

## GWS Screw terminal, 85°C Standard series



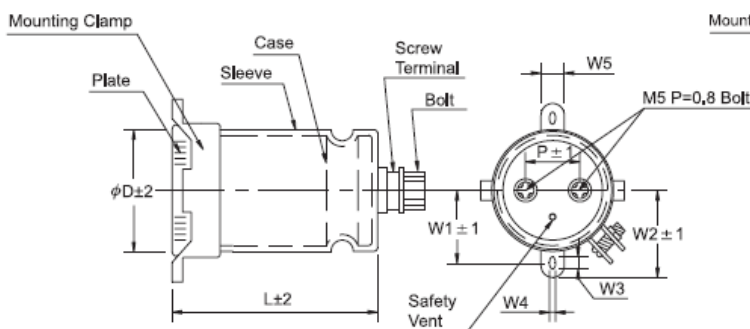
- High ripple current capability for industrial power devices use.
- Voltage range: 6.3 ~ 450V
- Capacitance range: 270 ~ 680,000  $\mu\text{F}$
- Life guaranteed 2,000 hours/85°C.

### • Specifications

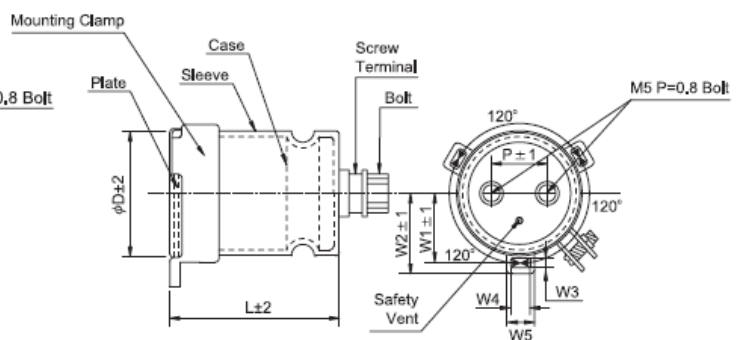
Item	Performance Characteristics																
Operating Temperature range	-40 + 85°C								-25 + 85°C								
Rated Voltage	6.3V ~ 100V								160V ~ 450V								
Capacitance Range	270 ~ 680,000 $\mu\text{F}$																
Capacitance Tolerance	$\pm 20\%$ (120Hz, 20°C)																
Leakage Current	$I \leq 0.02CV$ or 5 mA, whichever is greater after 5 minutes application of rated voltage.																
Dissipation Factor (Tan $\delta$ ) 120 Hz, 20°C	Case D $\phi$ \ WV	6.3	10	16	25	35	50	63	80	100	160	200	250	350	400	450	
	35 $\phi$	0.75	0.75	0.60	0.40	0.30	0.25	0.20	0.20	0.15	0.15	0.15	0.15	0.20	0.20	0.20	
	51 $\phi$	1.00	1.00	0.70	0.50	0.50	0.30	0.25	0.20	0.20	0.15	0.15	0.15	0.20	0.20	0.20	
	64 $\phi$	1.30	1.30	0.80	0.70	0.60	0.50	0.30	0.25	0.25	0.20	0.20	0.20	0.25	0.25	0.25	
	77 $\phi$	1.50	1.50	1.00	0.80	0.70	0.60	0.40	0.30	0.25	0.20	0.20	0.20	0.25	0.25	0.25	
90 $\phi$	1.50	1.50	1.00	0.80	0.70	0.60	0.40	0.30	0.25	0.20	0.20	0.20	0.25	0.25	0.25		
Temperature Characteristics (120 Hz)	Impedance Ratio / Stability at Low Temperature																
	Rated voltage (V)	6.3 ~ 100								160 ~ 450							
	Z (-25°C) / Z (20°C)	-----								8							
	Z (-40°C) / Z (20°C)	12								-----							
Load Life	After 2,000 hours application of WV at 85°C, capacitor shall meet the characteristics requirements mentioned below.																
	Capacitance change	Within $\pm 15\%$ of initial value															
	Tan $\delta$	$\leq 175\%$ of initial specified value															
	Leakage current	$\leq$ Initial specified value															
Shelf Life	At 85°C, no voltage applied for 1,000 hours, the capacitor shall meet the limits as in load life.																

