

HD series

- 105°C high-temperature resistance, high ripple current and long life.
- 10000hours load life.
- Suitable for LED and electronic rectifier.
- RoHS Compliance
- 105°C耐高溫、高紋波、長壽命。
- 壽命10000小時。
- 適用於節能燈與電子整流器。



SPECIFICATIONS

Items 項目	Characteristics 特性																											
Capacitance Tolerance 靜電容量誤差	$\pm 20\%$ (120Hz,20°C)																											
Operating Temperature Range 適用溫度範圍	-40 ~ +105°C				-25 ~ +105°C																							
Rated Voltage Range 額定電壓範圍	160 ~ 400VDC				450VDC																							
Leakage Current 洩漏電流	$I \leq 0.02CV + 10 (\mu A)$ (After 2 minutes application of DC rated voltage, at 20 °C)				$I \leq 0.03CV + 10 (\mu A)$ (After 2 minutes application of DC rated voltage, at 20 °C)																							
Dissipation Factor 散逸因素(tan δ)	Measurement Frequency: 120Hz. Temperature: 20°C <table border="1"> <tr> <td>Rated Voltage(V)</td> <td>160</td> <td>200</td> <td>250</td> <td>350</td> <td>400</td> <td>450</td> </tr> <tr> <td>tan δ(Max)</td> <td>0.15</td> <td>0.15</td> <td>0.15</td> <td>0.15</td> <td>0.20</td> <td>0.20</td> </tr> </table>							Rated Voltage(V)	160	200	250	350	400	450	tan δ(Max)	0.15	0.15	0.15	0.15	0.20	0.20							
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Low Temperature Stability 低溫特性	Measurement Frequency: 120Hz. <table border="1"> <tr> <td>Rated Voltage(V)</td> <td>160</td> <td>200</td> <td>250</td> <td>350</td> <td>400</td> <td>450</td> </tr> <tr> <td>Z(-25°C)/Z(20°C)</td> <td>3</td> <td>3</td> <td>3</td> <td>5</td> <td>5</td> <td>6</td> </tr> <tr> <td>Z(-40°C)/Z(20°C)</td> <td>6</td> <td>6</td> <td>6</td> <td>6</td> <td>6</td> <td>-</td> </tr> </table>							Rated Voltage(V)	160	200	250	350	400	450	Z(-25°C)/Z(20°C)	3	3	3	5	5	6	Z(-40°C)/Z(20°C)	6	6	6	6	6	-
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Z(-40°C)/Z(20°C)	6	6	6	6	6	-																						
Impedance Ratio(Max) 阻抗比率(最大值)																												
Load Life 負荷壽命	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjected to DC voltage with the rated ripple current is applied for 10,000 hours(8 ϕ ~10 ϕ :8,000 hours) at 105°C. <table border="1"> <tr> <td>Capacitance Change</td> <td colspan="6">Within $\pm 20\%$ of Initial Value</td> </tr> <tr> <td>tan δ</td> <td colspan="6">200% or less of Initial Specified Value</td> </tr> <tr> <td>Leakage Current</td> <td colspan="6">Initial Specified Value or less</td> </tr> </table>							Capacitance Change	Within $\pm 20\%$ of Initial Value						tan δ	200% or less of Initial Specified Value						Leakage Current	Initial Specified Value or less					
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Shelf Life 放置壽命	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours 105°C without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to them 4.1 of JIS C5101-4. <table border="1"> <tr> <td>Capacitance Change</td> <td colspan="6">Within $\pm 20\%$ of Initial Value</td> </tr> <tr> <td>tan δ</td> <td colspan="6">200% or less of Initial Specified Value</td> </tr> <tr> <td>Leakage Current</td> <td colspan="6">500% or less of Initial Specified Value</td> </tr> </table>							Capacitance Change	Within $\pm 20\%$ of Initial Value						tan δ	200% or less of Initial Specified Value						Leakage Current	500% or less of Initial Specified Value					
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Standards 參照標準	JIS C 5101-4 (IEC 60384)																											

Frequency Coefficient of Permissible Ripple Current

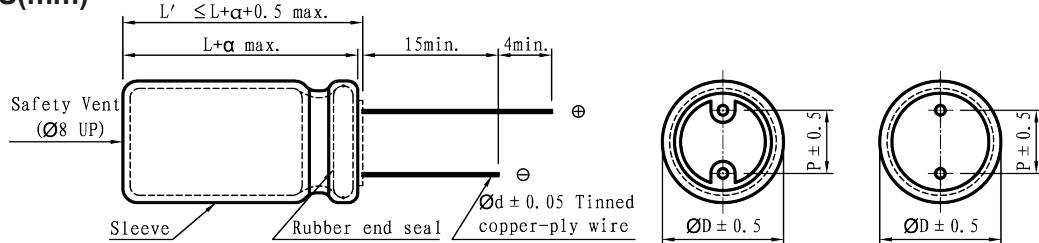
Frequency (Hz)	50	120	1K	10K	100K
Coefficient	0.45	0.55	0.75	0.90	1.00

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.

HD

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DIMENSIONS(mm)



ϕD	8	10	13	16	18	22
P	3.5	5.0	5.0	7.5	7.5	10
ϕd	0.5	0.6	0.6	0.8	0.8	0.8

$$\alpha \quad (L < 16) 1.0 \\ (L \geq 16) 2.0$$

STANDARD RATINGS

D×L(mm) ; R.C.(mA rms) at 105°C 100KHz.

Cap (μF)	V	160		200		250	
		Item	D x L	R.C.	D x L	R.C.	D x L
2.2		8x12		80	8x12	90	8x12
3.3		8x12		90	8x12	102	10x13
4.7		8x12		98	8x16	110	10x16
5.6		8x16		104	8x16	118	10x16
6.8		8x16		115	10x13	128	10x16
8.2		10x16		125	10x16	220	10x16
10		10x16		255	10x16	260	10x20
15		10x16		430	10x20	430	13x21
22		10x20		510	13x21	510	13x21
33		13x21		580	13x21	610	13x25
47		13x25		670	13x25	670	16x26
68		16x26		770	16x26	770	16x32
100		16x26		900	16x26	1030	18x32
150		18x32		1270	18x35	1330	22x35
220		18x35		1410	22x35	1710	

Cap (μF)	V	350		400		450	
		Item	D x L	R.C.	D x L	R.C.	D x L
1		8x12		74	8x16	85	10x13
1.5		10x13		80	10x13	95	10x16
2.2		10x16		98	10x16	105	10x16
3.3		10x16		110	10x16	115	10x16
4.7		10x20		145	10x20	148	10x20
5.6		13x21		165	13x21	180	13x21
6.8		13x21		200	13x21	230	13x21
8.2		13x21		250	13x21	270	13x21
10		13x21		290	13x21	300	13x21
15		13x25		350	13x25	390	13x25
22		16x26		450	16x26	500	16x32
33		16x32		510	16x32	650	16x36
47		16x36		670	18x26	850	18x32
68		18x32		860	18x32	960	18x35
82		18x32		1150	18x35	1300	18x40
100		18x35		1250	18x40	1400	

※ 13mm may be replaced by 12.5mm upon customer's request.