

MCA series

Standard High ripple RoHS Compliant

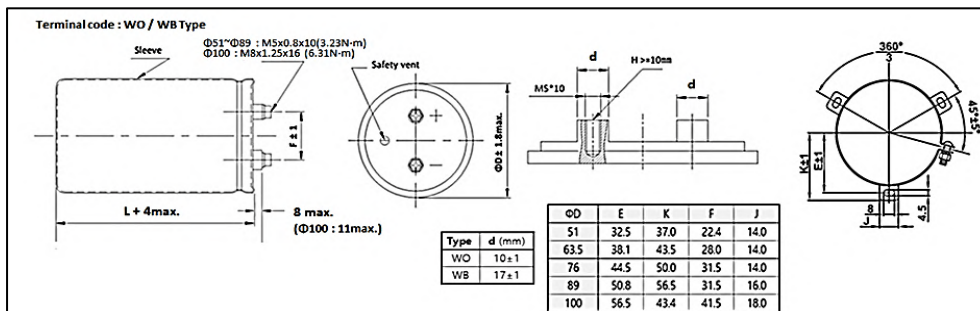


- 85°C 2,000Hrs assured.
- High ripple
- RoHS compliant
- Halogen-free capacitors are also available.

Specifications

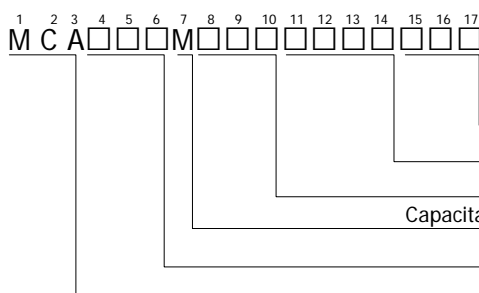
Item	Characteristics	
Rated Voltage Range	10 ~ 100 Vdc	160 ~ 500 Vdc
Operating Temperature Range	-40 ~ +85°C	-25 ~ +85°C
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)	
Leakage Current	After 5 minutes application of rated voltage, leakage current not more than $I=0.02CV$ or 5mA whichever is smaller Where, I:Max. Leakage current(µA), C:Nominal capacitance(µF), V:Rated voltage(Vdc) (at 20°C, 5min)	
Dissipation Factor(Tanδ)	The dissipation factor (Tanδ) shall not exceed the values shown in the ratings. (at 20°C, 120Hz)	
Temperature characteristics (Max,impedance ratio)	Rated voltage (Vdc)	10 ~ 100 160 ~ 500
	Z(-25°C)/Z(20°C)	- 8
	Z(-40°C)/Z(20°C)	12 -
(at 120Hz)		
Load life	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for specified life times at 85°C 2,000hrs. Capacitance change ≤±20% of the initial value Tan δ ≤200% of the initial specified value Leakage current ≤The initial specified value	
Shelf life	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 85°C without voltage applied. The rated voltage shall be applied to the capacitors for a minimum of 30 minutes at least 24 hours and not more than 48 hours before the measurements. Capacitance change ≤±20% of the initial value Tanδ ≤200% of the initial specified value Leakage current ≤The initial specified value	

Dimensions



- Printed white color letter on black sleeve

Code numbering system



Terminal type
Size (76x100: TA0) see to p19
Capacitance
Capacitance tolerance(M: ±20%, K: ±10%, V : -10~20%)
Working voltage(ex. 160V→160)
Series name

