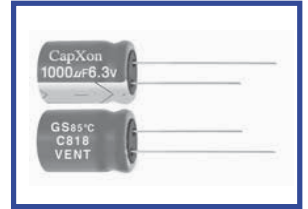


GS Series General Purpose 85°C

Features

- ◆ Wide CV value range
- ◆ Endurance 2000hrs at 85°C
- ◆ Safety vent construction design.
- ◆ ROHS Compliant



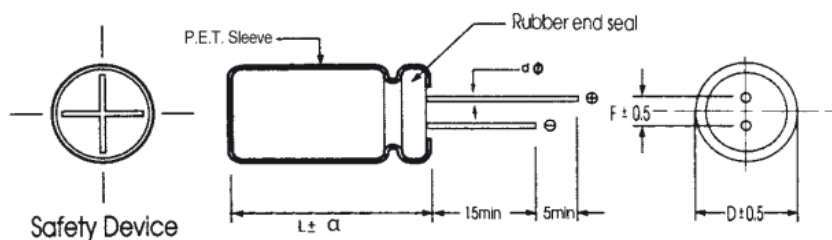
Specifications

Item	Performance Characteristics								
Operating Temperature Range	-40 to +85°C	-25 to +85°C							
Rated Voltage Range	6.3 to 100 VDC	160 to 450 VDC							
Capacitance Range	0.1 to 33000µF	0.47 to 560µF							
Capacitance Tolerance	±20% (120Hz, +20°C)								
Leakage Current (+20°C, max.)	I ≤ 0.01CV or 3(µA)								
	I ≤ 0.03CV(µA)								
Dissipation Factor (tanδ, at 20°C, 120Hz)	After 1 minute whichever is greater measured with rated working voltage applied.								
	Rated Voltage(VDC)	6.3	10	16	25	35	50	63	100
	D.F. (%)max.	22	19	16	14	12	10	9	8
	Rated Voltage(VDC)	160	200	250	350	400	450		
D.F. (%)max.	12	12	12	15	15	17			
For capacitance > 1000µF, add 2% per another 1000µF.									
Low Temperature Characteristics (at 120Hz)	Impedance ratio max								
	Rated Voltage(VDC)	6.3	10	16	25	35	50	63	100
	Z-25°C / Z+20°C	4	3	2	2	2	2	2	2
	Z-40°C / Z+20°C	8	6	4	3	3	3	3	3
	Rated Voltage(VDC)	160	200	250	350	400	450		
Z-25°C / Z+20°C	2	2	3	5	15	15			
For capacitance > 1000µF, add 0.5 per another 1000µF for -25°C/+20°C add 1 per another 1000µF for -40°C/+20°C									
Endurance	Test conditions								
	Duration time	:2000Hrs							
	Ambient temperature	:+85°C							
	Applied voltage	:Rated DC working voltage							
	After test requirement at +20°C								
	Capacitance change	: ≤ ±20% of the initial measured value							
	Dissipation factor	: ≤ 200% of the initial specified value							
Leakage current	: ≤ The initial specified value								
Shelf Life	Test conditions								
	Duration time	:1000Hrs							
	Ambient temperature	:+85°C							
	Applied voltage	:None							
	After test requirement at +20°C: Same limits as Endurance.								
	Pre-treatment for measurements shall be conducted after application of DC working voltage for 30 minutes.								

Multiplier for Ripple Current vs. Frequency

CAP(µF) / Frequency(Hz)	50(60)	120	400	1K	10K	50K-100K
CAP ≤ 10	0.8	1	1.3	1.45	1.65	1.7
10 < CAP ≤ 100	0.8	1	1.23	1.36	1.48	1.53
100 < CAP ≤ 1000	0.8	1	1.16	1.25	1.35	1.38
1000 < CAP	0.8	1	1.11	1.17	1.25	1.28

Diagram of Dimensions:(unit:mm)



Dφ	5	6.3	8	10	13	16	18	22	
F	2	2.5	3.5	5.0	5.0	7.5	7.5	10.0	
dφ	0.5	L < 20		L ≥ 20		0.6		0.8	
		0.5		0.6					

α	D < 16	D=16		D=18		D > 18
		L:	L < 25 and L ≥ 40	L:	L < 25 and L ≥ 35.5	
		25-35.5		25-31.5		
	1.5	1.5	2.0	1.5	2.0	2.0