### • Dimension (mm)

(▲  $\phi 35$ )



(▲  $\phi 51, \phi 64, \phi 77, \phi 90$ )



D $\phi$	W <sub>1</sub>	W <sub>2</sub>	W <sub>3</sub>	W <sub>4</sub>	W <sub>5</sub>	P
35	24.0	30.0	7.0	3.5	10.0	12.7
51	32.5	37.5	4.5	7.0	13.0	21.8
64	38.5	42.8	4.5	7.0	13.0	28.2
77	44.8	49.0	4.5	7.0	13.0	31.4
90	52.3	58.8	5.0	8.0	16.0	31.4

### • Frequency coefficient of allowable ripple current

Frequency	60 Hz	120 Hz	1 KHz	10 KHz	100 KHz
6.3 ~ 35V	0.90	1.00	1.05	1.10	1.10
50 ~ 100V	0.90	1.00	1.10	1.15	1.15
160 ~ 450V	0.80	1.00	1.20	1.40	1.40

### • Allowable ripple vs. Ambient temperature

Ambient Temp. (°C)	$\leq 60$	70	85
Compensating Coefficient	1.80	1.60	1.00

## ● Standard Products Table

Dφ x L (mm)

WV(SV) Cap (μF)	6.3 (8)		10 (13)		16 (20)		25 (32)		35 (44)	
	10000									35 x 50
12000									35 x 50	3.87
15000									35 x 60	3.96
18000							35 x 50	3.35	35 x 60	4.34
22000					35 x 50	4.16	35 x 60	4.01	35 x 80	4.93
27000					35 x 60	4.50	35 x 80	5.04	35 x 80	5.46
33000			35 x 50	4.14	35 x 60	5.51	35 x 80	5.58	35 x 120	7.20
39000			35 x 50	4.50	35 x 80	6.80	35 x 80	6.06	35 x 120	7.83
47000	35 x 50	4.94	35 x 60	5.35	35 x 80	7.47	35 x 120	7.54	51 x 80	8.26
56000	35 x 60	4.96	35 x 80	6.63	35 x 100	9.03	35 x 120	8.23	51 x 80	9.02
68000	35 x 60	5.47	35 x 80	7.31	35 x 120	9.88	51 x 100	9.13	51 x 100	10.35
82000	35 x 80	6.82	35 x 80	8.02	35 x 120	10.85	51 x 100	10.03	51 x 100	11.36
100000	35 x 80	7.53	35 x 120	9.21	51 x 80	10.86	51 x 120	11.26	64 x 100	11.48
120000	35 x 120	9.15	51 x 80	9.23	51 x 90	11.74	51 x 120	12.33	64 x 120	13.13
150000	51 x 80	9.51	51 x 80	10.32	51 x 120	12.48	64 x 100	12.68	64 x 144	15.42
180000	51 x 80	10.42	51 x 90	11.50	51 x 120	13.67	64 x 100	13.89	64 x 144	16.89
220000	51 x 100	12.39	51 x 120	13.66	64 x 100	14.75	64 x 144	16.05	77 x 144	17.79
270000	64 x 100	13.68	51 x 120	15.13	64 x 115	17.37	77 x 115	17.80		
330000	64 x 100	15.12	64 x 120	17.25	77 x 120	18.19	77 x 144	20.38		
390000	64 x 120	16.97	64 x 120	18.75	77 x 120	19.78				
470000	64 x 120	18.63	77 x 120	19.25						
560000	77 x 120	18.80	77 x 120	21.01						
680000	77 x 120	20.71							Case size	Ripple

