

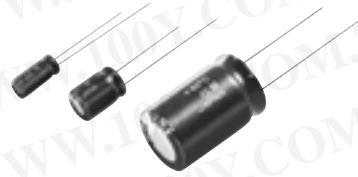
### Radial Lead Type

Series: **M** Type: **A**

#### ■ Features

- Endurance : 85 °C 2000 h
- Smaller than series SU
- RoHS directive compliant

勝特力材料 886-3-5753170  
 勝特力电子(上海) 86-21-34970699  
 勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)



#### ■ Specifications

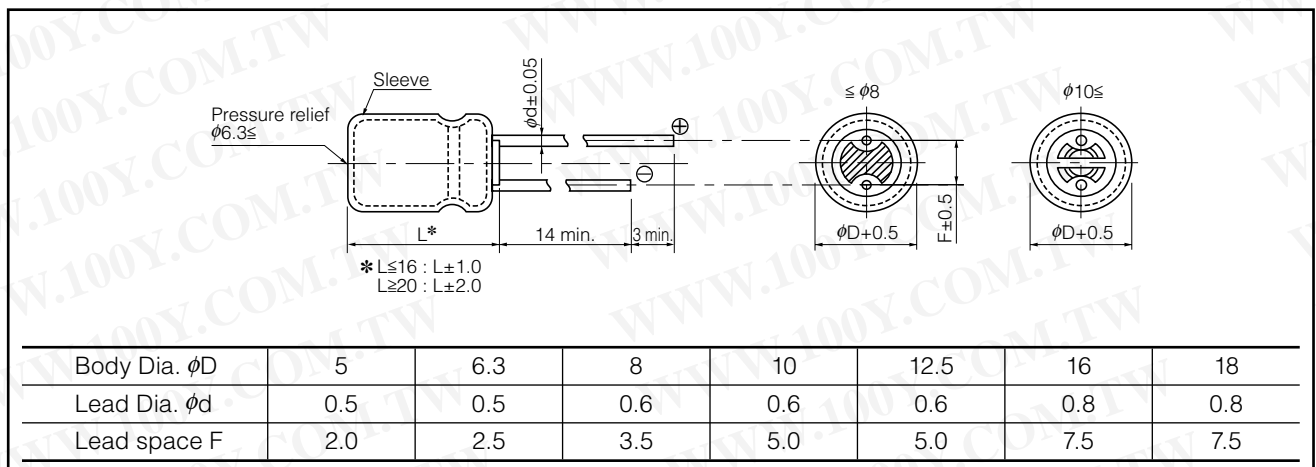
Category Temp. Range	-40 °C to +85 °C	-25 °C to +85 °C
Rated W.V. Range	6.3 V.DC to 100 V.DC	160 V.DC to 450 V.DC
Nominal Cap. Range	2.2 μF to 22000 μF	1 μF to 470 μF
Capacitance Tolerance	±20 % (120 Hz/+20 °C)	
DC Leakage Current	$I \leq 0.01 CV$ or $3 (\mu A)$ After 2 minutes (Whichever is greater)	$I \leq 0.06 CV + 10 (\mu A)$ After 2 minutes
tan δ	Please see the attached standard products list	
Endurance	After applying rated working voltage for 2000 hours at +85°C±2 °C, when the capacitors are restored to 20 °C, capacitors shall meet the following limits.	
	Capacitance change	±20 % of initial measured value
	tan δ	≤150 % of initial specified value
	DC leakage current	≤initial specified value
Shelf Life	After storage for 1000 hours at +85 °C±2 °C with no voltage applied and then being stabilized at +20 °C, capacitors shall meet the limits specified in Endurance. (With voltage treatment)	

#### ■ Frequency correction factor for ripple current

Correction factor	Frequency (Hz)			
	50, 60	120	1 k	10 k to
	0.70	1.00	1.30	1.70

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

(Unit : mm)



