

GMP Series



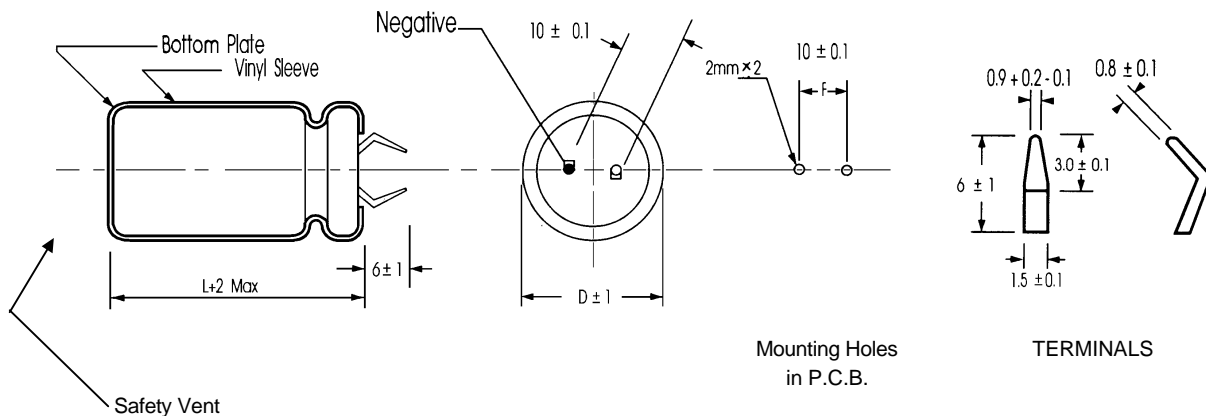
Features

- * High reliability with high ripple current
- * Small low profile
- * Temperature Rated at 105°C
- * Aluminium case with explosion proof vent
- * 2000 Hour lifetime

Item	Performance Characteristics						
Operating Temperature Range	-40 to + 105°C			-25 to +105°C			
Working Voltage Range	10 to 100 Volts D.C.			160 to 450 Volts D.C.			
Nominal Capacitance Range	330 to 68000 uF			33 to 2200 uF			
Capacitance Tolerance	+/- 20 % (120 Hz), 20°C						
Leakage Current (+20°C)	I <= 0.02 CV after 5 Minutes						
Dissipation Factor % (120 Hz, +20°C)	Less than the value below:						
	WVDC	10~16	25~35	50~63	80~100	160~250	350~450
	uF						
	33~470				15	15	20
	560~3900	25	20	20	20	15	20
	4700~8200	35	30	30	25		
	10000~22000	40	35	30			
Stability at Low Temperature	Impedance Ratio at 120 Hz						
	WVDC	10~16	25	35~100	160~250	400~450	
	Z(-25°C) / Z(+20°C)	5	4	4	4	8	
Load Life	<u>Test conditions</u>						
	Duration time:	2000 Hrs					
	Ambient temperature:	+105°C					
	Applied voltage:	Rated working voltage					
	Ripple Current:	Maximum rated ripple current.					
	<u>After testing--Measure at 20°C</u>						
Capacitance change:	<= +/- 20% of initial measured value						
Dissipation factor:	<= 200% of initial specified value						
Leakage current:	<= The initial specified value						
Shelf Life	<u>Test Conditions</u>						
	Duration time:	500 Hrs					
	Ambient temperature:	+105°C					
	Applied voltage:	None					
	<u>After testing--Measure at 20°C</u>						
Same limits as for load life.							
Pre-treatment: The measurements shall be conducted after application of the Working D.C. voltage for 30 minutes.							
Marking	White print on black sleeve						

Physical Dimensions and Mounting Details

The capacitors can also be supplied with an optional 4mm (+/-1mm) long terminal.



