

Industrial Batteries – Sonnenschein A500  
A powerful, universal safety package.

## Specifications

- The success of A500 batteries comes from the internationally superior dryfit technology.
- Excellent energy storage capacity combined with high reliability
- Maintenance-free during their whole service life due to the Sonnenschein dryfit technology
- Nominal capacity 1.2 – 200 Ah
- 7 years design life at 20°C ambient temperature (80% remaining capacity)
- Grid plate construction consisting of a lead calcium alloy
- Very low gassing due to the internal gas recombination
- Very low self discharge rate
- Short recharging time
- Proof against deep discharge according to DIN 43 539 T5
- Trouble-free transportation of operational blocs, no restrictions for rail, road, sea and air transportation (IATA, DGR clause A 67)
- Completely recyclable



## Applications

Sonnenschein A500 batteries make an absolutely reliable means of energy source in many applications including telecommunications, security, UPS, emergency lighting, medical and other power supplies for safety systems.



Valve regulated lead acid batteries



Grid plate



Nominal capacity 1.2 - 200 Ah



Bloc battery



Design life: 7 years



Maintenance-free



Proof against deep discharge acc. to DIN 43 539 T5



Recyclable

Type	Part number	Nominal voltage	Nominal capacity $C_{20}$ 1.75 V/C 20°C	Discharge current $I_{20}$	Max. load*	Length	Width	Height up to top of cover	Height over terminals	Weight	Internal resistance acc. to IEC 896-2	Short circuit current acc. to IEC 896-2	Terminal	VdS approval
		V	Ah	A	approx. A	max. mm	max. mm	max. mm	max. mm	approx. kg	m $\Omega$	A		
A502/10 S	NGA5020010HSOSA	2	10.0	0.500	80	52.9	50.5	94.5	98.4	0.70	11.2	189	S-4.8	
A504/3.5 S	NGA50403D5HSOSA	4	3.5	0.175	60	90.5	34.5	60.5	64.4	0.50	48.0	88	S-4.8	
A506/1.2 S	NGA50601D2HSOSA	6	1.2	0.060	30	97.3	25.5	51.0	54.9	0.33	165.0	38	S-4.8	
A506/3.5 S	NGA50603D5HSOSA	6	3.5	0.175	60	134.5	34.5	60.5	64.4	0.75	71.0	88	S-4.8	
A506/4.2 S	NGA50604D2HSOSA	6	4.2	0.210	60	62.3	52.0	98.0	101.9	0.90	63.8	98	S-4.8	
A506/6.5 S	NGA50606D5HSOSA	6	6.5	0.325	80	151.5	34.5	94.5	98.4	1.33	48.0	131	S-4.8	
A506/10 S	NGA5060010HSOSA	6	10.0	0.500	80	151.7	50.5	94.5	98.4	2.05	34.0	189	S-4.8	G 189230
A508/3.5 S	NGA50803D5HSOSA	8	3.5	0.175	60	178.5	34.1	60.5	64.4	1.00	95.0	88	S-4.8	
A512/1.2 S	NGA51201D2HSOSA	12	1.2	0.060	30	97.5	49.5	51.0	54.9	0.66	330.0	38	S-4.8	G 195088
A512/2 S	NGA5120002HSOSA	12	2.0	0.050	40	178.5	34.1	60.5	64.4	1.00	172.0	73	S-4.8	G 191016
A512/3.5 S	NGA51203D5HSOSA	12	3.5	0.175	60	134.5	66.8	60.5	64.4	1.50	142.0	88	S-4.8	G 190045
A512/6.5 S	NGA51206D5HSOSA	12	6.5	0.325	80	151.7	65.5	94.5	98.4	2.60	95.0	131	S-4.8	G 189023
A512/10 S	NGA5120010HSOSA	12	10.0	0.500	80	152.0	98.0	94.5	98.4	4.00	66.0	189	S-4.8	G 189231
A512/16 G5	NGA5120016HSOBA	12	16.0	0.800	200	181.0	76.0	167.0	167.0	6.00	24.2	512	G-M5	G 189232
A512/25 G5	NGA5120025HSOBA	12	25.0	1.250	200	167.0	176.0	126.0	126.0	9.65	21.3	583	G-M5	G 196025
A512/30 G6	NGA5120030HSOBA	12	30.0	1.500	400	197.0	132.0	161.0	180.0	11.10	13.1	932	G-M6	G 191047
A512/40 A	NGA5120040HSOCA	12	40.0	2.000	400	210.0	175.0	175.0	175.0	14.60	11.6	1069	A-Terminal	G 191015
A512/40 G6	NGA5120040HSOBA	12	40.0	2.000	400	210.0	175.0	175.0	175.0	14.60	11.6	1069	G-M6	G 191015
A512/55 A	NGA5120055HSOCA	12	55.0	2.750	400	261.0	136.0	208.0	230.0	18.80	8.9	1403	A-Terminal	
A512/60 A	NGA5120060HSOCA	12	60.0	3.000	400	278.0	175.0	190.0	190.0	21.70	6.6	1887	A-Terminal	
A512/60 G6	NGA5120060HSOBA	12	60.0	3.000	400	278.0	175.0	190.0	190.0	21.70	6.6	1887	G-M6	
A512/65 A	NGA5120065HSOCA	12	65.0	3.250	400	353.0	175.0	190.0	190.0	24.40	8.5	1471	A-Terminal	
A512/65 G6	NGA5120065HSOBA	12	65.0	3.250	400	353.0	175.0	190.0	190.0	24.40	8.5	1471	G-M6	
A512/85 A	NGA5120085HSOCA	12	85.0	4.250	600	330.0	171.0	213.0	236.0	31.00	6.2	2018	A-Terminal	G190046
A512/115 A	NGA5120115HSOCA	12	115.0	5.750	770	286.0	269.0	208.0	230.0	40.00	4.6	2660	A-Terminal	
A512/120 A	NGA5120120HSOCA	12	120.0	6.000	770	513.0	189.0	195.0	223.0	41.00	5.2	2475	A-Terminal	
A512/140 A	NGA5120140HSOCA	12	140.0	7.000	770	513.0	223.0	195.0	223.0	48.00	4.1	3132	A-Terminal	
A512/200 A	NGA5120200HSOCA	12	200.0	10.000	770	518.0	274.0	216.0	242.0	70.00	3.5	3606	A-Terminal	