∅35	P
∅51	R
∅63.5	S
∅76	T
∅89	U
∅100	V



MCA series

Standard Ratings

Note1) Ripple current = Arms/85°C, 120Hz

WV (Vdc)	Cap (µF)	Size ØxL(mm)	Tanδ	Ripple ¹⁾	Code No	WV (Vdc)	Cap (µF)	Size ØxL(mm)	Tanδ	Ripple ¹⁾	Code No	
10	47,000	35 x 80	0.60	6.0	MCA010□473P80WOR	80	220,000	90 x 170	0.60	38.3	MCA063□224UH0WOR	
	68,000	35 x 80	0.60	7.2	MCA010□683P80WOR		330,000	90 x 220	0.60	41.2	MCA063□334UM0WOR	
	100,000	35 x 100	0.60	8.8	MCA010□104PA0WOR		470,000	100 x 250	0.60	43.6	MCA063□474VP0WOR	
	150,000	51 x 80	0.90	10.7	MCA010□154R80WOR		100	10,000	35 x 80	0.20	8.2	MCA080□103P80WOR
	220,000	51 x 100	0.90	13.0	MCA010□224RA0WOR			15,000	35 x 120	0.20	12.0	MCA080□153PC0WOR
	330,000	63.5 x 100	0.90	15.9	MCA010□334SA0WOR			22,000	51 x 80	0.20	12.5	MCA080□223R80WOR
	470,000	63.5 x 120	1.20	19.0	MCA010□474SC0WOR			33,000	51 x 120	0.20	17.0	MCA080□333RC0WOR
	680,000	76 x 120	1.60	22.8	MCA010□684TC0WOR			47,000	63.5 x 100	0.25	18.7	MCA080□473SA0WOR
	1,000,000	90 x 170	2.00	27.7	MCA010□105UH0WOR			68,000	63.5 x 140	0.30	25.5	MCA080□683SE0WOR
	1,500,000	90 x 220	2.00	33.9	MCA010□155UM0WOR			100,000	76 x 140	0.35	31.3	MCA080□104TE0WOR
2,200,000	100 x 250	2.40	41.1	MCA010□225VP0WOR	150,000	90 x 170		0.40	36.5	MCA080□154UH0WOR		
16	47,000	35 x 80	0.70	9.9	MCA016□473P80WOR	220,000		90 x 220	0.40	38.9	MCA080□224UM0WOR	
	68,000	35 x 100	0.70	12.9	MCA016□683PA0WOR	330,000		100 x 250	0.40	39.8	MCA080□334VP0WOR	
	100,000	50 x 80	1.00	13.8	MCA016□104PC0WOR	160	4,700	35 x 80	0.12	5.8	MCA100□472P80WOR	
	150,000	51 x 100	1.00	18.5	MCA016□154RA0WOR		6,800	35 x 100	0.12	7.5	MCA100□682PA0WOR	
	220,000	51 x 120	1.00	25.5	MCA016□224RC0WOR		10,000	35 x 120	0.15	10.3	MCA100□103PC0WOR	
	330,000	63.5 x 120	1.00	28.0	MCA016□334SC0WOR		15,000	51 x 80	0.15	11.9	MCA100□153R80WOR	
	470,000	76 x 120	1.10	30.0	MCA016□474TC0WOR		22,000	51 x 100	0.15	16.8	MCA100□223RA0WOR	
	680,000	76 x 170	1.50	37.0	MCA016□684TH0WOR		33,000	51 x 140	0.15	23.0	MCA100□333RE0WOR	
	1,000,000	90 x 220	1.50	38.0	MCA016□105UM0WOR		47,000	63.5 x 140	0.20	26.4	MCA100□473SE0WOR	
	1,500,000	100 x 250	1.50	39.0	MCA016□155VP0WOR		68,000	76 x 140	0.30	29.1	MCA100□683TE0WOR	
25	33,000	35 x 80	0.35	10.5	MCA025□333P80WOR		100,000	90 x 170	0.30	32.0	MCA100□104UH0WOR	
	47,000	35 x 100	0.35	13.8	MCA025□473PA0WOR		150,000	90 x 220	0.30	35.0	MCA100□154UM0WOR	
	68,000	35 x 120	0.40	14.7	MCA025□683PC0WOR	220,000	100 x 250	0.30	38.0	MCA100□224VP0WOR		
	100,000	51 x 100	0.45	19.5	MCA025□104RA0WOR	200	2,200	35 x 80	0.15	5.1	MCA160□222P80WOR	
	150,000	51 x 120	0.50	25.0	MCA025□154RC0WOR		3,300	35 x 120	0.15	6.5	MCA160□332PC0WOR	
	220,000	63.5 x 120	0.65	28.9	MCA025□224SC0WOR		4,700	51 x 80	0.15	8.0	MCA160□472R80WOR	
	330,000	76 x 120	0.75	29.5	MCA025□334TC0WOR		6,800	51 x 100	0.15	10.4	MCA160□682RA0WOR	