### Standard Products

Endurance : 85 °C 2000 h

W.V. (V)	Cap. (±20 %) (μF)	Case size		Specification		Lead Length				Part No.	Min. Packaging Q'ty	
		Dia. (mm)	Length (mm)	Ripple Current (120 Hz) (+85 °C) (mA r.m.s.)	tan δ (120 Hz) (+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	240	0.28	0.5	2.0	5.0	2.5	ECA0JM221( )	200	2000
	470	6.3	11.2	380	0.28	0.5	2.5	5.0	2.5	ECA0JM471( )	200	2000
	1000	8	11.5	580	0.28	0.6	3.5	5.0		ECA0JM102( )	200	1000
	2200	10	16	890	0.30	0.6	5.0	5.0		ECA0JM222( )	200	500
	3300	10	20	1020	0.32	0.6	5.0	5.0		ECA0JM332( )	200	500
	4700	12.5	20	1170	0.34	0.6	5.0	5.0		ECA0JM472( )	200	500
	6800	12.5	25	1270	0.38	0.6	5.0	5.0		ECA0JM682( )	200	500
	10000	16	25	1450	0.46	0.8	7.5	7.5		ECA0JM103( )	100	250
	15000	16	31.5	1700	0.56	0.8	7.5			ECA0JM153	100	
10	330	6.3	11.2	330	0.24	0.5	2.5	5.0	2.5	ECA1AM331( )	200	2000
	1000	10	12.5	630	0.24	0.6	5.0	5.0		ECA1AM102( )	200	500
	2200	10	20	920	0.26	0.6	5.0	5.0		ECA1AM222( )	200	500
	3300	12.5	20	1090	0.28	0.6	5.0	5.0		ECA1AM332( )	200	500
	4700	12.5	25	1200	0.30	0.6	5.0	5.0		ECA1AM472( )	200	500
	6800	16	25	1400	0.34	0.8	7.5	7.5		ECA1AM682( )	100	250
	10000	16	31.5	1600	0.42	0.8	7.5			ECA1AM103	100	
	15000	18	35.5	1850	0.52	0.8	7.5			ECA1AM153	50	
16	10	5	11	30	0.20	0.5	2.0	5.0	2.5	ECA1CM100( )	200	2000
	22	5	11	75	0.20	0.5	2.0	5.0	2.5	ECA1CM220( )	200	2000
	33	5	11	110	0.20	0.5	2.0	5.0	2.5	ECA1CM330( )	200	2000
	47	5	11	130	0.20	0.5	2.0	5.0	2.5	ECA1CM470( )	200	2000
	100	5	11	180	0.20	0.5	2.0	5.0	2.5	ECA1CM101( )	200	2000
	220	6.3	11.2	280	0.20	0.5	2.5	5.0	2.5	ECA1CM221( )	200	2000
	470	8	11.5	440	0.20	0.6	3.5	5.0		ECA1CM471( )	200	1000
	1000	10	16	680	0.20	0.6	5.0	5.0		ECA1CM102( )	200	500
	2200	12.5	20	1000	0.22	0.6	5.0	5.0		ECA1CM222( )	200	500
	3300	12.5	25	1200	0.24	0.6	5.0	5.0		ECA1CM332( )	200	500
	4700	16	25	1360	0.26	0.8	7.5	7.5		ECA1CM472( )	100	250
	6800	16	31.5	1600	0.30	0.8	7.5			ECA1CM682	100	
25	100	6.3	11.2	180	0.16	0.5	2.5	5.0	2.5	ECA1EM101( )	200	2000
	330	8	11.5	390	0.16	0.6	3.5	5.0		ECA1EM331( )	200	1000
	470	10	12.5	480	0.16	0.6	5.0	5.0		ECA1EM471( )	200	500
	1000	10	20	850	0.16	0.6	5.0	5.0		ECA1EM102( )	200	500
	2200	12.5	25	1200	0.18	0.6	5.0	5.0		ECA1EM222( )	200	500
	3300	16	25	1300	0.20	0.8	7.5	7.5		ECA1EM332( )	100	250
	4700	16	31.5	1500	0.22	0.8	7.5			ECA1EM472	100	
	6800	18	35.5	1750	0.26	0.8	7.5			ECA1EM682	50	
35	47	5	11	130	0.14	0.5	2.0	5.0	2.5	ECA1VM470( )	200	2000
	100	6.3	11.2	210	0.14	0.5	2.5	5.0	2.5	ECA1VM101( )	200	2000
	220	8	11.5	350	0.14	0.6	3.5	5.0		ECA1VM221( )	200	1000

· When requesting taped product, please put the letter "B" or "i" between the "( )". Lead wire pitch \*B=5 mm, 7.5 mm, i=2.5 mm.  
· Please refer to the page of "Taping Dimensions".

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.

