

**MXG SERIES**

**105°C Standard**

\*Load Life : 105°C 3000 hours. (50~100Vdc:2000 hours)



**◆SPECIFICATIONS**

Items	Characteristics																					
Category Temperature Range	-40~+105°C	-25~+105°C																				
Rated Voltage Range	10~250Vdc	315~500Vdc																				
Capacitance Tolerance	±20% (20°C, 120Hz)																					
Leakage Current(MAX)	$I=3\sqrt{CV}$ (After 5 minutes application of rated voltage) $I$ =Leakage Current(μA) $C$ =Capacitance(μF) $V$ =Rated Voltage(Vdc)																					
Dissipation Factor(MAX) (tanδ)	<table border="1"> <thead> <tr> <th>Rated Voltage (Vdc)</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>80~100</th> <th>160~450</th> <th>500</th> </tr> </thead> <tbody> <tr> <td>tanδ</td> <td>0.55</td> <td>0.50</td> <td>0.45</td> <td>0.40</td> <td>0.35</td> <td>0.30</td> <td>0.25</td> <td>0.20</td> <td>0.25</td> </tr> </tbody> </table> (20°C, 120Hz)		Rated Voltage (Vdc)	10	16	25	35	50	63	80~100	160~450	500	tanδ	0.55	0.50	0.45	0.40	0.35	0.30	0.25	0.20	0.25
Rated Voltage (Vdc)	10	16	25	35	50	63	80~100	160~450	500													
tanδ	0.55	0.50	0.45	0.40	0.35	0.30	0.25	0.20	0.25													
Endurance	After applying rated voltage with rated ripple current for 3000 hours (50~100Vdc:2000 hours) at 105°C, the capacitors shall meet the following requirements. <table border="1"> <tbody> <tr> <td>Capacitance Change</td> <td>Within ±20% 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 ±20% of the initial value.	Dissipation Factor	Not more than 200% of the specified value.	Leakage Current	Not more than the specified value.														
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Low Temperature Stability Impedance Ratio(MAX)	<table border="1"> <thead> <tr> <th>Rated Voltage (Vdc)</th> <th>10~100</th> <th>160~250</th> <th>315~450</th> <th>500</th> </tr> </thead> <tbody> <tr> <td>Z(-25°C)/Z(20°C)</td> <td>3</td> <td>4</td> <td>8</td> <td>12</td> </tr> <tr> <td>Z(-40°C)/Z(20°C)</td> <td>12</td> <td>15</td> <td>-</td> <td>-</td> </tr> </tbody> </table> (120Hz)		Rated Voltage (Vdc)	10~100	160~250	315~450	500	Z(-25°C)/Z(20°C)	3	4	8	12	Z(-40°C)/Z(20°C)	12	15	-	-					
Rated Voltage (Vdc)	10~100	160~250	315~450	500																		
Z(-25°C)/Z(20°C)	3	4	8	12																		
Z(-40°C)/Z(20°C)	12	15	-	-																		

**◆MULTIPLIER FOR RIPPLE CURRENT**

Frequency (Hz)		60(50)	120(100)	300	500	1k	10k≤
Coefficient	10~100Vdc	0.90	1.00	1.03	1.05	1.10	1.15
	160~250Vdc	0.80	1.00	1.15	1.20	1.30	1.50
	315~500Vdc	0.80	1.00	1.15	1.20	1.25	1.40

**◆OPTION**

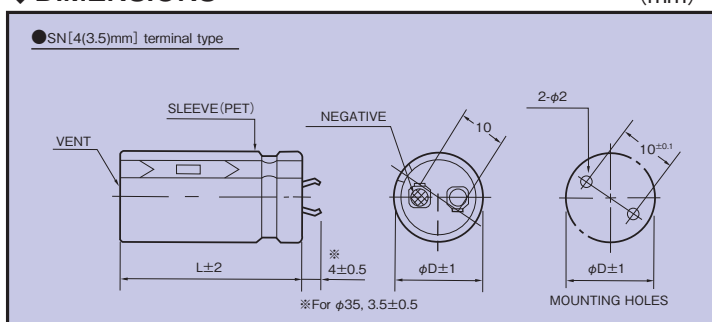
	Code
PET Sleeve without plate	EFC

**◆PART NUMBER**

□□□ / **MXG** / □□□□□ / **M** / □□□ / **SN** / **D×L**  
 Rated Voltage      Series      Capacitance      Capacitance Tolerance      Option      Terminal Code      Case Size