	470,000	90 x 170	1.00	32.5	MCA025□474UH0WOR		10,000	63.5 x 100	0.20	16.0	MCA160□103SA0WOR	
	680,000	90 x 220	1.00	34.3	MCA025□684UM0WOR		15,000	76 x 100	0.20	18.0	MCA160□153TA0WOR	
	1,000,000	100 x 250	1.00	38.4	MCA025□105VP0WOR		22,000	76 x 140	0.20	18.5	MCA160□223TE0WOR	
35	33,000	35 x 80	0.30	9.2	MCA035□333P80WOR		33,000	90 x 140	0.25	19.5	MCA160□333UE0WOR	
	47,000	35 x 120	0.30	14.8	MCA035□473PC0WOR		47,000	90 x 170	0.25	22.5	MCA160□473UH0WOR	
	68,000	51 x 80	0.35	16.3	MCA035□683R80WOR		68,000	90 x 220	0.25	23.0	MCA160□683UM0WOR	
	100,000	51 x 120	0.40	21.6	MCA035□104RC0WOR	100,000	100 x 250	0.25	24.0	MCA160□104VP0WOR		
	150,000	63.5 x 100	0.50	14.5	MCA035□154SA0WOR	250	1,500	35 x 70	0.15	3.9	MCA200□152P70WOR	
	220,000	76 x 100	0.65	25.8	MCA035□224TA0WOR		2,200	35 x 100	0.15	5.5	MCA200□222PA0WOR	
	330,000	76 x 120	0.75	28.8	MCA035□334TC0WOR		3,300	51 x 70	0.15	7.8	MCA200□332R70WOR	
	470,000	76 x 170	0.90	39.6	MCA035□474TH0WOR		4,700	51 x 90	0.15	8.3	MCA200□472R90WOR	
	680,000	90 x 220	0.90	40.2	MCA035□684UM0WOR		6,800	51 x 100	0.15	10.1	MCA200□682RA0WOR	
	1,000,000	100 x 250	0.90	41.5	MCA035□105VP0WOR		10,000	63.5 x 100	0.20	12.6	MCA200□103SA0WOR	
50	15,000	35 x 80	0.25	9.3	MCA050□153P80WOR		15,000	76 x 120	0.20	14.0	MCA200□153TC0WOR	
	22,000	35 x 100	0.25	11.5	MCA050□223PA0WOR		22,000	76 x 160	0.25	19.5	MCA200□223TG0WOR	
	33,000	51 x 70	0.25	14.0	MCA050□333R70WOR		33,000	90 x 170	0.25	21.5	MCA200□333UH0WOR	
	47,000	51 x 90	0.25	14.6	MCA050□473R90WOR		47,000	90 x 220	0.25	23.5	MCA200□473UM0WOR	
	68,000	51 x 100	0.25	18.0	MCA050□683RA0WOR	68,000	100 x 250	0.25	25.5	MCA200□683VP0WOR		
	100,000	63.5 x 100	0.35	24.2	MCA050□104SA0WOR	63	1,000	35 x 70	0.15	2.9	MCA250□102P80WOR	
	150,000	76 x 120	0.55	28.6	MCA050□154TC0WOR		1,500	35 x 80	0.15	3.8	MCA250□152P80WOR	
	220,000	76 x 160	0.75	36.3	MCA050□224TG0WOR		2,200	51 x 80	0.15	6.0	MCA250□222R80WOR	
	330,000	90 x 170	0.75	38.0	MCA050□334UH0WOR		3,300	51 x 100	0.15	7.2	MCA250□332RA0WOR	
	470,000	90 x 220	0.75	39.0	MCA050□474UM0WOR		4,700	63.5 x 100	0.20	10.1	MCA250□472SA0WOR	
680,000	100 x 250	0.75	41.0	MCA050□684VP0WOR	6,800		63.5 x 120	0.20	10.7	MCA250□682SC0WOR		
63	10,000	35 x 80	0.25	7.0	MCA063□103P80WOR		10,000	76 x 120	0.20	11.5	MCA250□103TC0WOR	
	15,000	35 x 100	0.25	9.5	MCA063□153PA0WOR		15,000	76 x 160	0.25	16.0	MCA250□153TG0WOR	
	22,000	35 x 120	0.25	14.1	MCA063□223PC0WOR		22,000	90 x 170	0.25	18.5	MCA250□223UH0WOR	
	33,000	51 x 80	0.25	13.8	MCA063□333R80WOR		33,000	90 x 220	0.25	20.5	MCA250□333UM0WOR	
	47,000	51 x 120	0.25	18.7	MCA063□473RC0WOR	47,000	100 x 250	0.25	22.0	MCA250□473VP0WOR		
	68,000	63.5 x 100	0.30	21.0	MCA063□683SA0WOR							
	100,000	63.5 x 140	0.30	23.8	MCA063□104SE0WOR							
150,000	76 x 140	0.50	34.0	MCA063□154TE0WOR								



