

GVZ High Ripple Current & Long life

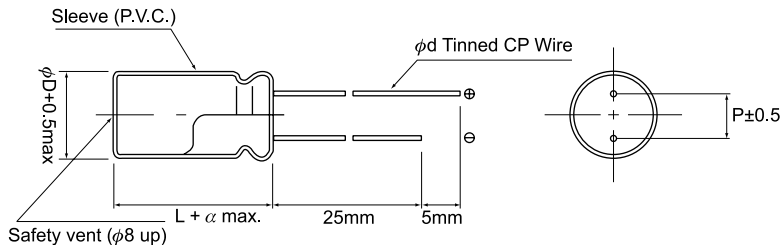
- Extended life assurance of low impedance and high reliability.
- Most suitable for SMPS or other high frequency application.
- Life guaranteed 4,000~8,000 hours at 105°C.



• Specifications

Item	Performance Characteristics									
Operating Temperature range	-40 + 105°C									
Rated Voltage	6.3V ~ 100V									
Capacitance Range	0.47 ~ 10,000 µF									
Capacitance Tolerance	±20% (120Hz, 20°C)									
Leakage Current	I ≤ 0.01CV or 3 µA, whichever is greater after 2 minutes application of rated voltage.									
Dissipation Factor (120Hz, 20°C)	Rated voltage (V)	6.3	10	16	25	35	50	63	100	
	Tan δ (max.)	0.22	0.19	0.16	0.14	0.12	0.10	0.09	0.08	
	For capacitance of more than 1,000µF, add 0.02 for every increase of 1,000µF.									
Temperature Characteristics (120Hz)	Impedance Ratio / Stability at Low Temperature									
	Rated voltage (V)	6.3	10	16	25	35	50	63	100	
	Z (-25°C) / Z (20°C)	4	3	2	2	2	2	2	2	2
	Z (-40°C) / Z (20°C)	8	6	4	3	3	3	3	3	3
Load Life	After the specify hours application of rated voltage and ripple current at 105°C, capacitor shall meet the characteristics requirements mentioned below. 5 ~ 6φ : 4,000 hours 8~10φ : 6,000 hours ≥ 13φ : 8,000 hours									
	Capacitance change	Within ±25% of initial value								
	Tan δ	200% or less of initial specified value								
	Leakage current	Initial specified value or less								
Shelf Life	At 105°C, no voltage applied for 1,000 hours, the capacitor shall meet the limits as in load life.									

• Dimension (mm)



Dφ	5	6.3	8	10	13	16	18
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5
φd	0.5		0.6		0.8		
α	L < 20 : 1.5 mm, L ≥ 20 : 2.0 mm						

• Frequency coefficient of allowable ripple current

Cap (µF) \ Frequency	50 Hz	120 Hz	300 Hz	1 KHz	10 KHz ~
6.8 ~ 33	0.45	0.55	0.70	0.90	1.00
47 ~ 330	0.60	0.70	0.85	0.95	1.00
470 ~ 1000	0.65	0.75	0.90	0.98	1.00
1200 ~ 10000	0.75	0.80	0.95	1.00	1.00

• Standard Products Table

Dφ x L (mm)

