

# GS series

## Features

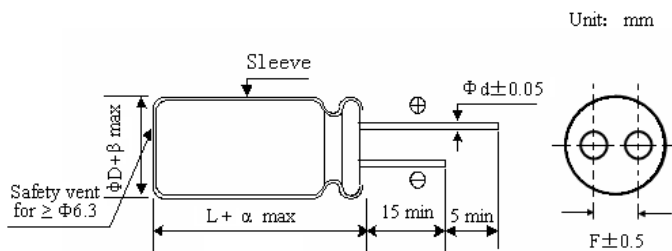
- ◆ High CV value, guarantee 2000 hours at 85°C.
- ◆ Suitable for use in electronic circuits in colour TV receiver, video coder etc.
- ◆ RoHS Compliant .



## Specifications

Item	Performance Characteristics											
Temperature Range	-40~+85°C						-25~+85°C					
Rated Voltage Range	6.3~100Vdc						160~450Vdc					
Capacitance Range	1~22000µF											
Capacitance Tolerance	±20% (120Hz, +20°C)											
Leakage Current (+20°C,max.)	I≤0.01CV或3 (µA)						I≤0.02CV+30 (µA)					
	After 2 minutes, whichever is greater measured with rated working voltage applied											
Dissipation Factor (tgδ) 120Hz, +20°C	Working Voltage(Vdc)	6.3	10	16	25	35	50	63	100	160~250	350~450	
	D.F (%) max.	28	24	20	16	14	12	10	8	15	20	
For capacitance>1000µF , Add 2% per another 1000µF ( 120Hz, +20°C)												
Low Temperature Characteristics (120Hz)	Impedance ratio max.											
	Working Voltage(Vdc)	6.3	10	16	25	35	50	63	100	160~250	350~400	450
	Z-25°C/ Z+20°C	5	4	3	2	2	2	2	2	3	6	15
	Z-40°C/ Z+20°C	12	10	8	5	4	3	3	3	-	-	-
For capacitance>1000µF , Add 0.5 per another 1000µF For Z-25°C/ Z+20°C,Add 1.0 per another 1000µF For Z-40°C/ Z+20°C												
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 2000 hours at 85°C											
	Capacitance Change	≤±20% of the initial value										
	D.F.( tgδ)	≤200% of the initial specified value										
	Leakage Current	≤The initial specified value										
Shelf Life	After storing the capacitors under no load at 85°C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the specified values for the load life characteristics listed above.											
Others	JISC-5101(IEC 60384)											

## Diagram of Dimensions



## Frequency Multipliers

µF	Hz	50	120	300	1K	10K~
	6.3~100WV	<68	0.75	1.00	1.35	1.57
68~470		0.80	1.00	1.23	1.34	1.50
>470		0.85	1.00	1.10	1.13	1.15
160~450WV	<220	0.70	1.00	1.25	1.40	1.60
	220~330	0.75	1.00	1.10	1.13	1.15

ΦD	5	6.3	8	10	13	16	18
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
Φd	0.5	0.5	0.5	0.6	0.6	0.8	0.8
α	(L< 20) + 1.5			(L≥20) + 2.0			
β	(D< 20) + 0.5			(D≥20) + 1.0			

# GS series

## Standard Ratings

Voltage	6.3V		10V		16V		25V		
	Cap(μF)	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current
22					5×11	68	5×11	73	
33					5×11	96	5×11	98	
47					5×11	115	5×11	126	
100	5×11	135	5×11	140	5×11	175	6.3×11	211	
220	5×11	220	5×11	230	6.3×11	290	8×12	370	
330	6.3×11	297	6.3×11	322	6.3×11	350	8×12	453	
470	6.3×11	360	6.3×11	384	8×12	499	10×12	628	
680	8×12	503	8×12	546	10×12	690	10×17	826	
1000	8×12	610	10×12	791	10×15	928	10×20	1094	
1500	10×12	780	10×17	875	10×20	1025	13×20	1210	
2200	10×17	890	10×20	1226	13×20	1555	13×25	1800	
3300	10×20	1350	13×20	1685	13×25	1990	16×25	2304	
4700	13×20	1822	13×25	2103	16×25	2487	16×30	2854	
6800	13×25	1930	16×25	2606	16×30	3010	16×40	3528	
10000	16×25	2760	16×30	2960	16×35	3490			
22000	18×40	3400							

