

Metallized Polypropylene Film Capacitor

Type PHD



Specific features

- High Voltage & wide range of capacitance.
- Low loss, high insulation, high frequency & self-healing construction.

Application

- Resonance (AV appliance, Lighting)

Parts code

Type Code

4D

Rated Voltage



①

Capacitance



②

Tolerance



③

Special Designation



④ ⑤ ⑥

ex)

Code ①	Rated Voltage
3A	1000VDC
3B	1250VDC

Code ②	Capacitance
104	0.10 μ F
224	0.22 μ F
474	0.47 μ F
684	0.68 μ F

Code ③	Tolerance
J	\pm 5%

Code ④	Lead wire material
-	Cp
U	Cu

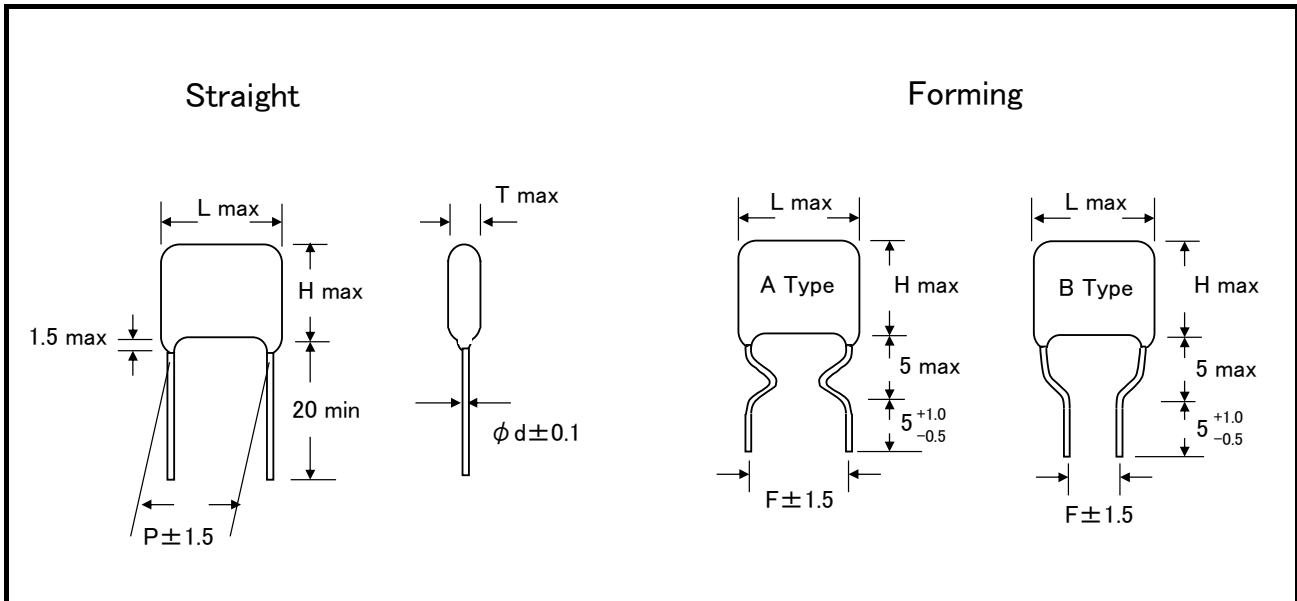
Code ⑤	Lead wire length
A	20.0mm min
S	5.0 ^{+1.0} _{-0.5} mm

Code ⑥	Lead wire Type
0	Straight
other	Forming

In addition to the standard specifications listed above, customization is also possible.
For details, please contact our sales representative.