**◆DIMENSIONS**

(mm)



**◆ STANDARD SIZE**

Cap ( $\mu$ F)	Vdc $\phi$ D	10					16					
		$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35	$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35	
6800		20x25:1.31					20x25:1.80					
8200		20x30:1.59					20x30:2.08	22x25:2.08				
10000		20x30:1.88	22x25:1.77				20x35:2.15	22x30:2.15				
12000		20x35:2.18	22x30:2.10	25x25:1.94			20x40:2.31	22x30:2.31	25x25:2.31			
15000		20x40:2.27	22x35:2.23	25x30:2.10				22x35:2.68	25x30:2.68			
18000			22x40:2.41	25x30:2.34	30x25:2.25			22x40:3.20	25x30:3.20	30x25:3.20		
22000			22x45:2.58	25x35:2.54	30x30:2.50			22x45:3.36	25x35:3.36	30x30:3.36		
27000			22x50:3.17	25x40:3.07	30x30:2.95			22x50:3.85	25x40:3.85	30x30:3.85		
33000				25x45:3.39	30x35:3.33	35x30:3.21			25x45:4.30	30x35:4.30	35x30:4.30	
39000					30x40:3.70	35x35:3.68			25x50:4.81	30x40:4.81	35x35:4.81	
47000					30x45:4.22	35x40:4.16				30x45:5.53	35x40:5.53	
56000						35x45:5.00				30x50:6.00	35x45:6.00	
68000											35x50:6.40	

Cap ( $\mu$ F)	Vdc $\phi$ D	25				35						
		$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35		
2700						20x25:1.29						
3300						20x30:1.57						
3900						20x30:1.78	22x25:1.78					
4700		20x25:1.65				20x35:2.02	22x30:2.02					
5600		20x30:1.85	22x25:1.85			20x40:2.13	22x35:2.13	25x25:2.13				
6800		20x35:2.11	22x30:2.11				22x40:2.41	25x30:2.41				
8200		20x40:2.34	22x30:2.34	25x25:2.34			22x45:2.85	25x35:2.85	30x25:2.85			
10000			22x35:2.65	25x30:2.65			22x50:3.05	25x40:3.05	30x30:3.05			
12000			22x40:2.81	25x30:2.81	30x25:2.81			25x45:3.37	30x35:3.37	35x30:3.37		
15000			22x45:3.13	25x35:3.13	30x30:3.13			25x50:3.72	30x40:3.72	35x35:3.72		
18000				25x40:3.56	30x30:3.56					30x45:4.37	35x35:4.37	
22000				25x50:4.04	30x35:4.04	35x30:4.04				30x50:4.92	35x40:4.92	
27000					30x40:4.74	35x35:4.74					35x50:5.30	
33000					30x50:5.50	35x40:5.50						
39000						35x45:5.80						
47000						35x50:6.30						

Cap ( $\mu$ F)	Vdc $\phi$ D	50					63					
		$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35	$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35	
1500							20x25:1.47					
1800							20x30:1.58					
2200		20x25:1.60					20x35:1.82					
2700		20x30:1.73	22x25:1.73					22x30:2.11	25x25:2.11			
3300		20x35:1.97	22x30:1.97					22x35:2.33	25x30:2.33			
3900		20x40:2.22	22x35:2.22	25x25:2.22				22x40:2.55	25x30:2.55	30x25:2.55		
4700		20x45:2.43	22x40:2.43	25x30:2.43				22x45:2.97	25x35:2.97	30x30:2.97		
5600			22x45:2.75	25x35:2.75	30x25:2.75				25x40:3.22	30x30:3.22	35x25:3.22	
6800			22x50:3.30	25x40:3.30	30x30:3.30	35x25:3.30			25x45:3.65	30x35:3.65	35x30:3.65	
8200				25x45:3.60	30x35:3.60	35x30:3.60				30x40:4.04	35x35:4.04	
10000				25x50:4.05	30x40:4.05	35x30:4.05				30x45:4.48	35x40:4.48	
12000					30x45:4.56	35x35:4.56					35x45:4.75	
15000					30x50:4.77	35x40:4.77					35x50:5.25	

