

### Radial Lead Type

Discontinued

Series: MH Type : A

■ Features Endurance :105°C 1000 h

Country of Origin

Japan  
Malaysia  
China  
Taiwan



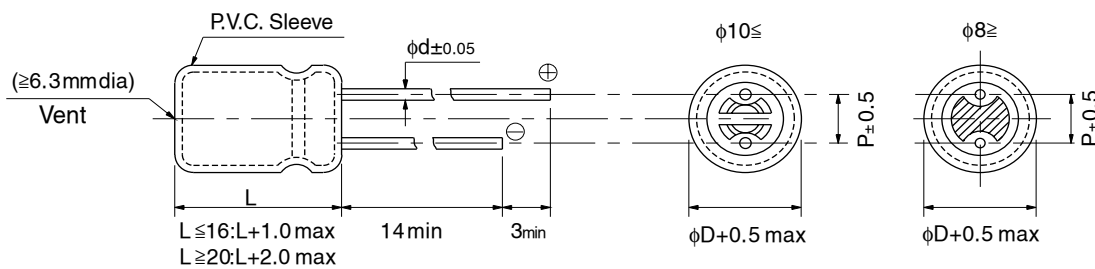
#### ■ Specifications

Category voltage	-40 to +105°C	
Rated W.V. Range	6.3 to 100 V .DC	
Nominal Cap. Range	0.1 to 22000 μ F	
Capacitance Tolerance	±20 % (120Hz/+20°C)	
DC Leakage Current	I ≤ 0.01 CV or 3(μ A) after 2 minutes application of rated working voltage at +20°C (Whichever is greater)	
Dissipation Factor	Please see the attached standard products list.	
Endurance	After applying rated working voltage for 1000 hours at +105°C and then being stabilized at +20°C, capacitor shall meet the following limits.	
	Capacitance change	± 25% of initial measured value(25W.V. ≤) ± 30% of initial measured value(16W.V. ≥)
	tan δ	≤ 200 % of initial specified value
	DC leakage current	≤ initial specified value
Shelf Life	After storage for 1000 hours at +105±2 °C with no voltage applied and the being stabilized at +20 °C, capacitors shall meet the limits specified in Endurance.(With voltage treatment)	

#### ■ Frequency correction factor for ripple current

W.V. (V.DC)	Cap. (μF)	Frequency (Hz)				
		60	120	1k	10k	100k
6.3 to 50	0.1 to 470	0.85	1	1.30	1.40	1.55
	1000 to 4700	0.95	1	1.15	1.20	1.25
	6800 to 22000	0.95	1	1.10	1.20	1.20
63 to 100	0.47 to 47	0.75	1	1.55	1.65	1.80
	100 to 330	0.75	1	1.40	1.60	1.65
	470 to 2200	0.80	1	1.30	1.35	1.40

#### ■ Dimensions in mm (not to scale)



Body Dia. φD	5	6.3	8	10	12.5	16	18
Lead Dia. φd	0.5	0.5	0.6	0.6	0.6	0.8	0.8
Lead space P	2.0	2.5	3.5	5.0	5.0	7.5	7.5