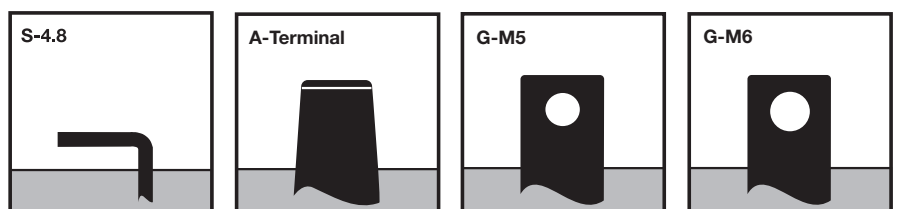
\*With suitable matching contacts

### Container and approval

**Container:** 1.2–16 Ah = ABS  
25–200 Ah = Polypropylene (PP)

**Approval:** Underwriters Laboratories (UL), USA  
VdS (Types see above)  
DIN/Gost/TÜV, Russia

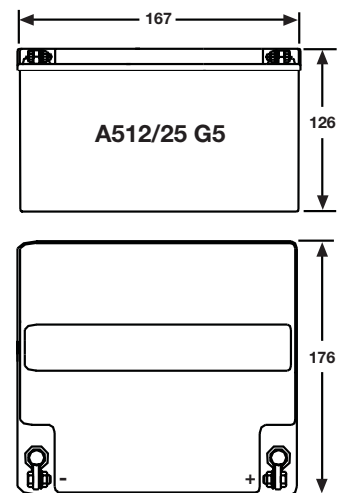
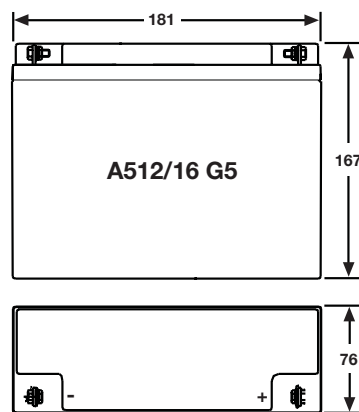
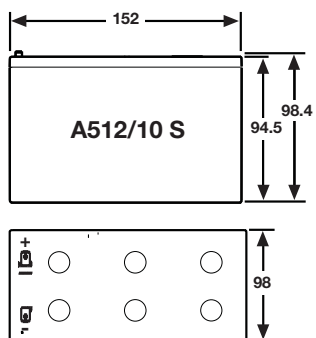
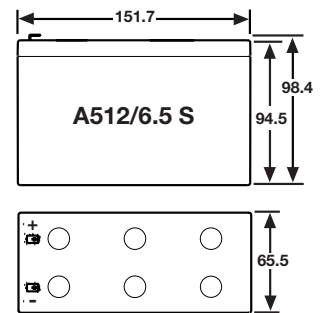
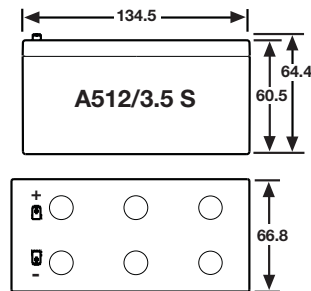
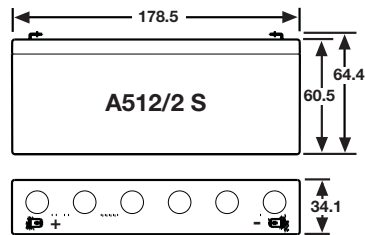
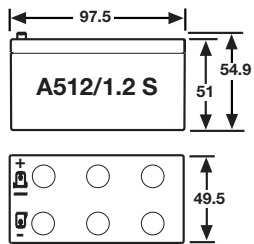
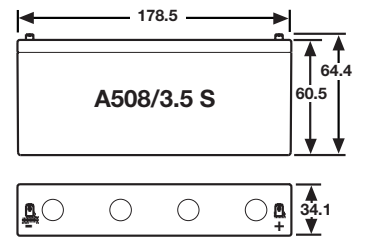
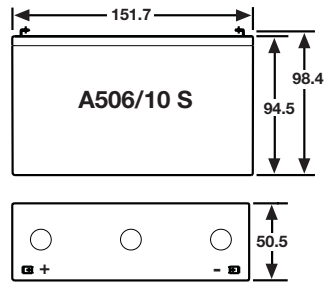
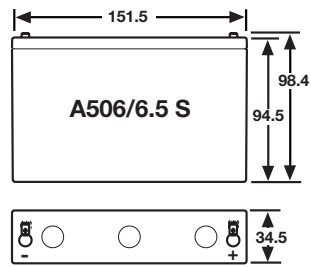
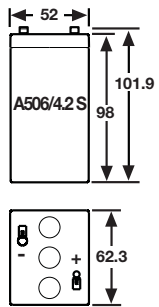
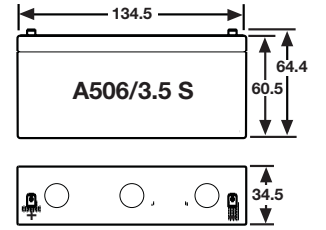
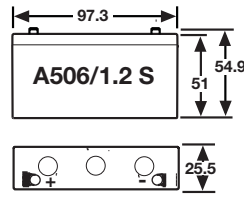
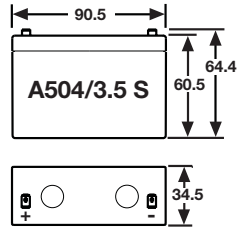
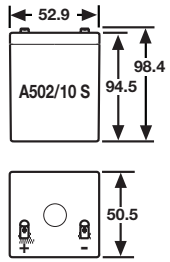
### Terminal and torque