Cap ( $\mu$ F)	Vdc $\phi$ D	80					100					
		$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35	$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35	
680							20x25:1.15					
820							20x30:1.32	22x25:1.32				
1000		20x25:1.24					20x30:1.47	22x30:1.47				
1200		20x30:1.44	22x25:1.44					22x30:1.69	25x25:1.69			
1500		20x30:1.59	22x30:1.59					22x35:1.98	25x30:1.98			
1800		20x35:1.79	22x30:1.79	25x25:1.79				22x40:2.23	25x35:2.23	30x25:2.23		
2200		20x40:2.03	22x35:2.03	25x30:2.03					25x40:2.55	30x30:2.55	35x25:2.55	
2700			22x40:2.39	25x35:2.39	30x25:2.39				25x45:2.89	30x35:2.89	35x30:2.89	
3300			22x50:2.64	25x40:2.64	30x30:2.64	35x25:2.64			25x50:3.30	30x40:3.30	35x35:3.30	
3900				25x45:2.97	30x30:2.97	35x30:2.97					30x45:3.67	35x35:3.67
4700				25x50:3.38	30x35:3.38	35x30:3.38					30x50:3.80	35x40:3.80
5600					30x40:3.80	35x35:3.80						35x45:4.05
6800					30x50:4.10	35x40:4.10						
8200						35x45:4.30						

↑ Ripple Current (A r.m.s./120Hz, 105°C)  
 ↑ Case Size  $\phi$ D×L(mm)

**◆ STANDARD SIZE**

Cap ( $\mu$ F)	Vdc $\phi$ D	160					180				
		$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35	$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35
330		20x25:1.32					20x25:1.32				
390		20x25:1.39					20x30:1.53	22x25:1.43			
470		20x30:1.62	22x25:1.51				20x35:1.75	22x30:1.67			
560		20x35:1.85	22x30:1.75				20x40:1.98	22x30:1.75	25x25:1.59		
680		20x40:2.09	22x30:1.83	25x25:1.70			20x45:2.22	22x35:2.01	25x30:1.86		
820		20x50:2.47	22x35:2.10	25x30:2.00				22x40:2.27	25x35:2.14	30x25:2.00	
1000			22x40:2.37	25x35:2.20	30x25:2.20			22x50:2.68	25x40:2.40	30x30:2.20	35x25:2.20
1200			22x55:2.98	25x40:2.50	30x30:2.30	35x25:2.30		22x60:3.09	25x45:2.67	30x35:2.30	35x30:2.30
1500				25x45:2.80	30x35:2.50	35x30:2.50			25x50:2.99	30x40:2.54	35x30:2.50
1800				25x60:3.43	30x40:2.70	35x35:2.70				30x45:2.79	35x35:2.70
2200					30x45:2.90	35x40:2.90				30x50:3.12	35x40:2.90
2700					30x60:3.58	35x45:3.10					35x50:3.10
3300						35x55:3.24					35x60:3.44

