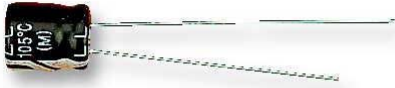


# MR Series

## Radial Electrolytic Capacitors



### Features:

- Ultra miniature radial electrolytic capacitors.
- Developed short body length to 7mm, for the demand of smaller and thinner electronic equipment.
- Most suitable for high-density electronic equipment, such as: automatic office machines, pocket calculators, car stereos and mini-audio sets, VCR, camera, CD-ROM, notebook , etc.

### Specifications

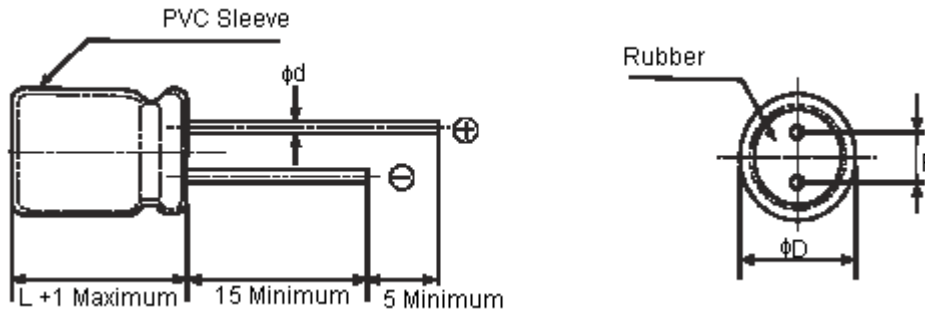
Item	Performance																								
Operating temperature range	-40°C to +85°C																								
Rated working voltage range	6.3 - 63V dc																								
Nominal capacitance range	0.1 - 470μF																								
Capacitance tolerance	±20% (at +20°C, 120Hz)																								
Leakage current	I = 0.01CV or 3μA after two minutes																								
Dissipation factor (tan δ) (120Hz/+20°C)	<table border="1"> <thead> <tr> <th>Working Voltage (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> </tr> </thead> <tbody> <tr> <td>Tan δ Maximum</td> <td>0.24</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.08</td> </tr> </tbody> </table>	Working Voltage (V)	6.3	10	16	25	35	50	63	Tan δ Maximum	0.24	0.20	0.16	0.14	0.12	0.10	0.08								
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Characteristics at low temperature (stability at 120Hz)	<table border="1"> <thead> <tr> <th>Working Voltage (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> </tr> </thead> <tbody> <tr> <td>-25°C/+20°C</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>-40°C/+20°C</td> <td>8</td> <td>6</td> <td>4</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> </tr> </tbody> </table>	Working Voltage (V)	6.3	10	16	25	35	50	63	-25°C/+20°C	4	3	2	2	2	2	2	-40°C/+20°C	8	6	4	4	3	3	3
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-40°C/+20°C	8	6	4	4	3	3	3																		
High temperature loading	After 1000 hours application of DC rated working voltage at +85°C, The capacitor shall meet the following limits: Post test requirements at +20°C.																								
	<table border="1"> <tbody> <tr> <td>Leakage Current</td> <td>≤ the initial specified value</td> </tr> <tr> <td>Capacitance Change</td> <td>≤ ±20% of initial measured value</td> </tr> <tr> <td>Dissipation Factor (tan δ)</td> <td>≤ 200% of initial specified value</td> </tr> </tbody> </table>	Leakage Current	≤ the initial specified value	Capacitance Change	≤ ±20% of initial measured value	Dissipation Factor (tan δ)	≤ 200% of initial specified value																		
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Shelf life	After storage for 500 hours at +85°C with no voltage applied. Post test requirements at +20°C. Same limits as high temperature loading.																								
Solvent proof	This capacitor can withstand circuit-board cleaning within 5 minutes dipped in Freon TE, TES, at 40°C (ultrasonic also permitted) or in the steam of these cleaners.																								