GMP Series



Ir (A) specified at 105°C and 120Hz

Impedence (Z) specified at 20°C and 120Hz

GMP Standard Products Table 10 to 35 Volt

uF	10 V		16 V		25 V		35 V	
	Dia x L	Ir(A)	Dia x L	Ir(A)	Dia x L	Ir(A)	Dia x L	Ir(A)
1500							22 x 26	1.26
2200					22 x 26	1.03	22 x 31	1.35
							25 x 26	1.35
3300			22 x 26	1.17	22 x 26	1.48	22 x 31	1.84
					25 x 26	1.48	25 x 26	1.84
							30 x 26	1.84
3900							22 x 31	2.23
4700	22 x 26	1.24	22 x 31	1.53	22 x 31	1.92	22 x 36	2.42
			25 x 26	1.53	25 x 26	1.92	25 x 31	2.42
					30 x 26	1.92	30 x 26	2.42
5600					22 x 31	2.25	22 x 36	2.89
							25 x 31	2.89
							30 x 26	2.89
6800	22 x 26	1.56	22 x 31	2.02	22 x 31	2.60	22 x 41	3.24
	25 x 26	1.56	25 x 26	2.02	25 x 26	2.60	25 x 36	3.24
			30 x 26	2.02	30 x 26	2.60	30 x 31	3.24
							35 x 27	3.24
8200	22 x 26	2.04	22 x 31	2.20	22 x 36	3.04	22 x 51	3.57
					25 x 31	3.04	25 x 41	3.57
					30 x 26	3.04	30 x 31	3.57
							35 x 27	3.57
10000	22 x 31	2.20	22 x 36	2.79	22 x 41	3.50	25 x 46	3.96
	25 x 26	2.20	25 x 31	2.79	25 x 36	3.50	30 x 36	3.96
	30 x 26	2.20	30 x 26	2.79	30 x 31	3.50	35 x 32	3.96
					35 x 27	3.50		
12000	22 x 36	2.34	22 x 36	3.06	22 x 46	4.02	25 x 51	4.21
			25 x 31	3.06	25 x 41	4.02	30 x 41	4.21
			30 x 26	3.06	30 x 31	4.02	35 x 32	4.21
					35 x 27	4.02		
15000	22 x 36	2.76	22 x 51	3.24	25 x 46	4.58	30 x 46	4.69
	25 x 31	2.76	25 x 41	3.24	30 x 36	4.58	35 x 37	4.69
	30 x 26	2.76	30 x 36	3.24	35 x 32	4.58		
			35 x 32	3.24				
18000	22 x 36	2.94	22 x 51	3.51	25 x 51	4.82	35 x 42	5.07
	25 x 31	2.94	25 x 46	3.51	30 x 41	4.82		
			30 x 36	3.51	35 x 37	4.82		
			35 x 32	3.51				
22000	22 x 41	3.12	25 x 51	4.08	30 x 46	5.12	35 x 52	5.50
	25 x 36	3.12	30 x 46	4.08	35 x 37	5.12		
	35 x 27	3.12	35 x 32	4.08				
27000	22 x 46	3.48	25 x 51	4.30	35 x 47	5.47		
	25 x 36	3.48	30 x 41	4.30				
	30 x 31	3.48	35 x 37	4.30				
	35 x 27	3.48						
33000	25 x 46	3.72	30 x 46	4.83	35 x 52	6.09		
	30 x 36	3.72	35 x 37	4.83				
	35 x 32	3.72						
39000	25 x 51	4.10	30 x 51	5.78				
	30 x 41	4.10	35 x 42	5.78				
	35 x 32	4.10						
47000	30 x 46	4.38	35 x 47	6.32				
	35 x 37	4.38						
56000	30 x 51	4.64	35 x 52	7.05				
	35 x 42	4.64						
68000	35 x 52	4.80						

