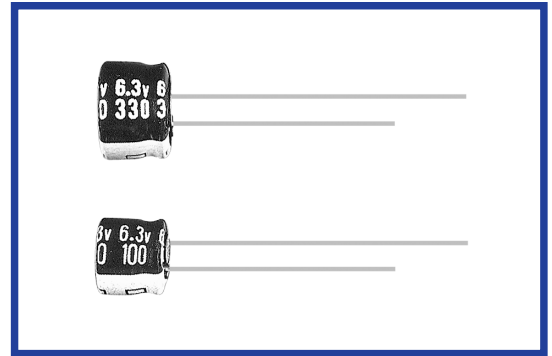


**MS5 SERIES**

85°C 5mm Height.

**◆FEATURES**

•RoHS compliance.


**◆SPECIFICATIONS**

Items	Characteristics																								
Category Temperature Range	-40~+85°C																								
Rated Voltage Range	4~50V.DC																								
Capacitance Tolerance	±20% (20°C, 120Hz)																								
Leakage Current(MAX)	$I=0.01CV$ or $3\mu A$ whichever is greater. (After 2 minutes application of rated voltage) $I$ =Leakage Current( $\mu A$ ) $C$ =Capacitance( $\mu F$ ) $V$ =Rated Voltage(V)																								
Dissipation Factor(MAX) (tan $\delta$ )	<table border="1"> <thead> <tr> <th>Rated Voltage (V)</th> <th>4</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> </tr> </thead> <tbody> <tr> <td>tan<math>\delta</math></td> <td>0.35</td> <td>0.26</td> <td>0.22</td> <td>0.18</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> </tr> </tbody> </table> (20°C, 120Hz)	Rated Voltage (V)	4	6.3	10	16	25	35	50	tan $\delta$	0.35	0.26	0.22	0.18	0.16	0.14	0.12								
Rated Voltage (V)	4	6.3	10	16	25	35	50																		
tan $\delta$	0.35	0.26	0.22	0.18	0.16	0.14	0.12																		
Endurance	After applying rated voltage with rated ripple current for 1000 hrs at 85°C, the capacitors shall meet the following requirements. <table border="1"> <tbody> <tr> <td>Capacitance Change</td> <td>Within ±25% of the initial value.</td> </tr> <tr> <td>Dissipation Factor</td> <td>Not more than 200% of the specified value.</td> </tr> <tr> <td>Leakage Current</td> <td>Not more than the specified value.</td> </tr> </tbody> </table>	Capacitance Change	Within ±25% of the initial value.	Dissipation Factor	Not more than 200% of the specified value.	Leakage Current	Not more than the specified value.																		
Capacitance Change	Within ±25% of the initial value.																								
Dissipation Factor	Not more than 200% of the specified value.																								
Leakage Current	Not more than the specified value.																								
Low Temperature Stability Impedance Ratio(MAX)	<table border="1"> <thead> <tr> <th>Rated Voltage (V)</th> <th>4</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> </tr> </thead> <tbody> <tr> <td>Z(-25°C)/Z(20°C)</td> <td>7</td> <td>6</td> <td>4</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z(-40°C)/Z(20°C)</td> <td>15</td> <td>12</td> <td>10</td> <td>8</td> <td>6</td> <td>4</td> <td>4</td> </tr> </tbody> </table> (120Hz)	Rated Voltage (V)	4	6.3	10	16	25	35	50	Z(-25°C)/Z(20°C)	7	6	4	4	3	2	2	Z(-40°C)/Z(20°C)	15	12	10	8	6	4	4
Rated Voltage (V)	4	6.3	10	16	25	35	50																		
Z(-25°C)/Z(20°C)	7	6	4	4	3	2	2																		
Z(-40°C)/Z(20°C)	15	12	10	8	6	4	4																		

**◆MULTIPLIER FOR RIPPLE CURRENT**

Frequency coefficient

Frequency (Hz)	60(50)	120	500	1k	10k $\leq$
0.47~1 $\mu F$	0.50	1.0	1.20	1.30	1.50
1.5~6.8 $\mu F$	0.65	1.0	1.20	1.30	1.50
10~68 $\mu F$	0.8	1.0	1.20	1.30	1.50
100~470 $\mu F$	0.8	1.0	1.10	1.15	1.20