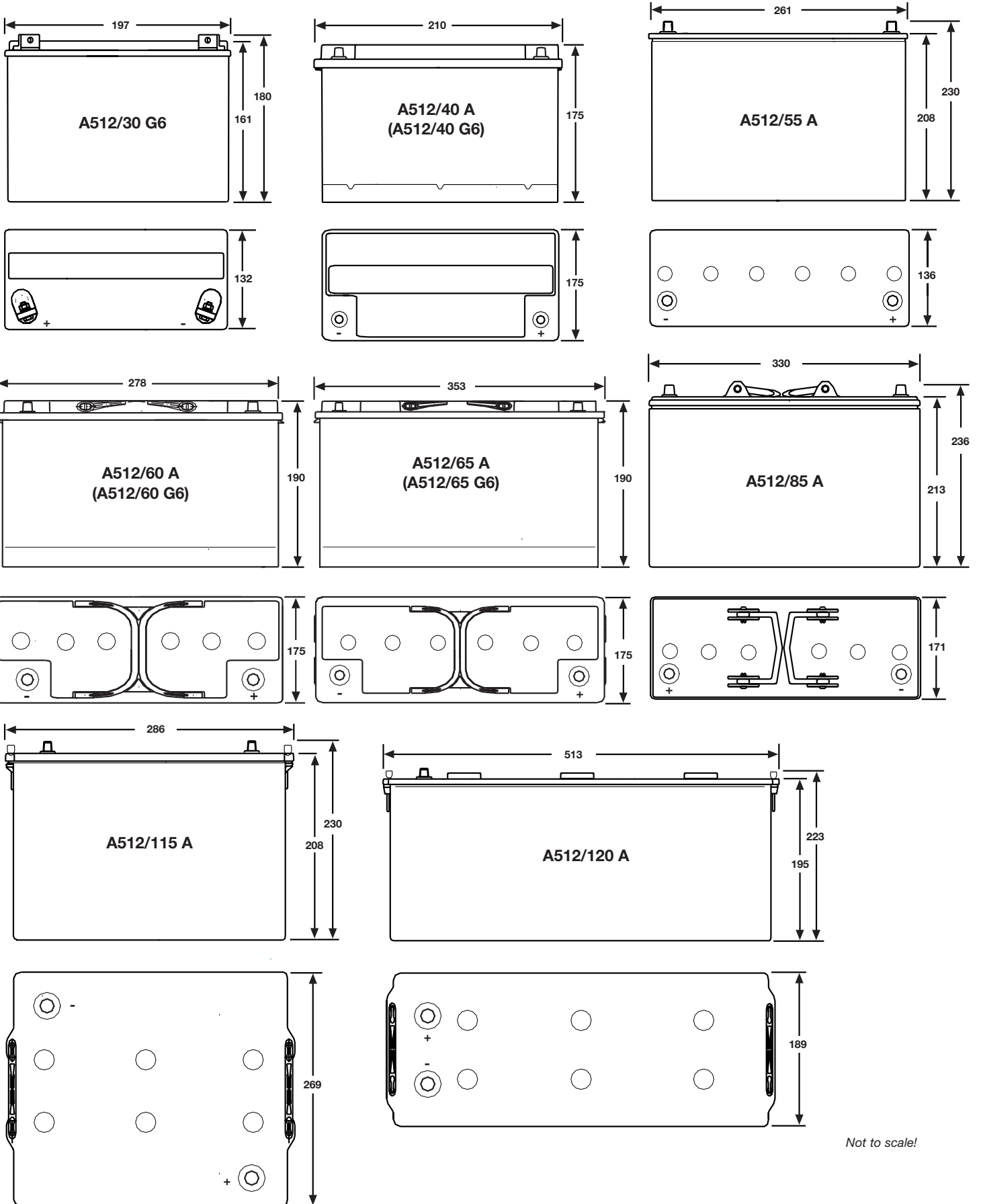
8 Nm

5 Nm

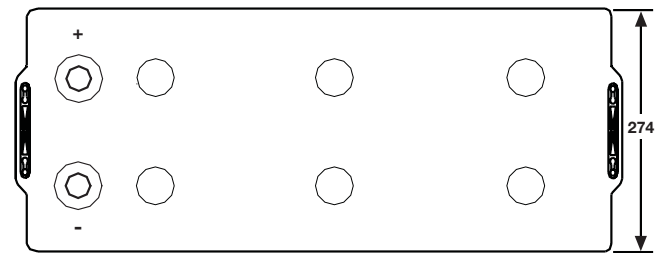
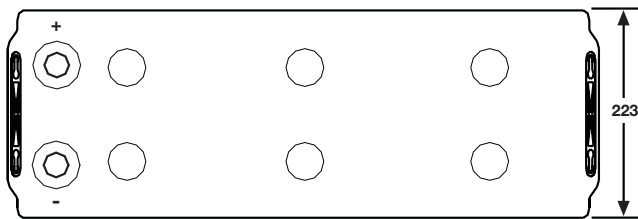
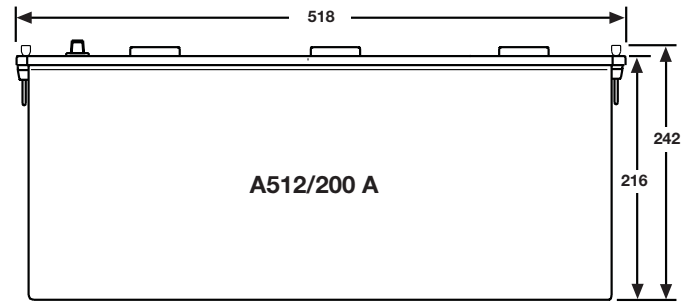
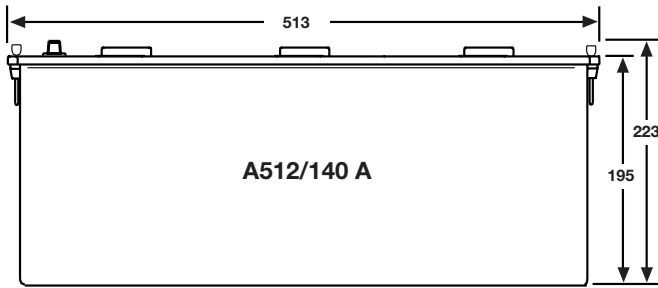
6 Nm