Cap ( $\mu$ F)	Vdc $\phi$ D	200					220				
		$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35	$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35
220							20x25:1.17				
270		20x25:1.25					20x30:1.36	22x25:1.29			
330		20x30:1.46	22x25:1.37				20x30:1.46	22x25:1.37			
390		20x30:1.54	22x25:1.44				20x35:1.66	22x30:1.58	25x25:1.46		
470		20x35:1.76	22x30:1.67	25x25:1.53			20x40:1.87	22x35:1.81	25x25:1.53		
560		20x40:1.98	22x35:1.90	25x25:1.60			20x45:2.09	22x40:2.04	25x30:1.79	30x25:1.61	
680		20x50:2.34	22x40:2.15	25x30:1.85	30x25:1.75			22x45:2.29	25x35:2.05	30x25:1.78	
820			22x45:2.41	25x35:2.12	30x25:2.04			22x50:2.54	25x40:2.31	30x30:1.93	35x25:1.93
1000			22x55:2.84	25x45:2.58	30x30:2.30				25x50:2.72	30x35:2.33	35x30:2.33
1200				25x50:2.84	30x35:2.65	35x30:2.65			25x55:2.96	30x40:2.50	35x35:2.50
1500				25x60:3.28	30x45:2.80	35x35:2.80				30x50:2.92	35x40:2.76
1800					30x50:3.08	35x40:3.08				30x60:3.38	35x45:3.11
2200					30x60:3.45	35x45:3.48					35x55:3.67
2700						35x55:4.05					

Cap ( $\mu$ F)	Vdc $\phi$ D	250					315				
		$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35	$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35
120							20x25:0.86				
150							20x30:1.00	22x25:0.98			
180							20x35:1.14	22x30:1.13			
220		20x25:1.17					20x40:1.30	22x30:1.22	25x25:1.17		
270		20x30:1.36	22x25:1.30				20x45:1.48	22x35:1.40	25x30:1.37		
330		20x35:1.57	22x30:1.51	25x25:1.41			20x50:1.67	22x40:1.59	25x35:1.56	30x25:1.38	
390		20x40:1.76	22x35:1.71	25x25:1.47				22x50:1.84	25x35:1.65	30x30:1.60	35x25:1.44
470		20x45:1.98	22x40:1.94	25x30:1.71	30x25:1.57			22x55:2.05	25x45:1.96	30x35:1.83	35x30:1.71
560			22x45:2.16	25x35:1.95	30x25:1.60				25x50:2.17	30x35:1.89	35x30:1.72
680			22x50:2.40	25x40:2.20	30x30:1.87	35x25:1.70			25x55:2.41	30x40:2.12	35x35:1.98
820			22x60:2.77	25x45:2.45	30x35:2.14	35x30:2.00				30x50:2.51	35x40:2.22
1000				25x55:2.87	30x40:2.40	35x35:2.20				30x55:2.75	35x45:2.45
1200					30x45:2.65	35x35:2.30					35x50:2.67
1500					30x55:3.12	35x45:2.67					35x60:3.08
1800						35x50:2.89					
2200						35x60:3.32					

Cap ( $\mu$ F)	Vdc $\phi$ D	350					385				
		$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35	$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35
100		20x25:0.81					20x25:0.81				
120		20x30:0.93	22x25:0.91				20x30:0.94	22x25:0.91			
150		20x35:1.08	22x30:1.06				20x35:1.08	22x30:1.07			
180		20x40:1.22	22x30:1.14	25x25:1.10			20x40:1.22	22x35:1.21	25x25:1.11		
220		20x45:1.38	22x35:1.31	25x30:1.28			20x45:1.39	22x40:1.38	25x30:1.29	30x25:1.25	
270		20x50:1.56	22x45:1.55	25x35:1.47	30x25:1.31			22x45:1.56	25x35:1.47	30x30:1.46	
330			22x50:1.75	25x40:1.67	30x30:1.53	35x25:1.39		22x55:1.81	25x40:1.67	30x30:1.53	35x25:1.37
390			22x55:1.93	25x45:1.86	30x35:1.74	35x30:1.63		22x60:2.00	25x50:1.94	30x35:1.73	35x30:1.62
470				25x50:2.06	30x40:1.96	35x30:1.66			25x55:2.15	30x40:1.94	35x35:1.84
560				25x55:2.27	30x45:2.17	35x35:1.90				30x45:2.15	35x40:2.07
680					30x50:2.40	35x40:2.13				30x55:2.51	35x45:2.29
820					30x55:2.62	35x45:2.36					35x50:2.50
1000						35x55:2.77					35x60:2.89
1200						35x60:2.97					