# MR Series

## Radial Electrolytic Capacitors



### Diagram of Dimensions



Dφ (+0.5 maximum)	3	4	5	6.3	8
F (±0.5)	1.0	1.5	2	2.5	3.5
dφ (±0.02)	0.4	0.45	0.45	0.45	0.5

Dimensions : Millimetres

### Case Size Table: MR series

W.V (S.V) μF		φD x L						
		6.3 (8)	10 (13)	16 (20)	25 (32)	35 (44)	50 (63)	63 (79)
0.1	-	-	-	-	-	-	-	-
0.22	-	-	-	-	-	-	-	-
0.33	-	-	-	-	-	-	-	-
0.47	-	-	-	-	-	-	-	-
1.0	-	-	-	-	-	-	-	4 x 7
2.2	-	-	-	-	-	-	-	4 x 7
3.3	-	-	-	-	-	-	-	-
4.7	-	-	-	-	-	-	-	-
10	-	-	-	4 x 7	4 x 7	-	-	-
22	-	-	4 x 7	-	-	-	-	-
33	-	-	-	-	-	-	-	-
47	4 x 7	4 x 7	5 x 7	6.3 x 7	6.3 x 7	-	-	5 x 7
100	6.3 x 7	5 x 7	6.3 x 7	-	-	-	-	-
220	8 x 7	6.3 x 7	-	-	-	-	-	-
330	-	-	-	-	-	-	-	-
470	-	-	-	-	-	-	-	-

Dimensions : Millimetres



# MR Series

## Radial Electrolytic Capacitors

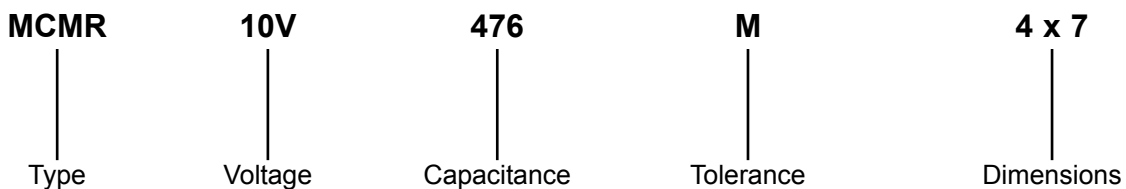


### Specification Table

Working Voltage (V)	Capacitance (µF)	Ripple Current (A)	Lead Diameter	Lead Pitch	Part Number
6.3	47	50	0.45	2	MCMR6V3476M5X7
	100	77		2.5	MCMR6V3107M6.3X7
	220	130	0.5	3.5	MCMR6V3227M8X7
10	33	43	0.45	1.5	MCMR10V476M4X7
	100	87		2	MCMR10V107M5X7
	220	145		2.5	MCMR10V227M6.3X7
16	22	180		1.5	MCMR16V226M4X7
	47	65		2	MCMR16V476M5X7
	100	98		2.5	MCMR16V107M6.3X7
25	10	28		1.5	MCMR25V106M4X7
	47	71		2.5	MCMR25V476M6.3X7
35	10	31		1.5	MCMR35V106M4X7
	47	73		2.5	MCMR35V476M6.3X7
63	1	13	1.45	1.5	MCMR63V105M4X7
	4.7	32.4	0.45	2	MCMR63V475M5X7

Dimensions : Millimetres

### Part Number Explanation



**Voltage** : 6.3, 10, 16, 25, 35 and 63V.

**Capacitance** : 1, 4.7, 10, 22, 33, 47, 100, and 220µF.

Capacitance code (µF): First two digits are the base value and last digit represents the conversion factor. Last digit 5 represents decimal in base value. Ex: in code 335, Capacitance is 3.3, similarly for 475 capacitance is 4.7 Last digit 6 represents no change in base value, Ex: in code 336, Capacitance value is 33. Similarly for code 476, capacitance value is 47. Last digit 7 represents one zero is added to the base value, ex in code 107, Capacitance value is 100, similarly for 337 capacitance value is 330.

**Tolerance** : M = ±20%.

**Dimensions** : Diameter x Length = 4 x 7, 5 x 7, 6.3 x 7 and 8 x 7.



# MR Series

## Radial Electrolytic Capacitors



### Notes:

### International Sales Offices:



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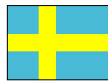
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