

# GPS Series

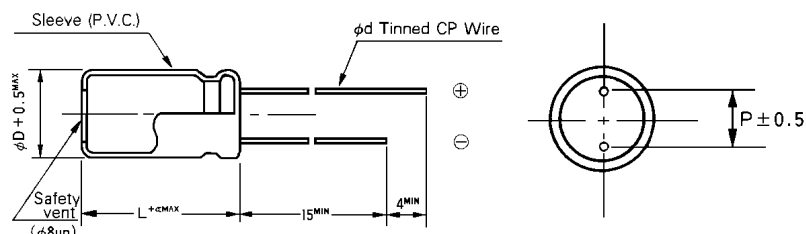


## Features

- \* Standard series for general purposes
- \* 2000 Hours lifetime at 85 °C
- \* Available for automatic mounting.
- \* Solvent proof

Item	Performance Characteristics					
Operating Temperature Range	-40 to + 85°C			-25 to 85°C		
Working Voltage Range	6.3 to 400 Volts D.C.			450 Volts D.C.		
Nominal Capacitance Range	0.1 to 22000 uF					
Capacitance Tolerance	+/- 20 % ( 120 Hz, 20°C)					
Leakage Current (+20°C)	6.3V to 100 V			160V to 450 V		
	I=0.03CV or 4uA whichever is greater after 1 min. application of rated voltage.			CV<=1000: I=0.1CV +40 uA or less after 1 min. application of rated voltage.		
Dissipation Factor % (120 Hz, +20°C)	I=0.01CV or 3uA whichever is greater after 2 mins. application of rated voltage.			CV>1000: I=0.04CV +100 uA or less after 1 min. application of rated voltage.		
	Less than the value below					
Temperature Characteristics	Impedance Ratio at 120 Hz					
	WVDC	6.3	10	16	25	35
	Z(-25°C) / Z(+20°C)	4	3	2	2	2
	Z(-40°C) / Z(+20°C)	10	8	6	4	3
Load Life	Test conditions					
	Duration time:			2000 Hrs		
	Ambient temperature:			+85°C		
	Applied voltage:			Rated working voltage		
Shelf Life	Ripple Current:			Maximum rated ripple current.		
	After testing--Measure at 20°C					
	Capacitance change:			<= +/- 20% of initial measured value		
	Dissipation factor:			<= 200% of initial specified value		
Marking	Leakage current:			<= The initial specified value		
	Test Conditions					
	Duration time:			1000 Hrs		
	Ambient temperature:			+85°C		
Applicable Standards	Applied voltage:			None		
	After testing--Measure at 20°C					
	Same limits as for load life.					
	Pretreatment before testing: According to JIS C-5102 4-3					
Marking	White print on black sleeve					
Applicable Standards	Characteristic W of JIS C-5141					

## Physical Dimensions and Mounting Details



Ø D	5	6.3	8	10	12.5	16	18	22
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5	10.0
Ød	0.5	0.5	0.5	0.6	0.6	0.8	0.8	0.8
α <= 100 WV	1.0	1.0	1.0	1.5	1.5	1.5	1.5	2.0
α >= 160 WV	-	1.5	1.5	2.0	2.0	2.0	2.0	2.5

# GPS Series



I<sub>r</sub> (mA) specified at 85°C and 120 KHz

**GPS Standard Products Table 6.3 to 35 Volt**

uF	6.3V		10 V		16 V		25 V		35 V	
	Dia x L	I <sub>r</sub> (mA)	Dia x L	I <sub>r</sub> (mA)	Dia x L	I <sub>r</sub> (mA)	Dia x L	I <sub>r</sub> (mA)	Dia x L	I <sub>r</sub> (mA)
4.7							5 x 11	30	5 x 11	35
10					5 x 11	40	5 x 11	50	5 x 11	55
22	5 x 11	35	5 x 11	55	5 x 11	75	5 x 11	80	5 x 11	85
33	5 x 11	55	5 x 11	80	5 x 11	90	5 x 11	95	5 x 11	105
47	5 x 11	75	5 x 11	95	5 x 11	110	5 x 11	115	6.3 x 11	135
100	5 x 11	130	5 x 11	145	6.3 x 11	175	6.3 x 11	185	8 x 11.5	230
220	6.3 x 11	210	6.3 x 11	230	8 x 11.5	300	8 x 11.5	320	10 x 12.5	370
330	6.3 x 11	260	8 x 11.5	330	8 x 11.5	360	10 x 12.5	420	10 x 16	490
470	8 x 11.5	360	8 x 11.5	390	10 x 12.5	470	10 x 16	540	10 x 20	630
1000	10 x 12.5	560	10 x 16	610	10 x 20	800	12.5 x 20	950	12.5 x 25	1110
1000(S)	8 x 12	560							13 x 21	1110
2200	12.5 x 20	1040	12.5 x 20	1130	12.5 x 25	1350	16 x 25	1590	16 x 31.5	1830
3300	12.5 x 20	1230	12.5 x 25	1430	16 x 25	1740	16 x 31.5	1980	18 x 35.5	2210
4700	16 x 25	1700	16 x 25	1820	16 x 31.5	2140	18 x 35.5	2360	18 x 40	2430
4700(S)									18 x 35.5	2380
6800	16 x 25	1920	16 x 31.5	2200	18 x 35.5	2490	22 x 36	2570	22 x 41	2810
10000	16 x 31.5	2310	18 x 35.5	2570	18 x 40	2730	22 x 41	2910	22 x 51	3370
15000	18 x 35.5	2670	18 x 40	2720	22 x 41	3080	22 x 51	3450		
22000	22 x 36	2830	22 x 41	3060	22 x 51	3530				