WV Cap (μF)	6.3			10			16			25		
	Size	Imp.	Ripple	Size	Imp.	Ripple	Size	Imp.	Ripple	Size	Imp.	Ripple
47							5 x 11	0.58	210	5 x 11	0.58	210
100				5 x 11	0.58	210	6.3 x 11	0.22	340	6.3 x 11	0.22	340
220				6.3 x 11	0.22	340	6.3 x 11	0.22	340	8 x 11	0.13	640
330	6.3 x 11	0.22	340				8 x 11	0.13	640	8 x 16	0.087	840
470				8 x 11	0.13	640	8 x 16	0.087	840	8 x 20	0.069	1050
							10 x 12	0.080	865	10 x 16	0.060	1210
680	8 x 11	0.13	640	8 x 16	0.087	840	8 x 20	0.069	1050	10 x 20	0.046	1400
				10 x 12	0.080	865	10 x 16	0.060	1210			
820	10 x 12	0.080	865				10 x 20	0.046	1400	10 x 25	0.042	1650
	8 x 16	0.087	840	8 x 20	0.069	1050	10 x 20	0.046	1400	10 x 30	0.031	1910
1000				10 x 16	0.060	1210				13 x 20	0.035	1900
1200	8 x 20	0.069	1050	10 x 20	0.046	1400	10 x 25	0.042	1650	13 x 25	0.027	2230
1500	10 x 20	0.046	1400	10 x 25	0.042	1650	13 x 20	0.035	1900	13 x 25	0.027	2230
1800	10 x 25	0.042	1650				13 x 25	0.027	2230	13 x 30	0.024	2650
2200	10 x 25	0.042	1650	10 x 30	0.031	1910	13 x 25	0.027	2230	13 x 35	0.020	2880
2700	10 x 30	0.031	1910	13 x 25	0.043	2210	13 x 30	0.024	2650	13 x 40	0.017	3350
3300	13 x 20	0.035	1900	13 x 25	0.027	2230	13 x 35	0.020	2880	16 x 31	0.017	3450
3900	13 x 25	0.027	2230	13 x 30	0.024	2650	13 x 40	0.017	3350	16 x 36	0.015	3610
4700	13 x 30	0.024	2650	13 x 35	0.020	2880	16 x 31	0.017	3450	16 x 40	0.013	4080
5600	13 x 35	0.020	2880	13 x 40	0.017	3350	16 x 36	0.015	3610	18 x 40	0.012	4280
6800	13 x 40	0.017	3350	16 x 31	0.017	3450	16 x 40	0.013	4080			
8200	16 x 31	0.017	3450	16 x 36	0.015	3610	18 x 36	0.014	4220			
10000	16 x 36	0.015	3610	16 x 40	0.013	4080	18 x 40	0.012	4280			

WV Cap (μF)	35V			50V			63V			100V		
	Size	Imp.	Ripple	Size	Imp.	Ripple	Size	Imp.	Ripple	Size	Imp.	Ripple
0.47				5 x 11	5.5	17						
1				5 x 11	4.0	30						
2.2				5 x 11	2.5	43						
3.3				5 x 11	2.2	53						
4.7				5 x 11	1.9	88						
10	5 x 11	1.90	88	5 x 11	1.5	100						
22	5 x 11	1.50	100	5 x 11	0.70	180						
33	5 x 11	0.58	210	6.3 x 11	0.55	210	6.3 x 11	1.20	126			
47	6.3 x 11	0.50	220	6.3 x 11	0.45	240				10 x 12	0.43	325
56	6.3 x 11	0.22	340	6.3 x 11	0.30	295	8 x 11	0.63	260	8 x 20	0.33	408
82				8 x 11	0.17	520	8 x 16	0.45	335	10 x 20	0.21	518
100	8 x 11	0.13	640	8 x 11	0.17	555				10 x 25	0.20	595
120				8 x 16	0.12	730	10 x 16	0.31	400	13 x 20	0.16	765
150	8 x 11	0.13	640	10 x 12	0.12	760				13 x 25	0.14	795
180				8 x 20	0.091	910	10 x 20	0.21	518	13 x 25	0.12	875
220	8 x 16	0.087	840	10 x 16	0.084	1050	10 x 25	0.20	595	13 x 30	0.10	1010
270	8 x 20	0.069	1050	10 x 20	0.060	1220	13 x 20	0.16	765	16 x 25	0.073	1350
330	10 x 16	0.060	1210	10 x 25	0.055	1440	13 x 25	0.12	875	16 x 25	0.071	1180
470	10 x 20	0.046	1400	13 x 20	0.045	1660	13 x 30	0.10	1010	16 x 36	0.045	1900
560	10 x 25	0.042	1650	13 x 25	0.034	1950	13 x 35	0.083	1140	16 x 40	0.040	2130
680	13 x 20	0.035	1900	13 x 30	0.030	2310	13 x 40	0.071	1280	18 x 36	0.040	1890
820	13 x 25	0.030	2100	13 x 35	0.034	2210	16 x 31	0.054	1650	18 x 40	0.036	2470
1000	13 x 25	0.027	2230	16 x 25	0.025	2555	16 x 36	0.045	1900			
1200	13 x 30	0.024	2650	16 x 31	0.022	3010	16 x 40	0.040	2130			
1500	13 x 35	0.020	2880	16 x 36	0.019	3150	18 x 40	0.036	2470			
1800	16 x 25	0.021	2930	16 x 40	0.016	3710						
2200	16 x 31	0.017	3450	18 x 36	0.017	3680						
2700	16 x 36	0.015	3610	18 x 40	0.014	3800						
3300	18 x 36	0.014	4220									
3900	18 x 40	0.012	4280									

• Impedance: (Ω) Max. 20°C 100 KHz • Allowable ripple current: (mA) at 105°C 100 KHz