Not to scale!

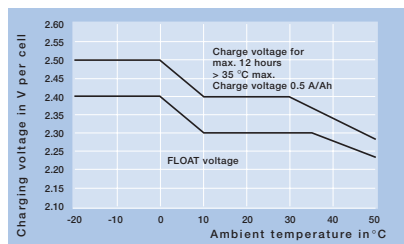


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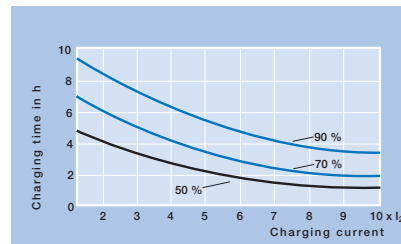
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Technical data at a glance

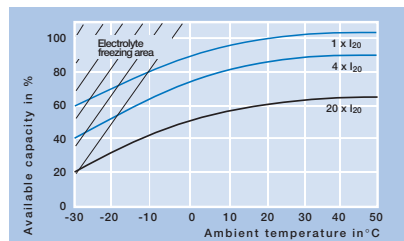


Constant charge voltages for various ambient temperatures.

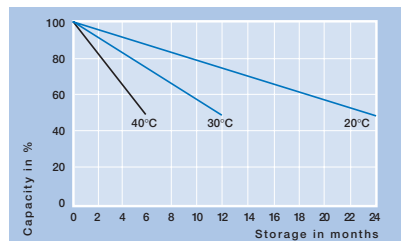
Note:  
For charge voltages > 2.4 V per cell the charging current must be limited to max. 0.4 A/Ah.



Recharging time in relation to initial current up to 50%, 70% and 90% charging state, charging voltage 2.4 V/cell.



Available capacity in relation to the ambient temperature.



Self-discharge in relation to the storage temperature.