02 May, 2014

### Standard Products

Endurance : 85 °C 2000 h

W.V. (V)	Cap. (±20 %) (µF)	Case size		Specification		Lead Length			Part No.	Min. Packaging Q'ty		
		Dia. (mm)	Length (mm)	Ripple Current (120 Hz) (+85 °C) (mA r.m.s.)	tan δ (120 Hz) (+20 °C)	Lead Dia. (mm)	Lead Space			Straight Leads (pcs)	Taping (pcs)	
							Straight (mm)	Taping *B (mm)				Taping *i (mm)
35	330	10	12.5	440	0.14	0.6	5.0	5.0		ECA1VM331( )	200	500
	470	10	16	550	0.14	0.6	5.0	5.0		ECA1VM471( )	200	500
	1000	12.5	20	900	0.14	0.6	5.0	5.0		ECA1VM102( )	200	500
	2200	16	25	1250	0.16	0.8	7.5	7.5		ECA1VM222( )	100	250
	3300	16	31.5	1400	0.18	0.8	7.5			ECA1VM332	100	
	4700	18	35.5	1600	0.20	0.8	7.5			ECA1VM472	50	
50	0.1	5	11	1.3	0.12	0.5	2.0	5.0	2.5	ECA1HM0R1( )***	200	2000
	0.22	5	11	2.9	0.12	0.5	2.0	5.0	2.5	ECA1HMR22( )***	200	2000
	0.33	5	11	4.4	0.12	0.5	2.0	5.0	2.5	ECA1HMR33( )***	200	2000
	0.47	5	11	5	0.12	0.5	2.0	5.0	2.5	ECA1HMR47( )***	200	2000
	1	5	11	10	0.12	0.5	2.0	5.0	2.5	ECA1HM010( )***	200	2000
	2.2	5	11	20	0.12	0.5	2.0	5.0	2.5	ECA1HM2R2( )	200	2000
	3.3	5	11	35	0.12	0.5	2.0	5.0	2.5	ECA1HM3R3( )	200	2000
	4.7	5	11	45	0.12	0.5	2.0	5.0	2.5	ECA1HM4R7( )	200	2000
	10	5	11	65	0.12	0.5	2.0	5.0	2.5	ECA1HM100( )	200	2000
	22	5	11	100	0.12	0.5	2.0	5.0	2.5	ECA1HM220( )	200	2000
	33	5	11	110	0.12	0.5	2.0	5.0	2.5	ECA1HM330( )	200	2000
	47	6.3	11.2	130	0.12	0.5	2.5	5.0	2.5	ECA1HM470( )	200	2000
	100	8	11.5	250	0.12	0.6	3.5	5.0		ECA1HM101( )	200	1000
	220	10	12.5	400	0.12	0.6	5.0	5.0		ECA1HM221( )	200	500
	330	10	16	500	0.12	0.6	5.0	5.0		ECA1HM331( )	200	500
	470	10	20	650	0.12	0.6	5.0	5.0		ECA1HM471( )	200	500
1000	12.5	25	1050	0.12	0.6	5.0	5.0		ECA1HM102( )	200	500	
2200	16	31.5	1300	0.14	0.8	7.5			ECA1HM222	100		
3300	18	35.5	1500	0.16	0.8	7.5			ECA1HM332	50		
63	10	5	11	70	0.11	0.5	2.0	5.0	2.5	ECA1JM100( )	200	2000
	22	5	11	105	0.11	0.5	2.0	5.0	2.5	ECA1JM220( )	200	2000
	33	6.3	11.2	130	0.11	0.5	2.5	5.0	2.5	ECA1JM330( )	200	2000
	47	6.3	11.2	160	0.11	0.5	2.5	5.0	2.5	ECA1JM470( )	200	2000
	100	8	11.5	270	0.11	0.6	3.5	5.0		ECA1JM101( )	200	1000
	220	10	16	450	0.11	0.6	5.0	5.0		ECA1JM221( )	200	500
	330	10	20	550	0.11	0.6	5.0	5.0		ECA1JM331( )	200	500
	470	12.5	20	750	0.11	0.6	5.0	5.0		ECA1JM471( )	200	500
	1000	16	25	1100	0.11	0.8	7.5	7.5		ECA1JM102( )	100	250
	2200	18	35.5	1400	0.13	0.8	7.5			ECA1JM222	50	
100	0.47	5	11	10	0.10	0.5	2.0	5.0	2.5	ECA2AMR47( )***	200	2000
	1	5	11	20	0.10	0.5	2.0	5.0	2.5	ECA2AM010( )***	200	2000
	2.2	5	11	30	0.10	0.5	2.0	5.0	2.5	ECA2AM2R2( )	200	2000
	3.3	5	11	40	0.10	0.5	2.0	5.0	2.5	ECA2AM3R3( )	200	2000
	4.7	5	11	50	0.10	0.5	2.0	5.0	2.5	ECA2AM4R7( )	200	2000
	10	5	11	70	0.10	0.5	2.0	5.0	2.5	ECA2AM100( )	200	2000
	22	6.3	11.2	115	0.10	0.5	2.5	5.0	2.5	ECA2AM220( )	200	2000

