FHACD252V563JRLQZ0 | HACD3E563J | | | | | |
| | 0.068 | | 24.0 | 22.9 | | | 4.49 | | FHACD252V683JRLQZ0 | HACD3E683J | | | | | |
| | 0.082 | | 26.1 | 24.9 | | | 4.93 | | FHACD252V823JRLQZ0 | HACD3E823J | | | | | |
| | 0.1 | | 28.7 | 27.3 | | | 5.44 | | FHACD252V104JRLQZ0 | HACD3E104J | | | | | |
| | | | | | | | | | | | | | | | |
| | 3150 | | 0.0068 | 34.7 | | | 12.5 | | 11.9 | 30.0 | 1.0 | 1.64 | 630 | FHACD3B2V682JRLQZ0 | HACD3F682J |
| 0.0082 | | 13.3 | 12.7 | | 1.80 | FHACD3B2V822JRLQZ0 | HACD3F822J | | | | | | | | |
| 0.01 | | 14.5 | 13.8 | | 1.99 | FHACD3B2V103JRLQZ0 | HACD3F103J | | | | | | | | |
| 0.012 | | 15.5 | 14.8 | | 2.18 | FHACD3B2V123JRLQZ0 | HACD3F123J | | | | | | | | |
| 0.015 | | 17.1 | 16.3 | | 2.44 | FHACD3B2V153JRLQZ0 | HACD3F153J | | | | | | | | |
| 0.018 | | 18.5 | 17.6 | | 2.67 | FHACD3B2V183JRLQZ0 | HACD3F183J | | | | | | | | |
| 0.022 | | 20.2 | 19.2 | | 2.95 | FHACD3B2V223JRLQZ0 | HACD3F223J | | | | | | | | |
| 0.027 | | 22.1 | 21.1 | | 3.27 | FHACD3B2V273JRLQZ0 | HACD3F273J | | | | | | | | |
| 0.033 | | 24.1 | 23.0 | | 3.62 | FHACD3B2V333JRLQZ0 | HACD3F333J | | | | | | | | |
| 0.039 | | 26.0 | 24.8 | | 3.93 | FHACD3B2V393JRLQZ0 | HACD3F393J | | | | | | | | |
| 0.047 | | 28.3 | 27.0 | | 4.31 | FHACD3B2V473JRLQZ0 | HACD3F473J | | | | | | | | |
| | | | | | | | | | | | | | | | |
| 4000 | | 0.0039 | 34.7 | | 12.0 | 11.5 | 30.0 | 1.0 | 1.63 | | | 720 | | FHACD402V392JRLQZ0 | HACD3G392J |
| | | 0.0047 | | | 13.0 | 12.4 | | | 1.79 | | | | | FHACD402V472JRLQZ0 | HACD3G472J |
| | 0.0056 | 13.8 | | 13.2 | 1.95 | FHACD402V562JRLQZ0 | | | HACD3G562J | | | | | | |
| | 0.0068 | 15.0 | | 14.3 | 2.15 | FHACD402V682JRLQZ0 | | | HACD3G682J | | | | | | |
| | 0.0082 | 16.2 | | 15.4 | 2.36 | FHACD402V822JRLQZ0 | | | HACD3G822J | | | | | | |
| | 0.01 | 17.6 | | 16.8 | 2.60 | FHACD402V103JRLQZ0 | | | HACD3G103J | | | | | | |
| | 0.012 | 19.0 | | 18.1 | 2.85 | FHACD402V123JRLQZ0 | | | HACD3G123J | | | | | | |
| | 0.015 | 21.0 | | 20.0 | 3.19 | FHACD402V153JRLQZ0 | | | HACD3G153J | | | | | | |
| | 0.018 | 22.8 | | 21.8 | 3.49 | FHACD402V183JRLQZ0 | | | HACD3G183J | | | | | | |
| | 0.022 | 25.0 | | 23.8 | 3.86 | FHACD402V223JRLQZ0 | | | HACD3G223J | | | | | | |
| | 0.027 | 27.4 | | 26.1 | 4.28 | FHACD402V273JRLQZ0 | | | HACD3G273J | | | | | | |
| | | | | | | | | | | | | | | | |

(1)The maximum ripple current : +85°C max., 100kHz, sine wave

(2)WV(Vac) : 50Hz or 60Hz, sine wave

◆DIMENSIONS (mm)