MCA series

Standard Ratings

Note1) Ripple current = Arms/85°C, 120Hz

VV (Vdc)	Cap (µF)	Size ØxL (mm)	Tan δ	Ripple ¹⁾	Code No
350	1,000	51 x 60	0.20	4.8	MCA350□102R60WOR
	1,200	51 x 70	0.20	5.5	MCA350□112R70WOR
	1,500	51 x 80	0.20	6.5	MCA350□152R80WOR
	1,800	51 x 90	0.20	7.3	MCA350□182R90WOR
	2,200	51 x 100	0.20	8.4	MCA350□222RA0WOR
	2,700	51 x 100	0.20	9.5	MCA350□272RA0WOR
		63.5 x 85	0.20	9.9	MCA350□272S85WOR
	3,300	63.5 x 95	0.20	10.8	MCA350□332S95WOR
	3,900	63.5 x 100	0.20	12.8	MCA350□392SA0WOR
		76 x 85	0.20	13.2	MCA350□392T85WOR
	4,700	63.5 x 115	0.20	13.8	MCA350□472S85WOR
		76 x 90	0.20	14.5	MCA350□472T90WOR
	5,600	63.5 x 130	0.20	17.5	MCA350□562SD0WOR
		76 x 100	0.20	16.9	MCA350□562TA0WOR
	6,800	63.5 x 155	0.20	19.8	MCA350□682SF5WOR
		76 x 115	0.20	19.4	MCA350□682TB5WOR
	8,200	63.5 x 190	0.20	22.8	MCA350□822SJ0WOR
		76 x 130	0.20	21.3	MCA350□822TD0WOR
		90 x 120	0.20	24.3	MCA350□822UC0WOR
	10,000	76 x 155	0.20	25.2	MCA350□103TF5WOR
90 x 140		0.20	26.4	MCA350□103UE0WOR	
12,000	90 x 150	0.20	28.5	MCA350□123UF0WOR	
400	1,000	51 x 65	0.20	5.2	MCA400□102R65WOR
	1,200	51 x 75	0.20	5.9	MCA400□122R75WOR
	1,500	51 x 90	0.20	7.0	MCA400□152R90WOR
	1,800	51 x 95	0.20	7.5	MCA400□182R95WOR
	2,200	51 x 105	0.20	8.9	MCA400□222RA5WOR
		63.5 x 85	0.20	9.2	MCA400□222S85WOR
	2,700	51 x 115	0.20	11.0	MCA400□272RB5WOR
		63.5 x 90	0.20	11.6	MCA400□272S90WOR
	3,300	76 x 75	0.20	11.5	MCA400□272T75WOR
		63.5 x 95	0.20	12.8	MCA400□332S95WOR
	3,900	76 x 90	0.20	12.9	MCA400□332T90WOR
		63.5 x 115	0.20	13.8	MCA400□392S85WOR
	4,700	76 x 95	0.20	14.0	MCA400□392T95WOR
		63.5 x 130	0.20	14.9	MCA400□472SD0WOR
	5,600	76 x 110	0.20	15.2	MCA400□472TA0WOR
		63.5 x 155	0.20	17.2	MCA400□562S1F5WOR
	6,800	76 x 115	0.20	16.8	MCA400□562TB5WOR
		63.5 x 190	0.20	20.7	MCA400□682SJ0WOR
	8,200	76 x 130	0.20	19.5	MCA400□682TD0WOR
		90 x 120	0.20	20.8	MCA400□682UC0WOR
10,000	76 x 155	0.20	22.8	MCA400□822TF5WOR	
	90 x 120	0.20	23.4	MCA400□822UC0WOR	
12,000	76 x 170	0.20	26.5	MCA400□103TH0WOR	
	90 x 130	0.20	24.3	MCA400□103UD0WOR	
15,000	90 x 155	0.20	28.9	MCA400□123UF5WOR	
18,000	90 x 190	0.20	35.2	MCA400□153UJ0WOR	
450	1,000	51 x 75	0.20	5.5	MCA450□102R75WOR
	1,200	51 x 85	0.20	6.5	MCA450□122R85WOR
	1,500	51 x 95	0.20	6.8	MCA450□152R95WOR
	1,800	51 x 105	0.20	7.8	MCA450□182RA5WOR
		63.5 x 85	0.20	7.9	MCA450□182S85WOR
	2,200	63.5 x 90	0.20	9.5	MCA450□222S90WOR
		76 x 85	0.20	9.8	MCA450□222T85WOR
	2,700	63.5 x 95	0.20	10.8	MCA450□272S95WOR
		76 x 90	0.20	11.5	MCA450□272T90WOR
	3,300	63.5 x 115	0.20	12.5	MCA450□332S85WOR
	76 x 100	0.20	13.2	MCA450□332TA0WOR	