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

· Please refer to the page of "Taping Dimensions".

\*\*\* Please kindly accept last shipment : 31/Mar/2015

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02 May, 2014

### Standard Products

Endurance : 85 °C 2000 h

W.V. (V)	Cap. (±20 %) (μF)	Case size		Specification		Lead Length				Part No.	Min. Packaging Q'ty	
		Dia. (mm)	Length (mm)	Ripple Current (120 Hz) (+85 °C) (mA r.m.s.)	tan δ (120 Hz) (+20 °C)	Lead Dia. (mm)	Lead Space				Straight Leads (pcs)	Taping (pcs)
							Straight (mm)	Taping *B (mm)	Taping *i (mm)			
100	33	8	11.5	145	0.10	0.6	3.5	5.0		ECA2AM330( )	200	1000
	47	8	11.5	180	0.10	0.6	3.5	5.0		ECA2AM470( )	200	1000
	100	10	16	350	0.10	0.6	5.0	5.0		ECA2AM101( )	200	500
	220	12.5	20	550	0.10	0.6	5.0	5.0		ECA2AM221( )	200	500
	330	12.5	25	700	0.10	0.6	5.0	5.0		ECA2AM331( )	200	500
	470	16	25	900	0.10	0.8	7.5	7.5		ECA2AM471( )	100	250
	1000	18	35.5	1300	0.10	0.8	7.5			ECA2AM102	50	
160	1	6.3	11.2	36	0.16	0.5	2.5	5.0	2.5	ECA2CM010( )	200	2000
	2.2	6.3	11.2	53	0.16	0.5	2.5	5.0	2.5	ECA2CM2R2( )	200	2000
	3.3	6.3	11.2	66	0.16	0.5	2.5	5.0	2.5	ECA2CM3R3( )	200	2000
	4.7	6.3	11.2	78	0.16	0.5	2.5	5.0	2.5	ECA2CM4R7( )	200	2000
	10	10	12.5	105	0.16	0.6	5.0	5.0		ECA2CM100( )	200	500
	22	10	16	175	0.16	0.6	5.0	5.0		ECA2CM220( )	200	500
	33	10	20	235	0.16	0.6	5.0	5.0		ECA2CM330( )	200	500
	47	12.5	20	320	0.16	0.6	5.0	5.0		ECA2CM470( )	200	500
	100	12.5	25	515	0.16	0.6	5.0	5.0		ECA2CM101( )	200	500
	220	16	31.5	830	0.16	0.8	7.5			ECA2CM221	100	
	330	18	31.5	1090	0.16	0.8	7.5			ECA2CM331	50	
200	1	6.3	11.2	34	0.18	0.5	2.5	5.0	2.5	ECA2DM010( )	200	2000
	2.2	6.3	11.2	50	0.18	0.5	2.5	5.0	2.5	ECA2DM2R2( )	200	2000
	3.3	6.3	11.2	62	0.18	0.5	2.5	5.0	2.5	ECA2DM3R3( )	200	2000
	4.7	8	11.5	86	0.18	0.6	3.5	5.0		ECA2DM4R7( )	200	1000
	10	10	12.5	100	0.18	0.6	5.0	5.0		ECA2DM100( )	200	500
	22	10	20	180	0.18	0.6	5.0	5.0		ECA2DM220( )	200	500
	33	10	20	220	0.18	0.6	5.0	5.0		ECA2DM330( )	200	500
	47	12.5	20	300	0.18	0.6	5.0	5.0		ECA2DM470( )	200	500
	100	16	25	475	0.18	0.8	7.5	7.5		ECA2DM101( )	100	250
	220	18	31.5	835	0.18	0.8	7.5			ECA2DM221	50	
250	1	6.3	11.2	34	0.18	0.5	2.5	5.0	2.5	ECA2EM010( )	200	2000
	2.2	6.3	11.2	50	0.18	0.5	2.5	5.0	2.5	ECA2EM2R2( )	200	2000
	3.3	8	11.5	72	0.18	0.6	3.5	5.0		ECA2EM3R3( )	200	1000
	4.7	8	11.5	86	0.18	0.6	3.5	5.0		ECA2EM4R7( )	200	1000
	10	10	16	110	0.18	0.6	5.0	5.0		ECA2EM100( )	200	500
	22	10	20	180	0.18	0.6	5.0	5.0		ECA2EM220( )	200	500
	33	12.5	20	250	0.18	0.6	5.0	5.0		ECA2EM330( )	200	500
	47	12.5	25	330	0.18	0.6	5.0	5.0		ECA2EM470( )	200	500
	100	16	31.5	530	0.18	0.8	7.5			ECA2EM101	100	
	220	18	40	930	0.18	0.8	7.5			ECA2EM221	50	
350	1	6.3	11.2	32	0.20	0.5	2.5	5.0	2.5	ECA2VM010( )	200	2000
	2.2	8	11.5	55	0.20	0.6	3.5	5.0		ECA2VM2R2( )	200	1000