Case Size

WV (Vdc)	Cap (uF)	Size mm	Rated Ripple current (mArms/85°C /120Hz)
6.3	33	5x11	72
6.3	47	5x11	88
6.3	68	5x11	110
6.3	100	5x11	143
6.3	120	5x11	165
6.3	150	5x11	198
6.3	180	5x11	220
6.3	220	5x11	242
6.3	220	6.3x11	264
6.3	330	6.3x11	330
6.3	470	6.3x11	385
6.3	470	8x11.5	418
6.3	560	8x11.5	473
6.3	680	8x11.5	539
6.3	820	8x11.5	605
6.3	1000	8x11.5	649
6.3	1000	10x12.5	715
6.3	1200	10x12.5	814
6.3	1500	10x16	935
6.3	1800	10x16	1035
6.3	2200	10x20	1135
6.3	2700	10x20	1353
6.3	3300	10x20	1430
6.3	3300	13x20	1485
6.3	3900	13x20	1529
6.3	4700	13x20	1672
6.3	4700	13x25	1870
6.3	5600	13x25	2002
6.3	6800	16x25	2310
6.3	8200	16x25	2332
6.3	10000	16x31.5	2530
6.3	12000	16x35.5	2783
6.3	15000	16x35.5	2948
6.3	15000	18x35.5	3168
6.3	18000	18x35.5	3300
6.3	22000	18x40	3575
6.3	33000	22x40	4290
10	22	5x11	66
10	33	5x11	88
10	47	5x11	105
10	68	5x11	132
10	100	5x11	198
10	120	5x11	209
10	150	5x11	231
10	180	6.3x11	253
10	220	6.3x11	294
10	330	6.3x11	363
10	470	6.3x11	418
10	470	8x11.5	440
10	560	8x11.5	506
10	680	8x11.5	572
10	820	10x12.5	671
10	1000	8x16	725
10	1000	8x20	803
10	1000	10x12.5	726
10	1200	10x16	902
10	1500	10x16	1001
10	1800	10x20	1089
10	2200	10x20	1210
10	2200	13x20	1330

WV (Vdc)	Cap (uF)	Size mm	Rated Ripple current (mArms/85°C /120Hz)
10	2700	13x20	1419
10	3300	13x20	1540
10	3900	13x20	1760
10	4700	13x25	1980
10	5600	16x25	2189
10	6800	16x25	2475
10	8200	16x31.5	2541
10	10000	16x35.5	2640
10	10000	18x35.5	2915
10	12000	18x35.5	3025
10	15000	18x35.5	3310
10	18000	18x40	3410
10	22000	22x40	4092
10	33000	22x50	4620
16	10	5x11	44
16	22	5x11	83
16	33	5x11	84
16	47	5x11	132
16	68	5x11	149
16	100	5x11	176
16	100	6.3x11	204
16	120	6.3x11	231
16	150	6.3x11	253
16	180	6.3x11	275
16	220	6.3x11	308
16	220	8x11.5	352
16	330	8x11.5	407
16	470	8x11.5	517
16	560	10x12.5	572
16	680	8x16	640
16	680	10x12.5	682
16	820	10x16	803
16	1000	10x16	869
16	1200	10x16	979
16	1500	10x20	1100
16	1800	13x20	1298
16	2200	13x20	1485
16	2700	13x20	1716
16	3300	13x20	1750
16	3300	13x25	1870
16	3900	16x25	2002
16	4700	16x25	2310
16	5600	16x31.5	2453
16	6800	16x31.5	2805
16	8200	16x35.5	2893
16	10000	18x35.5	2970
16	10000	18x40	3190
16	12000	18x35.5	3058
16	12000	18x40	3212
16	15000	22x40	3905
25	4.7	5x11	34
25	10	5x11	50
25	22	5x11	94
25	33	5x11	105
25	47	5x11	132
25	68	6.3x11	176
25	100	6.3x11	209
25	120	6.3x11	253
25	150	6.3x11	275
25	180	6.3x11	280