1.85 V/C – Discharge in A at 20°C											1.80 V/C – Discharge in A at 20°C									
Type	Part number	5'	10'	20'	30'	1h	3h	5h	8h	10h	5'	10'	20'	30'	1h	3h	5h	8h	10h	
A502/10S	NGA5020010HSOSA	30.00	22.00	15.00	11.20	6.40	2.80	1.80	1.18	0.96	33.00	24.00	16.00	11.90	6.80	2.90	1.90	1.23	1.00	
A504/3.5S	NGA50403D5HSOSA	9.50	6.70	4.50	3.40	2.10	0.95	0.60	0.39	0.32	10.60	7.40	4.90	3.70	2.20	0.98	0.62	0.40	0.33	
A506/1.2S	NGA50601D2HSOSA	3.52	2.44	1.58	1.20	0.75	0.34	0.21	0.13	0.10	3.92	2.67	1.69	1.26	0.77	0.35	0.21	0.13	0.10	
A506/3.5S	NGA50603D5HSOSA	9.50	6.70	4.50	3.40	2.10	0.95	0.60	0.39	0.32	10.60	7.40	4.90	3.70	2.20	0.98	0.62	0.40	0.33	
A506/4.2S	NGA50604D2HSOSA	9.90	6.30	4.20	3.40	2.40	1.22	0.75	0.49	0.39	11.70	6.70	4.40	3.40	2.40	1.24	0.77	0.50	0.40	
A506/6.5S	NGA50606D5HSOSA	17.00	12.00	8.10	6.10	3.60	1.50	1.10	0.73	0.61	19.00	13.00	8.80	6.50	3.80	1.60	1.10	0.75	0.63	
A506/10S	NGA5060010HSOSA	30.00	22.00	15.00	11.20	6.40	2.80	1.80	1.18	0.96	33.00	24.00	16.00	11.90	6.80	2.90	1.90	1.23	1.00	
A508/3.5S	NGA50803D5HSOSA	9.50	6.70	4.50	3.40	2.10	0.95	0.60	0.39	0.3	10.60	7.40	4.90	3.70	2.20	0.98	0.62	0.40	0.33	
A512/1.2S	NGA51201D2HSOSA	3.52	2.44	1.58	1.20	0.75	0.34	0.21	0.13	0.10	3.92	2.67	1.69	1.26	0.77	0.35	0.21	0.13	0.10	
A512/2S	NGA5120002HSOSA	5.40	3.70	2.60	2.00	1.50	0.56	0.34	0.22	0.18	6.20	4.20	2.80	2.10	1.50	0.58	0.36	0.23	0.19	
A512/3.5S	NGA51203D5HSOSA	9.50	6.70	4.50	3.40	2.10	0.95	0.60	0.39	0.32	10.60	7.40	4.90	3.70	2.20	0.98	0.62	0.40	0.33	
A512/6.5S	NGA51206D5HSOSA	17.00	12.00	8.10	6.10	3.60	1.50	1.10	0.73	0.61	19.00	13.00	8.80	6.50	3.80	1.60	1.10	0.75	0.63	
A512/10S	NGA5120010HSOSA	30.00	22.00	15.00	11.20	6.40	2.80	1.80	1.18	0.96	33.00	24.00	16.00	11.90	6.80	2.90	1.90	1.23	1.00	
A512/16G5	NGA5120016HSOBA	40.0	29.0	20.0	15.0	9.8	4.3	2.7	1.8	1.4	47.0	33.0	22.0	16.0	10.2	4.4	2.8	1.8	1.5	
A512/25G5	NGA5120025HSOBA	41.1	36.2	24.8	20.5	13.1	5.8	3.9	2.5	2.1	46.1	38.8	27.0	21.3	13.8	6.0	4.0	2.6	2.2	
A512/30G6	NGA5120030HSOBA	60.7	49.3	36.5	28.0	18.0	7.6	4.9	3.2	2.6	75.5	54.8	39.9	30.0	19.1	7.9	5.1	3.3	2.7	
A512/40A	NGA5120040HSOCA	75.0	63.0	42.0	34.0	22.0	8.8	6.4	4.3	3.5	86.0	69.0	47.0	36.0	23.0	9.2	6.7	4.4	3.6	
A512/40G6	NGA5120040HSOBA	75.0	63.0	42.0	34.0	22.0	8.8	6.4	4.3	3.5	86.0	69.0	47.0	36.0	23.0	9.2	6.7	4.4	3.6	
A512/55A	NGA5120055HSOCA	99.2	83.1	59.1	46.4	32.7	13.6	9.0	6.0	4.9	114.9	89.8	65.3	50.2	34.2	14.0	9.2	6.1	5.0	
A512/60A	NGA5120060HSOCA	122.8	100.8	69.2	54.2	33.8	15.3	9.9	6.6	5.4	145.8	108.9	75.9	58.1	35.5	15.8	10.3	6.8	5.6	
A512/60G6	NGA5120060HSOBA	122.8	100.8	69.2	54.2	33.8	15.3	9.9	6.6	5.4	145.8	108.9	75.9	58.1	35.5	15.8	10.3	6.8	5.6	
A512/65A	NGA5120065HSOCA	95.8	83.1	65.8	56.4	35.8	16.6	11.0	7.4	6.1	120.8	100.3	75.4	60.4	38.6	17.4	11.5	7.5	6.2	
A512/65G6	NGA5120065HSOBA	95.8	83.1	65.8	56.4	35.8	16.6	11.0	7.4	6.1	120.8	100.3	75.4	60.4	38.6	17.4	11.5	7.5	6.2	
A512/85A	NGA5120085HSOCA	168.0	141.0	100.0	78.0	53.0	22.0	14.2	9.4	7.7	193.0	154.0	112.0	85.0	56.0	23.0	14.7	9.8	8.0	
A512/115A	NGA5120115HSOCA	210.0	179.0	128.0	100.0	60.0	26.0	18.0	12.0	10.1	244.0	192.0	140.0	107.0	64.0	27.0	18.0	13.0	10.4	
A512/120A	NGA5120120HSOCA	257.0	201.0	135.0	104.0	65.5	27.8	18.1	11.9	9.8	293.0	221.0	147.0	112.0	69.5	28.9	18.6	12.3	10.2	
A512/140A	NGA5120140HSOCA	275.0	220.0	151.0	118.0	75.1	32.5	21.3	14.0	11.5	315.0	244.0	166.0	128.0	79.7	33.8	22.0	14.5	11.9	
A512/200A	NGA5120200HSOCA	329.0	274.0	196.0	160.0	104.0	46.6	31.0	20.4	16.7	381.0	313.0	222.0	176.0	110.0	48.5	32.0	21.1	17.3	