### Standard Products

Discontinued

W.V. (V)	Cap. ( $\pm 20\%$ ) ( $\mu\text{F}$ )	Case size		Specification		Lead Length				Part No.	Min. Packaging Qty	
		Dia. (mm)	Length	Ripple current (120Hz) (+105°C) (mA)	$\tan \delta$ (120Hz) (+20°C)	Lead Dia. (mm)	Lead Space				Straight Leads (pcs)	Taping (pcs)
							Straight (mm)	Taping *B (mm)	Taping *i (mm)			
6.3	220	5	11	108	0.40	0.5	2.0	5.0	2.5	ECA0JMH221( )	200	2000
	330	6.3	11.2	152	0.40	0.5	2.5	5.0	2.5	ECA0JMH331( )	200	2000
	470	6.3	11.2	158	0.40	0.5	2.5	5.0	2.5	ECA0JMH471( )	200	2000
	1000	8	11.5	294	0.35	0.6	3.5	5.0		ECA0JMH102( )	200	1000
	2200	10	16	453	0.39	0.6	5.0	5.0		ECA0JMH222( )	200	500
	3300	10	20	561	0.43	0.6	5.0	5.0		ECA0JMH332( )	200	500
	4700	12.5	20	802	0.47	0.6	5.0	5.0		ECA0JMH472( )	200	500
	6800	12.5	25	975	0.55	0.6	5.0	5.0		ECA0JMH682( )	200	500
	10000	16	25	1278	0.71	0.8	7.5	7.5		ECA0JMH103( )	100	250
	15000	16	31.5	1522	0.91	0.8	7.5			ECA0JMH153	100	
	22000	18	35.5	2026	1.19	0.8	7.5			ECA0JMH223	50	
10	220	6.3	11.2	152	0.35	0.5	2.5	5.0	2.5	ECA1AMH221( )	200	2000
	330	6.3	11.2	158	0.35	0.5	2.5	5.0	2.5	ECA1AMH331( )	200	2000
	470	8	11.5	278	0.30	0.6	3.5	5.0		ECA1AMH471( )	200	1000
	1000	10	12.5	345	0.30	0.6	5.0	5.0		ECA1AMH102( )	200	500
	2200	10	20	540	0.34	0.6	5.0	5.0		ECA1AMH222( )	200	500
	3300	12.5	20	802	0.38	0.6	5.0	5.0		ECA1AMH332( )	200	500
	4700	12.5	25	975	0.42	0.6	5.0	5.0		ECA1AMH472( )	200	500
	6800	16	25	1233	0.50	0.8	7.5	7.5		ECA1AMH682( )	100	250
	10000	16	31.5	1522	0.66	0.8	7.5			ECA1AMH103	100	
	15000	18	35.5	1947	0.86	0.8	7.5			ECA1AMH153	50	
16	100	5	11	105	0.25	0.5	2.0	5.0	2.5	ECA1CMH101( )	200	2000
	220	6.3	11.2	147	0.25	0.5	2.5	5.0	2.5	ECA1CMH221( )	200	2000
	330	8	11.5	207	0.25	0.6	3.5	5.0		ECA1CMH331( )	200	1000
	470	8	11.5	302	0.25	0.6	3.5	5.0		ECA1CMH471( )	200	1000
	1000	10	16.0	430	0.25	0.6	5.0	5.0		ECA1CMH102( )	200	500
	2200	12.5	20	706	0.27	0.6	5.0	5.0		ECA1CMH222( )	200	500
	3300	12.5	25	924	0.29	0.6	5.0	5.0		ECA1CMH332( )	200	500
	4700	16	25	1202	0.31	0.8	7.5	7.5		ECA1CMH472( )	100	250
	6800	16	31.5	1454	0.35	0.8	7.5			ECA1CMH682	100	
	10000	18	35.5	1851	0.43	0.8	7.5			ECA1CMH103	50	
25	100	6.3	11.2	135	0.20	0.5	2.5	5.0	2.5	ECA1EMH101( )	200	2000
	220	8	11.5	240	0.20	0.6	3.5	5.0		ECA1EMH221( )	200	1000
	330	8	11.5	255	0.20	0.6	3.5	5.0		ECA1EMH331( )	200	1000
	470	10	12.5	321	0.20	0.6	5.0	5.0		ECA1EMH471( )	200	500
	1000	10	20	498	0.20	0.6	5.0	5.0		ECA1EMH102( )	200	500
	2200	12.5	25	873	0.22	0.6	5.0	5.0		ECA1EMH222( )	200	500
	3300	16	25	1171	0.24	0.8	7.5	7.5		ECA1EMH332( )	100	250
	4700	16	31.5	1386	0.26	0.8	7.5			ECA1EMH472	100	
35	33	5	11	66	0.18	0.5	2.0	5.0	2.5	ECA1VMH330( )	200	2000
	47	5	11	78	0.18	0.5	2.0	5.0	2.5	ECA1VMH470( )	200	2000

When requesting taped product, please put the letter "B" or "i" between the "( )". Lead wire pitch B=5mm, 7.5mm, i=2.5mm.

The taping dimensions are explained on p.25 of our Catalog. Please use it as a reference guide.

Endurance : 105°C 1000 h

Design, and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and / or use. Should a safety concern arise regarding this product, please be sure to contact us immediately.