Case Size

WV (Vdc)	Cap (uF)	Size mm	Rated Ripple current (mA _{rms} /85°C /120Hz)
25	180	8x11.5	319
25	220	6.3x11	310
25	220	8x11.5	363
25	330	8x11.5	451
25	330	10x12.5	484
25	470	8x11.5	561
25	470	10x12.5	594
25	560	10x16	693
25	680	10x16	792
25	680	10x20	825
25	820	10x20	891
25	1000	10x20	1050
25	1200	13x20	1155
25	1500	13x20	1353
25	1800	13x20	1496
25	2200	13x25	1705
25	2700	16x25	1804
25	3300	16x25	1870
25	3300	16x31.5	2145
25	3900	16x31.5	2343
25	4700	16x31.5	2640
25	5600	18x31.5	2816
25	6800	18x35.5	2970
25	8200	18x35.5	2981
25	10000	22x40	3960
35	4.7	5x11	44
35	10	5x11	66
35	22	5x11	108
35	33	5x11	121
35	47	5x11	143
35	47	6.3x11	154
35	68	6.3x11	198
35	100	6.3x11	231
35	100	8x11.5	253
35	120	8x11.5	275
35	150	8x11.5	308
35	180	8x11.5	352
35	220	8x11.5	385
35	220	10x12.5	407
35	330	10x12.5	528
35	330	10x16	539
35	470	10x16	693
35	470	10x20	748
35	560	10x20	847
35	680	10x20	891
35	820	13x20	1045
35	1000	13x20	1265
35	1200	13x20	1375
35	1500	13x25	1570
35	1800	16x25	1749
35	2200	16x25	1870
35	2200	16x31.5	1980
35	2700	16x31.5	2178
35	3300	16x31.5	2365
35	3300	16x35.5	2552
35	3900	18x31.5	2640
35	4700	18x35.5	2860
35	5600	18x40	2915
35	6800	22x40	3630
50	0.1	5x11	3.3

WV (Vdc)	Cap (uF)	Size mm	Rated Ripple current (mA _{rms} /85°C /120Hz)
50	0.22	5x11	3
50	0.33	5x11	6
50	0.47	5x11	8
50	1	5x11	17
50	2.2	5x11	28
50	3.3	5x11	39
50	4.7	5x11	46
50	10	5x11	72
50	22	5x11	110
50	33	5x11	132
50	33	6.3x11	138
50	47	6.3x11	165
50	68	8x11.5	220
50	100	8x11.5	286
50	120	8x11.5	319
50	150	10x12.5	363
50	180	10x12.5	418
50	220	10x12.5	468
50	220	10x16	484
50	330	10x16	649
50	330	10x20	671
50	470	10x20	828
50	470	13x20	858
50	560	13x20	902
50	680	13x20	1056
50	820	13x25	1287
50	1000	13x25	1485
50	1000	16x25	1540
50	1200	16x25	1617
50	1500	16x31.5	1848
50	1800	16x31.5	2112
50	2200	16x35.5	2310
50	2700	18x31.5	2420
50	3300	18x35.5	2750
50	3900	18x40	2871
50	4700	22x40	3355
63	0.1	5x11	4
63	0.22	5x11	4
63	0.33	5x11	6
63	0.47	5x11	8
63	1	5x11	17
63	2.2	5x11	31
63	3.3	5x11	39
63	4.7	5x11	50
63	10	5x11	77
63	22	6.3x11	127
63	33	6.3x11	149
63	33	8x11.5	160
63	47	6.3x11	198
63	47	8x11.5	209
63	68	8x11.5	253
63	100	10x12.5	330
63	120	10x16	396
63	150	10x16	462
63	180	10x16	528
63	220	10x16	550
63	220	10x20	583
63	330	10x20	759
63	330	13x20	781
63	470	13x20	968

Case Size

WV (Vdc)	Cap (uF)	Size mm	Rated Ripple current (mArms/85°C /120Hz)
63	470	13x25	1023
63	560	13x25	1056
63	560	16x25	1089
63	680	16x25	1265
63	820	16x25	1430
63	1000	16x25	1540
63	1000	16x31.5	1705
63	1200	16x31.5	1837
63	1500	16x35.5	2090
63	1800	16x35.5	2255
63	2200	18x35.5	2475
63	2200	18x40	2750
63	2700	22x40	2860
63	3300	22x40	3080
100	0.1	5x11	4.5
100	0.22	5x11	6
100	0.33	5x11	10
100	0.47	5x11	14
100	1	5x11	27
100	2.2	5x11	40
100	3.3	5x11	48
100	4.7	5x11	58
100	10	5x11	85
100	10	6.3x11	92
100	22	6.3x11	157
100	22	8x11.5	164
100	33	8x11.5	206
100	33	10x12.5	218
100	47	10x12.5	278
100	47	10x16	303
100	68	10x16	387
100	100	10x20	472
100	120	10x20	532
100	150	13x20	629
100	180	13x20	667
100	220	13x25	740
100	220	16x25	872
100	330	13x25	920
100	330	16x25	1040
100	470	16x25	1210
100	470	16x31.5	1330
100	560	16x35.5	1465
100	680	16x35.5	1634
100	820	18x35.5	1815
100	1000	18x40	1940
160	0.47	5x11	12
160	1	5x11	17
160	2.2	6.3x11	30
160	3.3	6.3x11	36
160	4.7	6.3x11	40
160	4.7	8x11.5	48
160	10	8x11.5	80
160	22	10x12.5	135
160	33	10x16	180
160	47	10x20	230
160	68	13x20	360
160	100	13x25	430
160	120	16x25	530
160	150	16x25	560
160	180	16x31.5	650