1.75 V/C – Discharge in A at 20°C											1.70 V/C – Discharge in A at 20°C									
Type	Part number	5'	10'	20'	30'	1h	3h	5h	8h	10h	5'	10'	20'	30'	1h	3h	5h	8h	10h	
A502/10S	NGA5020010HSOSA	35.00	26.00	17.00	12.30	6.90	3.00	1.90	1.25	1.02	37.00	27.00	17.00	12.60	7.00	3.00	1.90	1.25	1.02	
A504/3.5S	NGA50403D5HSOSA	11.30	7.90	5.10	3.80	2.30	0.99	0.62	0.41	0.34	12.10	8.30	5.20	3.90	2.30	1.00	0.63	0.41	0.34	
A506/1.2S	NGA50601D2HSOSA	4.12	2.82	1.74	1.30	0.78	0.35	0.22	0.13	0.10	4.32	2.91	1.77	1.31	0.79	0.35	0.22	0.13	0.10	
A506/3.5S	NGA50603D5HSOSA	11.30	7.90	5.10	3.80	2.30	0.99	0.62	0.41	0.34	12.10	8.30	5.20	3.90	2.30	1.00	0.63	0.41	0.34	
A506/4.2S	NGA50604D2HSOSA	13.30	6.90	54.40	3.50	2.40	1.25	0.78	0.50	0.41	14.20	7.00	4.50	3.50	2.50	1.26	0.79	0.50	0.41	
A506/6.5S	NGA50606D5HSOSA	20.00	14.00	9.20	6.80	3.90	1.60	1.10	0.76	0.63	21.00	15.00	9.50	6.90	3.90	1.60	1.10	0.76	0.63	
A506/10S	NGA5060010HSOSA	35.00	26.00	17.00	12.30	6.90	3.00	1.90	1.25	1.02	37.00	27.00	17.00	12.60	7.00	3.00	1.90	1.25	1.02	
A508/3.5S	NGA50803D5HSOSA	11.30	7.90	5.10	3.80	2.30	0.99	0.62	0.41	0.34	12.10	8.30	5.20	3.90	2.30	1.00	0.63	0.41	0.34	
A512/1.2S	NGA51201D2HSOSA	4.12	2.82	1.74	1.30	0.78	0.35	0.22	0.13	0.10	4.32	2.91	1.77	1.31	0.79	0.35	0.22	0.13	0.10	
A512/2S	NGA5120002HSOSA	6.80	4.60	2.90	2.20	1.50	0.59	0.36	0.24	0.19	7.40	4.80	3.00	2.20	1.50	0.60	0.37	0.24	0.19	
A512/3.5S	NGA51203D5HSOSA	11.30	7.90	5.10	3.80	2.30	0.99	0.62	0.41	0.34	12.10	8.30	5.20	3.90	2.30	1.00	0.63	0.41	0.34	
A512/6.5S	NGA51206D5HSOSA	20.00	14.00	9.20	6.80	3.90	1.60	1.10	0.76	0.63	21.00	15.00	9.50	6.90	3.90	1.60	1.10	0.76	0.63	
A512/10S	NGA5120010HSOSA	35.00	26.00	17.00	12.30	6.90	3.00	1.90	1.25	1.02	37.00	27.00	17.00	12.60	7.00	3.00	1.90	1.25	1.02	