GMP Series



Ir (A) specified at 105°C and 120Hz

Impedance (Z) specified at 20°C and 120Hz

GMP Standard Products Table 50 to 100 Volt

uF	50 V		63 V		80 V		100 V	
	Dia x L	Ir(A)	Dia x L	Ir(A)	Dia x L	Ir(A)	Dia x L	Ir(A)
330							22 x 26	0.54
470					22 x 26	0.63	22 x 31	0.79
							25 x 26	0.79
560							25 x 26	0.96
680			22 x 26	0.70	22 x 31	0.84	22 x 31	1.02
					25 x 26	0.84	25 x 26	1.02
							30 x 26	1.02
820					22 x 31	1.02	22 x 31	1.24
							25 x 26	1.24
1000	22 x 26	0.84	22 x 26	0.85	22 x 36	1.16	22 x 36	1.38
			25 x 26	0.85	25 x 31	1.16	25 x 31	1.38
					30 x 26	1.16	30 x 26	1.38
1200			22 x 26	0.98	22 x 36	1.46	22 x 41	1.65
					25 x 31	1.46	25 x 36	1.65
							30 x 31	1.65
1500	22 x 31	1.10	22 x 31	1.10	22 x 41	1.74	22 x 46	1.83
	25 x 26	1.10	25 x 26	1.10	25 x 36	1.74	25 x 41	1.83
			30 x 26	1.10	30 x 31	1.74	30 x 31	1.83
							35 x 27	1.83
							25 x 36	1.20
1800	22 x 31	1.54	22 x 31	1.40	22 x 46	1.95	25 x 46	2.52
			25 x 26	1.40	25 x 41	1.95	30 x 36	2.52
					30 x 31	1.95	35 x 32	2.52
2200	22 x 31	1.65	22 x 36	1.65	22 x 51	2.25	25 x 51	3.03
	25 x 26	1.65	25 x 31	1.65	25 x 46	2.25	30 x 41	3.03
	30 x 26	1.65	30 x 26	1.65	30 x 36	2.25	35 x 32	3.03
					35 x 32	2.25		
2700	22 x 36	1.94	22 x 41	2.07	25 x 51	2.68	30 x 46	4.10
	25 x 31	1.94	25 x 36	2.07	30 x 41	2.68	35 x 37	4.10
			30 x 26	2.07	35 x 37	2.68		
3300	22 x 36	2.24	22 x 51	2.48	25 x 56	3.30	30 x 56	4.59
	25 x 31	2.24	25 x 41	2.48	30 x 51	3.30	35 x 47	4.59
	30 x 26	2.24	30 x 31	2.48	35 x 42	3.30		
			35 x 27	2.48				
3900	22 x 41	2.54	25 x 46	3.05	30 x 51	3.85	35 x 47	4.98
	25 x 36	2.54	30 x 36	3.05	35 x 42	3.85		
	30 x 31	2.54	35 x 32	3.05				
4700	22 x 46	2.95	30 x 41	3.43	30 x 51	4.29	35 x 52	5.43
	25 x 41	2.95	35 x 32	3.43	35 x 42	4.29		
	30 x 31	2.95	25 x 41	3.43				
	35 x 27	2.95						
5600	22 x 51	3.10	30 x 46	3.86	35 x 47	5.10		
	25 x 46	3.10	35 x 37	3.86				
	30 x 41	3.10						
	35 x 32	3.10						
6800	25 x 51	3.26	30 x 51	4.64	35 x 52	5.66		
	30 x 41	3.26	35 x 42	4.64				
	35 x 32	3.26						
8200	30 x 46	3.58	35 x 47	5.05				
	35 x 37	3.58						
10000	30 x 51	4.11	35 x 52	5.75				
	35 x 42	4.11						
12000	35 x 47	4.62						
15000	35 x 52	5.05						