WV (Vdc)	Cap (uF)	Size mm	Rated Ripple current (mArms/85°C /120Hz)
160	220	16x31.5	850
160	220	16x35.5	890
160	330	18x31.5	890
160	330	18x35.5	920
160	470	18x35.5	1180
160	470	18x40	1250
160	560	18x45	1320
200	0.47	5x11	12
200	1	6.3x11	17
200	2.2	6.3x11	30
200	3.3	6.3x11	36
200	4.7	8x11.5	51
200	10	10x12.5	83
200	10	10x16	88
200	22	10x20	135
200	33	13x20	205
200	47	13x20	250
200	47	13x25	280
200	68	13x25	370
200	100	16x25	460
200	120	16x25	550
200	150	16x31.5	580
200	180	16x31.5	660
200	220	18x31.5	750
200	220	18x35.5	800
200	330	18x35.5	940
200	330	18x40	1000
200	470	18x40	1330
250	0.47	5x11	12
250	1	6.3x11	17
250	2.2	6.3x11	20
250	2.2	8x11.5	33
250	3.3	8x11.5	38
250	3.3	10x12.5	43
250	4.7	8x11.5	48
250	4.7	10x12.5	51
250	10	10x12.5	90
250	22	10x20	135
250	22	13x20	165
250	33	13x20	210
250	33	13x25	220
250	47	13x20	240
250	47	13x25	260
250	47	13x25	260
250	68	13x25	340
250	68	16x25	390
250	100	16x25	410
250	100	16x31.5	450
250	120	16x31.5	560
250	150	18x31.5	600
250	180	18x31.5	680
350	0.47	6.3x11	15
350	1	6.3x11	22
350	2.2	8x11.5	30
350	2.2	10x12.5	32
350	3.3	8x11.5	46
350	3.3	10x12.5	51
350	4.7	8x11.5	55
350	4.7	10x12.5	63
350	4.7	10x16	66

Case Size

WV (Vdc)	Cap (uF)	Size mm	Rated Ripple current (mArms/85°C /120Hz)	WV (Vdc)	Cap (uF)	Size mm	Rated Ripple current (mArms/85°C /120Hz)
350	10	10x16	115				
350	10	10x20	125				
350	22	13x20	180				
350	33	13x20	225				
350	33	13x25	250				
350	47	16x25	290				
350	68	16x31.5	400				
350	100	18x31.5	430				
350	120	18x35.5	550				
350	150	18x40	570				
400	0.47	6.3x11	12				
400	0.47	8x11.5	12				
400	1	6.3x11	20				
400	1	8x11.5	22				
400	2.2	8x11.5	32				
400	2.2	10x12.5	35				
400	3.3	8x11.5	45				
400	3.3	10x12.5	53				
400	4.7	8x11.5	55				
400	4.7	10x12.5	66				
400	4.7	10x16	70				
400	10	10x16	100				
400	10	10x20	115				
400	10	13x20	120				
400	22	13x20	190				
400	22	13x25	200				
400	33	13x25	230				
400	33	16x25	250				
400	47	16x25	270				
400	47	16x31.5	290				
400	68	16x35.5	410				
400	68	18x25	380				
400	68	18x31.5	420				
400	100	18x31.5	440				
400	100	18x35.5	450				
400	120	18x40	520				
450	0.47	6.3x11	12				
450	1	8x11.5	22				
450	2.2	8x11.5	32				
450	2.2	10x12.5	35				
450	3.3	8x11.5	35				
450	3.3	10x12.5	37				
450	3.3	10x16	40				
450	4.7	10x12.5	50				
450	4.7	10x16	56				
450	10	10x20	90				
450	10	13x20	105				
450	10	13x25	110				
450	22	13x20	140				
450	22	13x25	150				
450	22	16x25	165				
450	33	16x25	190				
450	33	16x31.5	210				
450	47	16x31.5	260				
450	47	16x35.5	280				
450	68	18x31.5	370				
450	68	18x35.5	390				
450	100	18x40	420				
450	120	18x45	510				