A512/16G5	NGA5120016HSOBA	51.0	36.0	23.0	17.0	10.4	4.5	2.9	1.8	1.5	54.0	39.0	24.0	17.0	10.5	4.6	2.9	1.8	1.5	
A512/25G5	NGA5120025HSOBA	54.2	41.4	28.6	21.9	14.2	6.1	4.0	2.7	2.2	61.7	43.3	29.6	22.4	14.4	6.2	4.1	2.7	2.2	
A512/30G6	NGA5120030HSOBA	84.7	60.3	42.0	31.3	19.7	8.1	5.2	3.4	2.8	92.0	64.3	43.3	32.0	20.0	8.2	5.3	3.4	2.8	
A512/40A	NGA5120040HSOCA	103.0	74.0	50.0	37.0	24.0	9.4	6.8	4.5	3.7	115.0	79.0	52.0	38.0	24.0	9.5	6.8	4.5	3.7	
A512/40G6	NGA5120040HSOBA	103.0	74.0	50.0	37.0	24.0	9.4	6.8	4.5	3.7	115.0	79.0	52.0	38.0	24.0	9.5	6.8	4.5	3.7	
A512/55A	NGA5120055HSOCA	139.7	99.0	69.5	52.5	35.0	14.2	9.3	6.2	5.1	151.6	106.7	72.0	53.9	35.5	14.3	9.3	6.2	5.1	
A512/60A	NGA5120060HSOCA	168.0	118.1	80.4	60.5	36.4	16.1	10.4	6.9	5.6	178.3	125.2	82.6	61.6	36.9	16.2	10.4	6.9	5.6	
A512/60G6	NGA5120060HSOBA	168.0	118.1	80.4	60.5	36.4	16.1	10.4	6.9	5.6	178.3	125.2	82.6	61.6	36.9	16.2	10.4	6.9	5.6	
A512/65A	NGA5120065HSOCA	140.6	111.3	81.9	63.8	40.0	17.8	11.7	7.6	6.3	158.3	121.3	86.2	65.9	40.6	17.9	11.7	7.6	6.3	
A512/65G6	NGA5120065HSOBA	140.6	111.3	81.9	63.8	40.0	17.8	11.7	7.6	6.3	158.3	121.3	86.2	65.9	40.6	17.9	11.7	7.6	6.3	
A512/85A	NGA5120085HSOCA	226.0	169.0	120.0	90.0	58.0	23.0	15.0	9.9	8.1	244.0	182.0	125.0	93.0	59.0	23.0	15.1	9.9	8.1	
A512/115A	NGA5120115HSOCA	282.0	204.0	148.0	112.0	66.0	28.0	19.0	13.0	10.5	310.0	215.0	153.0	114.0	67.0	28.0	19.0	13.0	10.5	
A512/120A	NGA5120120HSOCA	330.0	235.0	155.0	116.0	71.6	29.5	19.0	12.6	10.5	367.0	249.0	161.0	119.0	73.1	29.9	19.2	12.8	10.5	
A512/140A	NGA5120140HSOCA	357.0	264.0	176.0	133.0	82.3	34.5	22.3	14.8	12.2	397.0	282.0	183.0	137.0	84.1	35.1	22.6	15.0	12.2	
A512/200A	NGA5120200HSOCA	437.0	349.0	237.0	183.0	115.0	49.7	32.3	21.5	17.7	486.0	380.0	251.0	191.0	117.0	50.6	32.8	21.8	17.7	