Type PHD

Dimensions (Standard specifications)



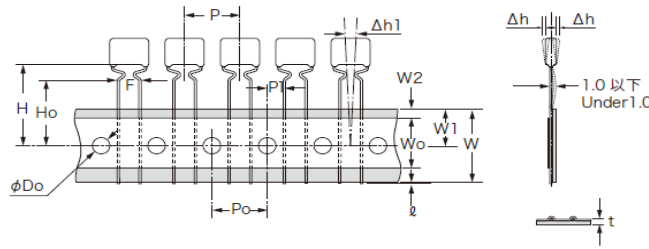
Specifications

Operating Temperature Range		-40°C ~ +105°C	
Rated Voltage		1000VDC, 1250VDC	
Voltage Proof	Between Terminals	Rated Voltage × 150% 60 s	
	Between Terminal and Case	Rated Voltage × 200% 2~5 s	
Insulation Resistance		500VDC 60 s	More than 50,000MΩ
Capacitance		0.1μF~0.68μF	
Tolerance		±5% (J)	
tanδ		0.001 or less	

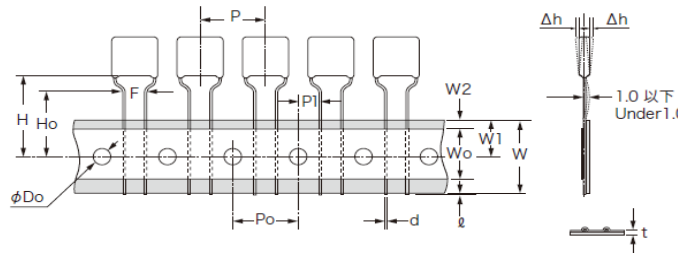
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Taping Specifications

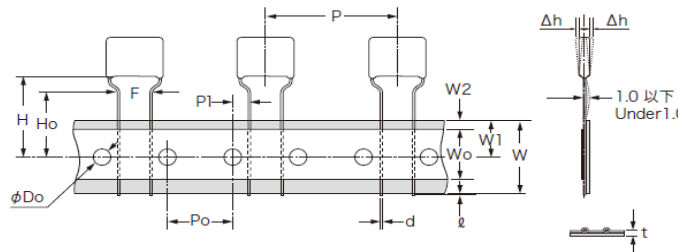
< Style : A、 B >



< Style : C >



< Style : D、 E >



Taping type		Value and tolerance				
Item	Symbol	Style : A	Style : B	Style : C	Style : D	Style : E
Pitch of body	P	12.7 ± 1.0	15.0 ± 1.0	15.0 ± 1.0	25.4 ± 1.0	30.0 ± 1.0
Feed hole pitch	Po	12.7 ± 0.2	15.0 ± 0.2	15.0 ± 0.3	12.7 ± 0.3	15.0 ± 0.3
Feed hole diameter	φDo	4.0 ± 0.1	4.0 ± 0.1	4.0 ± 0.2	4.0 ± 0.1	4.0 ± 0.2
Fed hole position	P1	3.85 ± 0.5	3.8 ± 0.5	5.0 ± 0.7	3.85 ± 0.7	3.8 ± 0.7
Hole center to body center	W1	9.0 ± 0.5	9.0 ± 0.5	9.0 ± 0.5	9.0 ± 0.5	9.0 ± 0.5
Distance, lead to lead	F	5.0 ^{+0.8} _{-0.2}	7.5 ^{+0.8} _{-0.2}	5.0 ± 0.8	5.0 ^{+0.8} _{-0.2}	7.5 ^{+0.8} _{-0.2}
Component inclination	Δh	2.0 max	2.0 max	2.0 max	2.0 max	2.0 max
Tape width	W	18.0 ^{+1.0} _{-0.5}	18.0 ^{+1.0} _{-0.5}	18.0 ^{+1.0} _{-0.5}	18.0 ^{+1.0} _{-0.5}	18.0 ^{+1.0} _{-0.5}
Holding tape position	W2	3.0 max	3.0 max	3.0 max	3.0 max	3.0 max
Adhesive tape width	Wo	12.5 min	12.5 min	12.5 min	12.0 min	12.0 min
Height of body form tape	H	20.2 ± 0.5	20.2 ± 0.5	20.2 ± 0.5	20.0 ± 0.7	20.0 ± 0.7
Lead wire clinch height	Ho	16.0 ± 0.5	16.0 ± 0.5	16.0 ± 0.5	16.0 ± 0.5	16.0 ± 0.5
Lead wire protrusion	ℓ	0.5 max	0.5 max	0.5 max	0.5 max	0.5 max
Total tape thickness	t	0.6 ± 0.3	0.6 ± 0.3	0.6 ± 0.3	0.6 ± 0.3	0.6 ± 0.3