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 · Please refer to the page of "Taping Dimensions".

### Standard Products

Endurance : 85 °C 2000 h

W.V. (V)	Cap. (±20 %) (μF)	Case size		Specification		Lead Length			Part No.	Min. Packaging Q'ty		
		Dia. (mm)	Length (mm)	Ripple Current (120 Hz) (+85 °C) (mA r.m.s.)	tan δ (120 Hz) (+20 °C)	Lead Dia. (mm)	Lead Space			Straight Leads (pcs)	Taping (pcs)	
							Straight (mm)	Taping *B (mm)				Taping *i (mm)
350	3.3	8	11.5	60	0.20	0.6	3.5	5.0		ECA2VM3R3( )	200	1000
	4.7	10	12.5	65	0.20	0.6	5.0	5.0		ECA2VM4R7( )	200	500
	10	10	20	115	0.20	0.6	5.0	5.0		ECA2VM100( )	200	500
	22	12.5	20	195	0.20	0.6	5.0	5.0		ECA2VM220( )	200	500
	33	16	25	300	0.20	0.8	7.5	7.5		ECA2VM330( )	100	250
	47	16	25	325	0.20	0.8	7.5	7.5		ECA2VM470( )	100	250
	100	18	31.5	535	0.20	0.8	7.5			ECA2VM101	50	
400	1	6.3	11.2	32	0.20	0.5	2.5	5.0	2.5	ECA2GM010( )	200	2000
	2.2	8	11.5	50	0.20	0.6	3.5	5.0		ECA2GM2R2( )	200	1000
	3.3	10	12.5	54	0.20	0.6	5.0	5.0		ECA2GM3R3( )	200	500
	4.7	10	16	72	0.20	0.6	5.0	5.0		ECA2GM4R7( )	200	500
	10	10	20	115	0.20	0.6	5.0	5.0		ECA2GM100( )	200	500
	22	12.5	25	215	0.20	0.6	5.0	5.0		ECA2GM220( )	200	500
	33	16	25	275	0.20	0.8	7.5	7.5		ECA2GM330( )	100	250
	47	16	31.5	350	0.20	0.8	7.5			ECA2GM470	100	
450	1	8	11.5	37	0.20	0.6	3.5	5.0		ECA2WM010( )	200	1000
	2.2	10	12.5	44	0.20	0.6	5.0	5.0		ECA2WM2R2( )	200	500
	3.3	10	16	60	0.20	0.6	5.0	5.0		ECA2WM3R3( )	200	500
	4.7	10	20	79	0.20	0.6	5.0	5.0		ECA2WM4R7( )	200	500
	10	12.5	20	130	0.20	0.6	5.0	5.0		ECA2WM100( )	200	500
	22	16	25	210	0.20	0.8	7.5	7.5		ECA2WM220( )	100	250
	33	16	31.5	285	0.20	0.8	7.5			ECA2WM330	100	

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