Voltage	35V		50V		63V		100V		
	Cap(μF)	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current
1			5×11	13			5×11	24	
2.2			5×11	28			5×11	37	
3.3			5×11	35			5×11	45	
4.7			5×11	48	5×11	55	5×11	55	
10	5×11	53	5×11	71	5×11	76	5×11	76	
22	5×11	90	5×11	106	5×11	113	6.3×11	135	
33	5×11	110	5×11	130	6.3×11	159	8×12	187	
47	5×11	138	6.3×11	177	6.3×11	190	10×12	259	
68	6.3×11	160	6.3×11	210	8×12	220	10×17	290	
100	6.3×11	231	8×12	306	8×12	321	10×20	453	
220	8×12	405	10×12	506	10×17	615	13×20	742	
330	10×12	576	10×17	706	10×20	823	13×25	987	
470	10×17	753	10×20	811	13×20	1153	16×25	1394	
680	10×20	988	13×20	988	13×25	1400	16×30	1512	
1000	13×20	1407	13×25	1715	16×25	1995	18×35	2037	
1500	13×25	1597	16×30	1925	16×30	2110			
2200	16×25	2134	16×35	2540	18×35	2300			
3300	16×30	2338	18×35	3218	18×40	2500			
4700	18×35	3400	18×40	3336					
6800	18×40	3500							

Max Allowable Ripple Current (mA, rms) at 85°C 120Hz, Case Size ΦD×L(mm).

Above size is the standard size for our product. If you need special size please contact our sales offices.

**GS series****Standard Ratings**

Voltage	160V		200V		250V		350V	
Cap( $\mu$ F)	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current	Case Size	Ripple Current
<b>3.3</b>					8×12	46	8×12	48
<b>4.7</b>			8×12	53	8×12	56	8×12	63
<b>6.8</b>	8×12	66	8×12	72	10×13	76	10×13	78
<b>10</b>	8×12	81	10×13	94	10×17	103	10×17	115
<b>22</b>	10×17	151	10×17	163	10×20	175	13×20	185
<b>33</b>	10×20	202	10×20	210	13×20	230	13×25	250
<b>47</b>	13×20	255	13×20	270	13×25	295	16×25	330
<b>68</b>	13×20	335	13×25	350	16×25	380	16×30	400
<b>100</b>	13×25	422	16×25	483	16×30	515	18×30	518
<b>150</b>	16×25	560	16×30	580	18×30	673	18×40	720
<b>220</b>	16×30	760	18×30	810	18×40	825		
<b>330</b>	18×35	890	18×35	940				

Voltage	400V		450V	
Cap( $\mu$ F)	Case Size	Ripple Current	Case Size	Ripple Current
<b>2.2</b>	8×12	38	8×12	39
<b>3.3</b>	8×12	52	8×12	46
<b>4.7</b>	8×12	57	10×13	65
<b>6.8</b>	8×12	60	10×17	80
	10×13	71		
<b>10</b>	10×13	96	10×20	90
	10×17	110		
<b>22</b>	13×20	197	13×25	165
<b>33</b>	16×20	275	16×25	215
<b>47</b>	16×25	350	16×30	265
<b>68</b>	16×30	420	18×30	370
<b>100</b>	18×30	520	18×35	480
<b>120</b>	18×35	606	18×40	560
<b>150</b>	18×40	720	18×45	660
<b>180</b>	18×45	830		

Max Allowable Ripple Current (mA, rms) at 85°C 120Hz, Case Size  $\Phi$ D×L(mm).

Above size is the standard size for our product. If you need special size please contact our sales offices.