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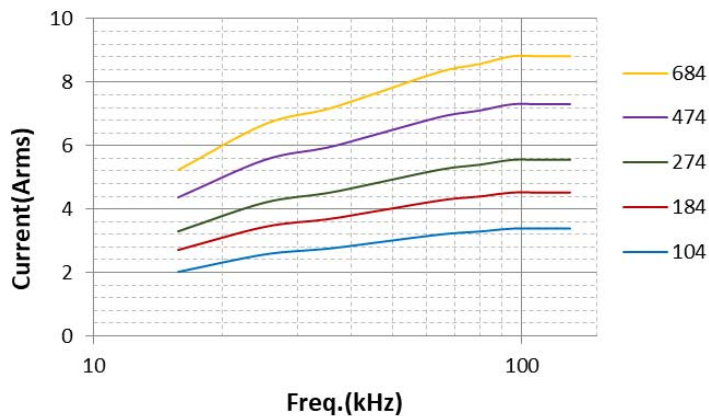
Ratings, Dimensions

- Rated Voltage : 1000VDC Tolerance : $\pm 5\%$ (J)

Product number	Cap. (μF)	Tol. (%)	Dimensions(mm)							
			L max	T max	H max	Straight		Forming		Lead wire
						P ± 1.5	Type	F ± 1.5	$\phi\text{d}\pm 0.1$	
4D3A104A ()	0.10	± 5	30.5	9.5	17.0	26.5	—	—	0.8	
4D3A124A ()	0.12	± 5	30.5	11.0	18.5	26.5	—	—	0.8	
4D3A154A ()	0.15	± 5	30.5	12.0	19.5	26.5	—	—	0.8	
4D3A184A ()	0.18	± 5	30.5	13.0	20.5	26.5	—	—	0.8	
4D3A224A ()	0.22	± 5	30.5	14.5	22.0	26.5	—	—	0.8	
4D3A274A ()	0.27	± 5	30.5	16.0	23.0	26.5	—	—	0.8	
4D3A334A ()	0.33	± 5	30.5	17.5	25.0	26.5	—	—	0.8	
4D3A394A ()	0.39	± 5	30.5	19.0	26.5	26.5	—	—	0.8	
4D3A474A ()	0.47	± 5	30.5	21.0	28.0	26.5	—	—	0.8	
4D3A564A ()	0.56	± 5	30.5	23.0	30.0	26.5	—	—	0.8	
4D3A684A ()	0.68	± 5	30.5	25.0	32.5	26.5	—	—	0.8	

※ () : Lead wire type

- Permissible ripple current frequency - current (sine wave)



In addition to the standard specifications listed above, customization is also possible. For details, please contact our sales representative.

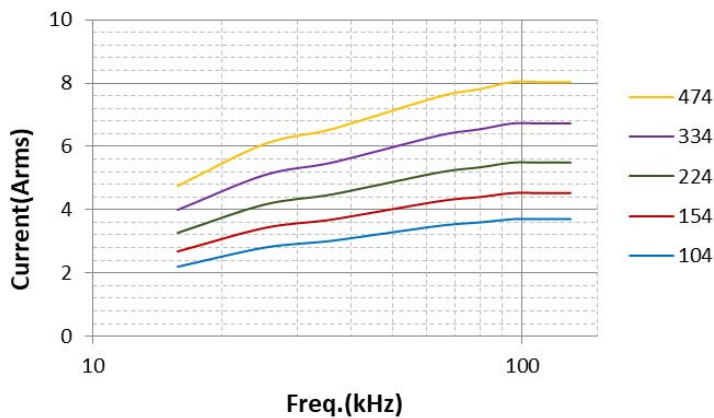
Ratings, Dimensions

- Rated Voltage : 1250VDC Tolerance : $\pm 5\%$ (J)