GMP Series

Ir (A) specified at 105°C and 120Hz
Impedence (Z) specified at 20°C and 120Hz



GMP Standard Products Table 160 to 450 Volt

uF	160 V		200 V		250 V		400 V		450 V	
	Dia x L	Ir(A)	Dia x L	Ir(A)	Dia x L	Ir(A)	Dia x L	Ir(A)	Dia x L	Ir(A)
33							22 x 26	0.39	22 x 26	0.24
47							22 x 26	0.56	22 x 31	0.35
							25 x 26	0.56	25 x 26	0.35
56							22 x 31	0.68	22 x 31	0.41
									25 x 26	0.41
68					22 x 26	0.27	22 x 31	0.72	22 x 36	0.55
							25 x 26	0.72	25 x 31	0.55
							30 x 26	0.72	30 x 26	0.55
82							22 x 36	0.82	22 x 36	0.64
							25 x 31	0.82	25 x 31	0.64
									30 x 36	0.64
100			22 x 26	0.38	22 x 31	0.44	22 x 36	0.82	22 x 36	0.52
					25 x 26	0.44	25 x 31	0.82	22 x 41	0.74
							30 x 26	0.82	25 x 31	0.74
									30 x 31	0.74
120							22 x 26	0.90	22 x 46	0.82
							25 x 31	0.90	25 x 41	0.82
							30 x 26	0.90	30 x 31	0.82
150	22 x 26	0.37	22 x 26	0.54	22 x 31	0.60	22 x 46	0.98	22 x 51	0.96
			25 x 26	0.54	25 x 26	0.60	25 x 41	0.98	25 x 41	0.96
					30 x 26	0.60	30 x 31	0.98	30 x 36	0.96
180					22 x 31	0.69	25 x 46	1.14	25 x 51	1.14
					25 x 26	0.69	30 x 36	1.14	30 x 41	1.14
							35 x 32	1.14	35 x 32	1.14
220	22 x 26	0.65	22 x 31	0.92	22 x 36	1.00	30 x 31	1.21	30 x 46	1.24
			25 x 26	0.92	25 x 31	1.00	30 x 41	1.21	35 x 37	1.24
			30 x 26	0.92	30 x 26	1.00	35 x 32	1.21		
			22 x 25	0.83			25 x 46	1.10		
270	22 x 26	0.74	22 x 31	1.03	22 x 41	1.16	30 x 46	1.40	30 x 51	1.48
			25 x 26	1.03	25 x 36	1.16	35 x 37	1.40	35 x 42	1.48
					30 x 31	1.16				
330	22 x 31	0.98	22 x 36	1.21	22 x 46	1.28	30 x 51	1.57	35 x 47	1.64
	25 x 26	0.98	25 x 31	1.21	25 x 36	1.28	35 x 42	1.57		
	30 x 26	0.98	30 x 26	1.21	30 x 31	1.28				
390	22 x 36	1.10	22 x 41	1.39	22 x 46	1.48	35 x 47	1.74	35 x 52	1.86
	25 x 31	1.10	25 x 36	1.39	25 x 36	1.48				
			30 x 31	1.39	30 x 31	1.48				
470	22 x 36	1.21	22 x 46	1.62	25 x 46	1.76	35 x 52	1.98	35 x 52	1.90
	25 x 31	1.21	25 x 41	1.62	30 x 36	1.76	35 x 47	1.85		
			30 x 31	1.62	35 x 32	1.76				
			22 x 36	1.41						
560	22 x 41	1.40	22 x 51	1.85	25 x 51	1.93	35 x 52	2.23		
	25 x 36	1.40	25 x 41	1.85	30 x 41	1.93				
	30 x 31	1.40	30 x 36	1.85	35 x 32	1.93				
680	22 x 46	1.64	22 x 56	2.04	30 x 46	2.22				
	25 x 41	1.64	25 x 51	2.04	35 x 37	2.22				
	30 x 36	1.64	30 x 36	2.04						
	35 x 32	1.64								
820	25 x 46	1.85	25 x 56	2.34	30 x 51	2.48				
	30 x 36	1.85	30 x 41	2.34	35 x 42	2.48				
	35 x 32	1.85	35 x 37	2.34						
1000	25 x 51	2.15	30 x 51	2.70	35 x 47	2.80				
	30 x 41	2.15	35 x 42	2.70						
1200	25 x 56	2.46	30 x 51	3.00	35 x 52	3.17				
	30 x 46	2.46	35 x 42	3.00						
1500	30 x 51	2.80	35 x 52	3.43						
	35 x 42	2.80								
1800	30 x 51	3.13	35 x 52	4.01						
	35 x 42	3.13								
2200	35 x 52	3.39								

GMP Application Data

Ripple current multipliers for frequency

Frequency	50 / 60	120	400	1K	10K	50K	100K
Capacitance (uF)							
<uF<= 10	0.80	1.00	1.30	1.45	1.65	1.70	1.70
10 <uF<= 100	0.80	1.00	1.23	1.36	1.48	1.53	1.53
100 <uF<= 1000	0.80	1.00	1.16	1.25	1.35	1.38	1.38
1000 <uF<=	0.80	1.00	1.11	1.17	1.25	1.28	1.28

Ripple current multipliers for temperature

Temperature (deg. C.)	45	60	70	85	95	105
Factor	2.1	1.9	1.65	1.4	1.25	1

Load life test