↑ Ripple Current (A r.m.s./120Hz, 105°C)  
↑ Case Size  $\phi$ D×L(mm)

**◆ STANDARD SIZE**

Cap ( $\mu$ F)	Vdc $\phi$ D	400					420				
		$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35	$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35
68		20x25:0.69					20x25:0.69				
82		20x25:0.75	22x25:0.78				20x25:0.75	22x25:0.78			
100		20x30:0.87	22x25:0.85				20x30:0.86	22x25:0.85	25x25:0.88		
120		20x35:0.99	22x30:0.97	25x25:0.96			20x35:0.98	22x30:0.97	25x25:0.95		
150		20x40:1.13	22x35:1.13	25x25:1.04			20x40:1.13	22x35:1.12	25x30:1.11	30x25:1.10	
180		20x40:1.23	22x35:1.22	25x30:1.20	30x25:1.18		20x45:1.27	22x40:1.27	25x30:1.19	30x25:1.16	
220		20x50:1.44	22x45:1.44	25x35:1.37	30x25:1.25			22x45:1.43	25x35:1.36	30x30:1.35	35x25:1.27
270			22x50:1.62	25x40:1.56	30x30:1.45	35x25:1.34		22x50:1.62	25x40:1.55	30x30:1.43	35x25:1.30
330			22x55:1.82	25x45:1.76	30x35:1.66	35x30:1.57		22x60:1.86	25x50:1.74	30x35:1.64	35x30:1.54
390				25x50:1.94	30x40:1.86	35x30:1.60			25x55:2.00	30x40:1.83	35x35:1.75
470				25x55:2.15	30x45:2.07	35x35:1.83			25x60:2.21	30x45:2.04	35x40:1.97
560					30x50:2.28	35x40:2.05				30x55:2.35	35x45:2.18
680					30x55:2.50	35x45:2.27				30x60:2.57	35x50:2.39
820						35x55:2.65					35x55:2.59

Cap ( $\mu$ F)	Vdc $\phi$ D	450					500				
		$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35	$\phi$ 20	$\phi$ 22	$\phi$ 25	$\phi$ 30	$\phi$ 35
39							20x25:0.51				
47							20x30:0.59	22x25:0.58			
56		20x25:0.63					20x35:0.67	22x30:0.66			
68		20x25:0.69	22x25:0.72				20x40:0.76	22x30:0.73	25x25:0.72		
82		20x30:0.80	22x25:0.78				20x45:0.85	22x35:0.83	25x30:0.83	30x25:0.83	
100		20x35:0.91	22x30:0.90	25x25:0.89				22x40:0.94	25x35:0.94	30x25:0.91	
120		20x35:0.99	22x30:0.98	25x25:0.95				22x50:1.08	25x35:1.02	30x30:1.04	35x25:1.01
150		20x45:1.18	22x35:1.13	25x30:1.11	30x25:1.10			22x55:1.24	25x45:1.21	30x35:1.19	35x30:1.18
180			22x40:1.27	25x35:1.27	30x25:1.16			22x60:1.38	25x50:1.36	30x40:1.34	35x30:1.25
220			22x50:1.49	25x40:1.44	30x30:1.35	35x25:1.26			25x55:1.52	30x45:1.51	35x40:1.51
270			22x55:1.68	25x45:1.62	30x35:1.55	35x30:1.48				30x50:1.69	35x40:1.62
330				25x50:1.82	30x40:1.75	35x30:1.52				30x55:1.89	35x45:1.81
390				25x60:2.07	30x45:1.93	35x35:1.74					35x55:2.08
470					30x50:2.14	35x40:1.95					35x60:2.28
560					30x55:2.34	35x45:2.16					
680						35x55:2.51					
820						35x60:2.71					

↑ Ripple Current (A r.m.s./120Hz, 105°C)  
 ↑ Case Size  $\phi$ D×L(mm)