Product number	Cap. (μF)	Tol. (%)	Dimensions(mm)							
			L max	T max	H max	Straight		Forming		Lead wire
						P ± 1.5	Type	F ± 1.5	$\phi d \pm 0.1$	
4D3B104A ()	0.10	± 5	30.5	12.0	19.5	26.5	—	—	0.8	
4D3B124A ()	0.12	± 5	30.5	13.0	20.5	26.5	—	—	0.8	
4D3B154A ()	0.15	± 5	30.5	14.5	21.5	26.5	—	—	0.8	
4D3B184A ()	0.18	± 5	30.5	15.5	23.0	26.5	—	—	0.8	
4D3B224A ()	0.22	± 5	30.5	17.0	24.5	26.5	—	—	0.8	
4D3B274A ()	0.27	± 5	30.5	19.0	26.5	26.5	—	—	0.8	
4D3B334A ()	0.33	± 5	30.5	21.0	28.5	26.5	—	—	0.8	
4D3B394A ()	0.39	± 5	30.5	23.0	30.0	26.5	—	—	0.8	
4D3B474A ()	0.47	± 5	30.5	25.0	32.5	26.5	—	—	0.8	

※ () : Lead wire type

- Permissible ripple current frequency - current (sine wave)



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Caution for proper use

Plastic film capacitors use organic films for their dielectrics, thus the capacitors may fume or flame, depending on the circuit conditions they are in, when they are damaged by applying over voltage or over current.

1. Circuit Design

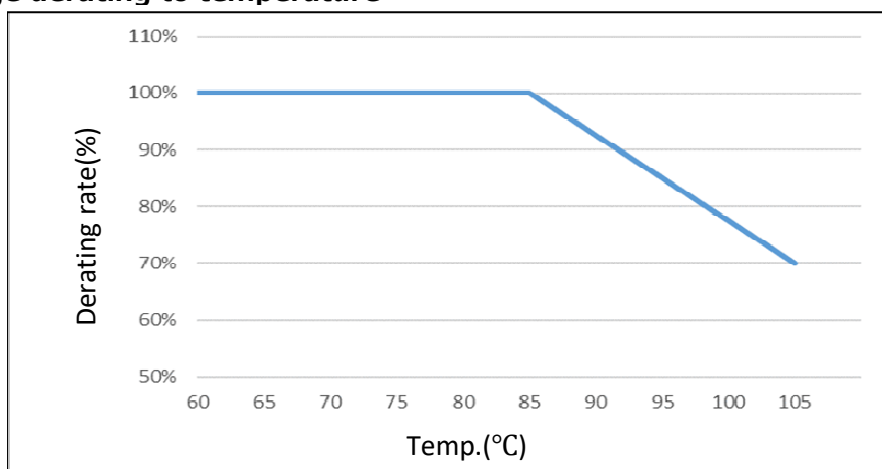
- ① Please use capacitors within the range of their characteristic ratings, only after confirming their operating and mounting environments.
- ② In case of selecting a capacitor, please select the most suitable one which fits to your operating conditions.
- ③ Capacitors used for Across-The-Line, Line-By-Pass and Antenna-Coupling to suppress noises in an equipment, the capacitors need to be approved by overseas Safety Standards or `Electric article security method` by Ministry of international Trade and Industry.
- ④ Do not conduct a rapid charge and discharge ahead of rating to a capacitor which may lead to characteristics degradations or breakdown of the capacitor.