VV (Vdc)	Cap (µF)	Size ØxL (mm)	Tan δ	Ripple ¹⁾	Code No
450	3,900	76 x 110	0.20	14.5	MCA450□392TB0WOR
	4,700	63.5 x 155	0.20	15.8	MCA450□472SF5WOR
		76 x 115	0.20	15.5	MCA450□472TB5WOR
	5,600	63.5 x 190	0.20	18.8	MCA450□562SJ0WOR
		90 x 120	0.20	18.6	MCA450□562UC0WOR
	6,800	76 x 155	0.20	21.3	MCA450□682TF5WOR
		90 x 125	0.20	20.5	MCA450□682UC5WOR
	8,200	76 x 190	0.20	19.6	MCA450□822TJ0WOR
	12,000	90 x 190	0.20	30.0	MCA450□123UJ0WOR
	15,000	90 x 235	0.20	35.8	MCA450□153UN5WOR
500	1,000	51 x 100	0.20	4.5	MCA500□102RA0WOR
		63.5 x 80	0.20	4.6	MCA500□102S80WOR
	1,200	51 x 115	0.20	6.5	MCA500□122RB5WOR
		63.5 x 85	0.20	6.6	MCA500□122S85WOR
	1,500	51 x 130	0.20	7.5	MCA500□152RD0WOR
		63.5 x 90	0.20	7.6	MCA500□152S90WOR
	1,800	63.5 x 105	0.20	8.7	MCA500□182SA5WOR
	2,200	63.5 x 120	0.20	9.8	MCA500□222SC0WOR
	2,700	76 x 110	0.20	11.0	MCA500□272TB0WOR
	3,300	76 x 115	0.20	12.5	MCA500□332TB5WOR
	3,900	76 x 150	0.20	14.8	MCA500□392TF0WOR
		90 x 120	0.20	14.9	MCA500□392UC0WOR
	4,700	76 x 170	0.20	16.8	MCA500□472TH0WOR
		90 x 130	0.20	16.2	MCA500□472UD0WOR
	5,600	76 x 190	0.20	19.3	MCA500□562TJ0WOR
90 x 150		0.20	19.6	MCA500□562UF0WOR	
6,800	90 x 170	0.20	21.5	MCA500□682UH0WOR	
8,200	90 x 190	0.20	24.7	MCA500□822UJ0WOR	
10,000	90 x 235	0.20	29.8	MCA500□103UN5WOR	

Rated ripple current multipliers

Frequency(Hz)	50	60	120	1K	10K
Coefficient	0.80	0.82	1.00	1.35	1.40