Mar. 2005

A  
MH

### ■ Standard Products

Discontinued

W.V. (V)	Cap. (±20%) (μF)	Case size		Specification		Lead Length				Part No.	Min. Packaging Qty	
		Dia. (mm)	Length	Ripple current (120Hz) (+105°C) (mA)	tan δ (120Hz) (+20°C)	Lead Dia. (mm)	Lead Space				Straight Leads (pcs)	Taping (pcs)
							Straight (mm)	Taping *B (mm)	Taping *i (mm)			
35	100	6.3	11.2	154	0.18	0.5	2.5	5.0	2.5	ECA1VMH101( )	200	2000
	220	8	11.5	239	0.18	0.6	3.5	5.0		ECA1VMH221( )	200	1000
	330	10	12.5	278	0.18	0.6	5.0	5.0		ECA1VMH331( )	200	500
	470	10	16	349	0.18	0.6	5.0	5.0		ECA1VMH471( )	200	500
	1000	12.5	20	586	0.18	0.6	5.0	5.0		ECA1VMH102( )	200	500
	2200	16	25	989	0.20	0.8	7.5	7.5		ECA1VMH222( )	100	250
	3300	16	31.5	1240	0.22	0.8	7.5			ECA1VMH332	100	
	4700	18	35.5	1600	0.24	0.8	7.5			ECA1VMH472	50	
50	0.1	5	11	1.3	0.16	0.5	2.0	5.0	2.5	ECA1HMH0R1( )	200	2000
	0.22	5	11	2.6	0.16	0.5	2.0	5.0	2.5	ECA1HMH0R22( )	200	2000
	0.33	5	11	4.4	0.16	0.5	2.0	5.0	2.5	ECA1HMH0R33( )	200	2000
	0.47	5	11	5	0.16	0.5	2.0	5.0	2.5	ECA1HMH0R47( )	200	2000
	1	5	11	10	0.16	0.5	2.0	5.0	2.5	ECA1HMH010( )	200	2000
	2.2	5	11	20	0.16	0.5	2.0	5.0	2.5	ECA1HMH02R2( )	200	2000
	3.3	5	11	30	0.16	0.5	2.0	5.0	2.5	ECA1HMH03R3( )	200	2000
	4.7	5	11	30	0.16	0.5	2.0	5.0	2.5	ECA1HMH04R7( )	200	2000
	10	5	11	46	0.16	0.5	2.0	5.0	2.5	ECA1HMH100( )	200	2000
	22	5	11	55	0.16	0.5	2.0	5.0	2.5	ECA1HMH220( )	200	2000
	33	5	11	66	0.16	0.5	2.0	5.0	2.5	ECA1HMH330( )	200	2000
	47	6.3	11.2	87	0.16	0.5	2.5	5.0	2.5	ECA1HMH470( )	200	2000
	100	8	11.5	169	0.16	0.6	3.5	5.0		ECA1HMH101( )	200	1000
	220	10	12.5	234	0.16	0.6	5.0	5.0		ECA1HMH221( )	200	500
	330	10	16	293	0.16	0.6	5.0	5.0		ECA1HMH331( )	200	500
	470	10	20	370	0.16	0.6	5.0	5.0		ECA1HMH471( )	200	500
1000	12.5	25	659	0.16	0.6	5.0	5.0		ECA1HMH102( )	200	500	
2200	16	31.5	1083	0.18	0.8	7.5			ECA1HMH222	100		
3300	18	35.5	1431	0.20	0.8	7.5			ECA1HMH332	50		
63	10	5	11	46	0.14	0.5	2.0	5.0	2.5	ECA1JMH100( )	200	2000
	22	5	11	55	0.14	0.5	2.0	5.0	2.5	ECA1JMH220( )	200	2000
	33	6.3	11.2	71	0.14	0.5	2.5	5.0	2.5	ECA1JMH330( )	200	2000
	47	6.3	11.2	94	0.14	0.5	2.5	5.0	2.5	ECA1JMH470( )	200	2000
	100	10	12.5	180	0.14	0.6	5.0	5.0		ECA1JMH101( )	200	500
	220	10	16	292	0.14	0.6	5.0	5.0		ECA1JMH221( )	200	500
	330	10	20	381	0.14	0.6	5.0	5.0		ECA1JMH331( )	200	500
	470	12.5	20	454	0.14	0.6	5.0	5.0		ECA1JMH471( )	200	500
	1000	16	25	707	0.14	0.8	7.5	7.5		ECA1JMH102( )	100	250
2200	18	35.5	1074	0.16	0.8	7.5			ECA1JMH222	50		
100	0.47	5	11	10	0.12	0.5	2.0	5.0	2.5	ECA2AMHR47( )	200	2000
	1	5	11	20	0.12	0.5	2.0	5.0	2.5	ECA2AMH010( )	200	2000
	2.2	5	11	30	0.12	0.5	2.0	5.0	2.5	ECA2AMH2R2( )	200	2000
	3.3	5	11	30	0.12	0.5	2.0	5.0	2.5	ECA2AMH3R3( )	200	2000
	4.7	5	11	30	0.12	0.5	2.0	5.0	2.5	ECA2AMH4R7( )	200	2000

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		Dia. (mm)	Length	Ripple current (120Hz) (+105°C) (mA)	tan δ (120Hz) (+20°C)	Lead Dia. (mm)	Lead Space				Straight Leads (pcs)	Taping (pcs)
							Straight (mm)	Taping *B (mm)	Taping *i (mm)			
100	10	5	11	46	0.12	0.5	2.0	5.0	2.5	ECA2AMH100( )	200	2000
	22	6.3	11.2	70	0.12	0.5	2.5	5.0	2.5	ECA2AMH220( )	200	2000
	33	8	11.5	90	0.12	0.6	3.5	5.0		ECA2AMH330( )	200	1000
	47	10	12.5	120	0.12	0.6	5.0	5.0		ECA2AMH470( )	200	500
	100	10	20	190	0.12	0.6	5.0	5.0		ECA2AMH101( )	200	500
	220	12.5	25	337	0.12	0.6	5.0	5.0		ECA2AMH221( )	200	500
	330	16	25	451	0.12	0.8	7.5	7.5		ECA2AMH331( )	100	250
	470	16	25	518	0.12	0.8	7.5	7.5		ECA2AMH471( )	100	250
	1000	18	35.5	735	0.12	0.8	7.5			ECA2AMH102	50	

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