Pulse permissible current

In case of use other than sine wave, please use both of pulse current & effective current under permissible current

- ⑤ An applying voltage to a capacitor, including the peak of surge and ripple voltage (D.C.voltage + A.C.Peak), cannot be exceeded the rating voltage.
- ⑥ Do not apply a current over its permissible level. Also, make sure the atmosphere temperature and self heat rise of a capacitor since a permissible current can be restricted by those factors.
Use under atmosphere temperature + self heat rise (within specification),
Thus please confirm surface temperature of capacitor should be within usage range of temperature.

Rated voltage derating to temperature



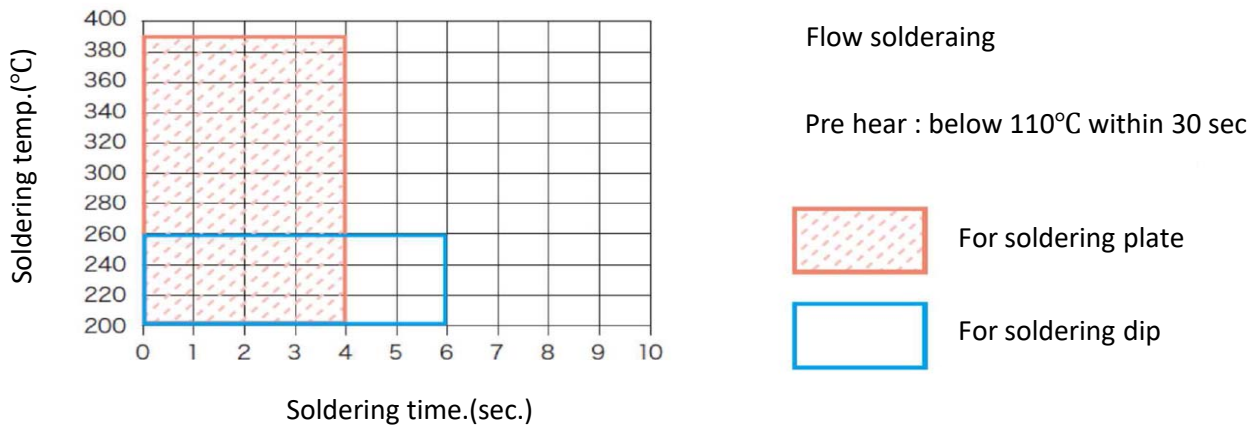
Self heat rise : Please refer below parameter in case of no wind / fan conditions

Type	Code	Self heat rise
METALLIZED POLYESTER FILM CAPACITOR	6C,6S	10K max
METALLIZED POLYPROPYLEN FILM CAPACITOR	4D,4F,4U,7E,7F,7H,7M,7U,G4	12K max
METALLIZED POLYPROPYLEN FILM CAPACITOR	7Y,7Z,Z7	10K max

- ⑦ Please contact us for further details, if mechanical resonance (hum) occurs from a capacitor.

2. Mouning

- ① Do not apply any exceeding tension or torsion to lead wires of a capacitor,during the mouning procces.
- ② Please mount a capacitor where it dose not contact any other heating parts,high voltage parts and other parts.
- ③ Please conduct soldering process by strictly following the specified conditions.



- ④ For the cleaning after the soldering,please use alcholic solvents and perform it quickly.

3. Case of an emergency

If a fuming,a flaming or an usual smell occurs from an equipment during its usage, please cut off the power supply by switching it off,pulling the plug out or other methods.

4. Storing and handling

- ① A storage needs to be kept indoors at -10 ~ 40°C and relative humidity of under 85% any sudden temperature changes,direct sunlights and corrosive gas around.

a)Guarantee period is six months after delivery with packing condition.

b)Guarantee period is three months after opening packing box.

※Delivery after six months(packing conditions),three months(after opening packing box), Please confirm solderbility before use it.

- ② Do not apply and exceeding vibration,shock(dropping)and pressure.

5. Abandon

In case of abandon capacitors,please seek for professionals who deal with the industrial wastes treatments.

6. Miscellaneous

For further details of caution for proper use, please refer to EIAJ RCR-2350 or contact Taitso.