**◆OPTION**

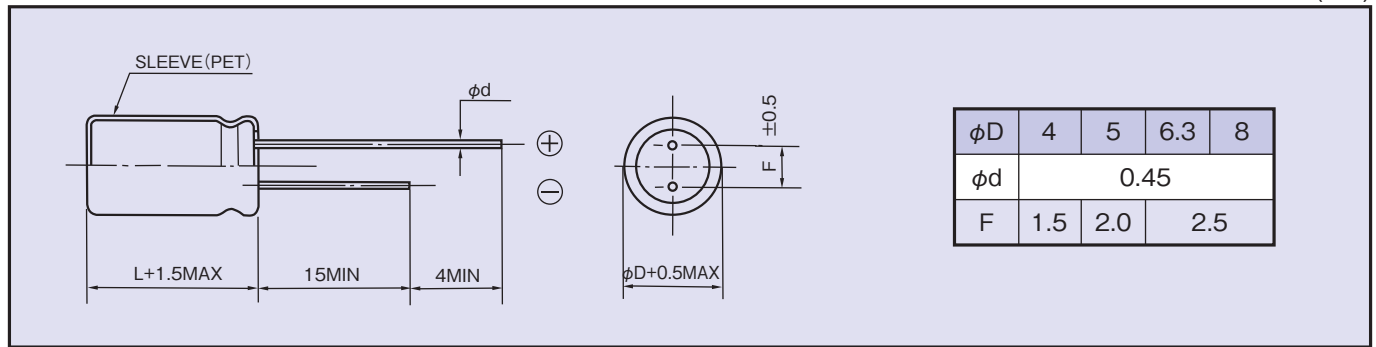
	Code
PET Sleeve	EFC

**◆PART NUMBER**

□□□	MS5	□□□□□	M	□□□	□□	D×L
Rated Voltage	Series	Capacitance	Capacitance Tolerance	Option	Lead Forming	Case Size

◆ **DIMENSIONS**

(mm)



◆ **STANDARD SIZE**

Size  $\phi D \times L$ (mm), Ripple Current (mA r.m.s./85°C, 120Hz)

WV (V.DC) Cap ( $\mu F$ )	4 (0G)		6.3 (0J)		10 (1A)		16 (1C)	
	Size	Ripple	Size	Ripple	Size	Ripple	Size	Ripple
4.7							4x5	11
6.8					4x5	10	4x5	13
10			4x5	14	4x5	16	4x5	18
15			4x5	18	4x5	22	5x5	26
22	4x5	20	4x5	22	5x5	30	5x5	35
33	4x5	27	5x5	34	5x5	45	6.3x5	51
47	4x5	37	5x5	37	6.3x5	50	6.3x5	65
68	5x5	45	6.3x5	55	6.3x5	59	6.3x5	70
100	5x5	62	6.3x5	62	6.3x5	80	8x5	92
220	6.3x5	74	8x5	120	8x5	145		
330	8x5	145	8x5	145				
470	8x5	181						

WV (V.DC) Cap ( $\mu F$ )	25 (1E)		35 (1V)		50 (1H)	
	Size	Ripple	Size	Ripple	Size	Ripple
0.47					4x5	6
0.68					4x5	7
1					4x5	8.6
1.5					4x5	8.7
2.2			4x5	9	4x5	9.1
3.3	4x5	11	4x5	12	4x5	13
4.7	4x5	13	4x5	14	5x5	20
6.8	4x5	19	5x5	20	6.3x5	26
10	5x5	27	5x5	27	6.3x5	31
15	5x5	33	6.3x5	35	6.3x5	39
22	6.3x5	46	6.3x5	46	8x5	60
33	6.3x5	54	8x5	65	8x5	80
47	6.3x5	65	8x5	85		
68	8x5	90				
100	8x5	120				