**GPS Standard Products Table 50 to 200 Volt**

uF	50V		63 V		100 V		160 V		200 V	
	Dia x L	I <sub>r</sub> (mA)	Dia x L	I <sub>r</sub> (mA)	Dia x L	I <sub>r</sub> (mA)	Dia x L	I <sub>r</sub> (mA)	Dia x L	I <sub>r</sub> (mA)
0.1	5 x 11	1			5 x 11	2				
0.22	5 x 11	2			5 x 11	4				
0.33	5 x 11	3			5 x 11	7				
0.47	5 x 11	5			5 x 11	10	6.3 x 11	11	6.3 x 11	11
1	5 x 11	10			5 x 11	21	6.3 x 11	16	6.3 x 11	16
2.2	5 x 11	23			5 x 11	30	6.3 x 11	25	6.3 x 11	25
3.3	5 x 11	35			5 x 11	40	8 x 11.5	35	8 x 11.5	35
4.7	5 x 11	40	5 x 11	45	5 x 11	50	8 x 11.5	40	10 x 12.5	45
10	5 x 11	65	5 x 11	70	6.3 x 11	75	10 x 12.5	65	10 x 16	70
22	5 x 11	95	6.3 x 11	110	8 x 11.5	135	10 x 20	110	10 x 20	110
33	6.3 x 11	125	6.3 x 11	135	10 x 12.5	175	12.5 x 20	150	12.5 x 25	160
47	6.3 x 11	150	8 x 11.5	185	10 x 16	225	12.5 x 25	190	12.5 x 25	190
100	8 x 11.5	250	10 x 12.5	280	12.5 x 20	400	16 x 25	310	16 x 31.5	340
220	10 x 16	440	10 x 20	500	16 x 25	710	18 x 35.5	520	18 x 40	530
330	10 x 20	580	12.5 x 20	680	16 x 25	870	22 x 36	640	22 x 41	680
470	12.5 x 20	770	12.5 x 25	880	16 x 31.5	980	22 x 46	850		
1000	16 x 25	1350	16 x 31.5	1540	18 x 40	1680				
2200	18 x 35.5	2090	18 x 40	2130	22 x 51	2640				
3300	22 x 36	2340	22 x 41	2540						
4700	22 x 41	2740	22 x 51	3150						
6800	22 x 51	3290								

Ir (mA) specified at 85°C and 120 KHz

**GPS Standard Products Table 250 to 450 Volt**

uF	250V		315 V		350 V		400 V		450 V	
	Dia x L	Ir(mA)	Dia x L	Ir(mA)	Dia x L	Ir(mA)	Dia x L	Ir(mA)	Dia x L	Ir(mA)
0.47	6.3 x 11	11								
1	6.3 x 11	16	6.3 x 11	16	8 x 11.5	19	8 x 11.5	16	10 x 12.5	18
2.2	8 x 11.5	30	8 x 11.5	30	10 x 12.5	30	10 x 12.5	25	10 x 16	30
3.3	10 x 12.5	40	10 x 12.5	40	10 x 16	40	10 x 16	35	10 x 20	40
4.7	10 x 12.5	45	10 x 16	50	10 x 16	50	10 x 20	45	12.5 x 20	50
10	10 x 20	75	10 x 20	75	12.5 x 20	80	12.5 x 20	75	12.5 x 25	80
22	12.5 x 25	130	12.5 x 25	130	12.5 x 25	130	16 x 25	130	16 x 31.5	140
33	12.5 x 25	160	16 x 25	180	16 x 31.5	190	16 x 31.5	170	18 x 35.5	180
47	16 x 25	210	16 x 31.5	230	18 x 35.5	240	18 x 35.5	220	22 x 36	220
47	12.5 x 25	260								
100	18 x 35.5	360	18 x 40	350	22 x 36	360	22 x 41	330		
220	22 x 36	540	22 x 46	590						
330	22 x 46	720								

## Ripple Current Multipliers

Frequency

uF	WVDC	Freq.	50Hz	120Hz	300Hz	1KHz	>= 10 KHz
		<=47		0.75	1	1.35	1.57
100~470	6.3 to 100		0.80	1	1.23	1.34	1.50
1000~22000			0.85	1	1.10	1.13	1.15
0.47~220	160 to 450		0.80	1	1.25	1.40	1.60
330~470			0.90	1	1.10	1.13	1.15

Temperature

Temp. °C	<=70	85
Multiplier	1.27	1