WV(SV) Cap (μF)	50 (63)		63 (75)		80 (100)		100 (125)		160 (200)	
	1200									35 x 50
1500									35 x 60	3.20
1800									35 x 70	3.63
2200							35 x 50	2.15	35 x 80	4.26
2700							35 x 50	2.38	35 x 100	4.68
3300							35 x 50	2.64	35 x 120	5.22
3900							35 x 60	3.10	51 x 70	5.70
4700					35 x 50	2.72	35 x 80	3.87	51 x 70	6.26
5600			35 x 50	2.97	35 x 60	3.22	35 x 80	4.22	51 x 90	7.00
6800	35 x 50	3.26	35 x 50	3.28	35 x 80	4.03	35 x 100	5.15	51 x 90	7.72
8200	35 x 50	3.58	35 x 60	3.89	35 x 80	4.42	35 x 120	5.83	51 x 115	9.04
10000	35 x 60	4.27	35 x 80	4.77	35 x 100	5.41	51 x 80	6.03	64 x 96	10.30
12000	35 x 60	4.68	35 x 80	5.23	35 x 120	6.47	51 x 80	6.60	64 x 96	11.29
15000	35 x 80	5.94	35 x 100	5.88	51 x 80	7.63	51 x 120	8.86	64 x 130	13.83
18000	35 x 80	6.51	35 x 120	6.16	51 x 80	8.35	51 x 120	9.71	64 x 130	15.15
22000	35 x 120	6.70	51 x 80	7.73	51 x 100	8.76	64 x 100	9.79	77 x 130	18.57
27000	35 x 120	7.42	51 x 80	8.56	51 x 100	9.70	64 x 100	10.85	77 x 130	20.58
33000	51 x 80	7.55	51 x 100	8.76	64 x 100	10.22	64 x 144	12.80	90 x 130	23.90
39000	51 x 80	8.20	51 x 120	10.22	64 x 100	11.11	77 x 115	13.11	90 x 157	28.10
47000	51 x 100	9.80	64 x 100	11.88	64 x 144	14.33	77 x 144	14.81		
56000	51 x 100	10.70	64 x 100	12.96	64 x 144	15.64				
68000	64 x 100	11.34	64 x 144	13.63	77 x 144	16.27				
82000	64 x 100	12.46	77 x 130	14.82						
100000	64 x 144	12.81	77 x 144	15.86						
120000	64 x 144	14.03								
150000	77 x 144	15.86							Case size	Ripple

Allowable ripple current (A rms) at 85°C 120Hz

## • Standard Products Table

Dφ x L (mm)

WV(SV) Cap (μF)	200 (250)		250 (300)		350 (400)		400 (450)		450 (500)	
270									35 x 50	1.45
330							35 x 80	1.97	35 x 80	1.97
390					35 x 50	1.74	35 x 80	2.14	35 x 80	2.14
470			35 x 50	1.66	35 x 80	2.35	35 x 80	2.35	35 x 80	2.35
560			35 x 50	1.81	35 x 80	2.57	35 x 80	2.57	35 x 100	2.63
680	35 x 50	1.99	35 x 50	1.99	35 x 80	2.83	35 x 100	2.90	35 x 100	2.90
820	35 x 50	2.19	35 x 60	2.37	35 x 100	3.18	35 x 100	3.18	51 x 70	3.26
1000	35 x 60	2.62	35 x 80	2.87	35 x 100	3.51	51 x 70	3.60	51 x 70	3.60
1200	35 x 60	2.87	35 x 80	3.15	51 x 70	3.94	51 x 70	3.94	51 x 90	4.39
1500	35 x 80	3.52	35 x 100	3.49	51 x 70	4.41	51 x 90	4.91	51 x 115	5.17
1800	35 x 80	3.85	35 x 100	3.83	51 x 90	5.38	51 x 90	5.38	51 x 130	5.64
2200	35 x 100	4.23	51 x 70	4.28	51 x 90	5.95	51 x 130	6.23	64 x 96	6.40
2700	35 x 120	4.72	51 x 70	4.74	51 x 130	6.91	64 x 96	7.09	64 x 115	7.25
3300	51 x 70	5.24	51 x 90	5.38	51 x 130	7.63	64 x 115	8.01	64 x 130	8.22
3900	51 x 70	5.70	51 x 115	6.23	64 x 115	8.71	64 x 130	8.94	77 x 115	9.40
4700	51 x 90	6.42	64 x 96	7.06	64 x 130	9.81	77 x 115	10.32	77 x 130	10.88
5600	51 x 115	7.47	64 x 96	7.71	77 x 115	11.26	77 x 130	11.87	77 x 155	12.83
6800	51 x 130	8.70	64 x 115	9.19	77 x 130	13.08	77 x 155	14.14	90 x 157	14.60
8200	64 x 96	9.33	64 x 115	10.09	77 x 155	15.53	90 x 157	16.03	90 x 157	16.03
10000	64 x 96	10.30	64 x 130	11.76	90 x 157	17.71	90 x 157	17.71	90 x 196	19.53
12000	77 x 96	12.56	77 x 115	13.01	90 x 157	19.40	90 x 196	21.40	90 x 236	23.28
15000	77 x 96	14.04	77 x 130	14.70	90 x 196	23.93	90 x 236	26.02		
18000	77 x 130	16.80	77 x 155	17.40	90 x 236	28.51				
22000	77 x 155	20.07	90 x 157	20.19						
27000	90 x 130	21.62								
33000	90 x 157	25.85							Case size	Ripple

Allowable ripple current (A rms) at 85°C 120Hz