The values are measured at 20°C and may change depending on the application or ambient temperature.





		1.65 V/C – Discharge in A at 20°C										1.60 V/C – Discharge in A at 20°C									
Type	Part number	5'	10'	20'	30'	1h	3h	5h	8h	10h	5'	10'	20'	30'	1h	3h	5h	8h	10h		
A502/10S	NGA5020010HS0SA	39.00	28.00	17.00	12.70	7.10	3.00	1.90	1.25	1.02	42.00	29.00	17.00	12.80	7.10	3.00	1.90	1.25	1.02		
A504/3.5S	NGA50403D5HS0SA	12.70	8.50	5.30	3.90	2.30	1.01	0.63	0.41	0.34	13.10	8.70	5.30	3.90	2.30	1.01	0.63	0.41	0.34		
A506/1.2S	NGA50601D2HS0SA	4.52	2.96	1.79	1.32	0.80	0.36	0.22	0.13	0.10	4.66	3.00	1.80	1.33	0.80	0.36	0.22	0.13	0.10		
A506/3.5S	NGA50603D5HS0SA	12.70	8.50	5.30	3.90	2.30	1.01	0.63	0.41	0.34	13.10	8.70	5.30	3.90	2.30	1.01	0.63	0.41	0.34		
A506/4.2S	NGA50604D2HS0SA	14.80	7.00	4.50	3.50	2.50	1.27	0.79	0.50	0.41	15.20	7.00	4.50	3.50	2.50	1.27	0.79	0.50	0.41		
A506/6.5S	NGA50606D5HS0SA	23.00	15.00	9.60	7.00	4.00	1.60	1.10	0.76	0.63	24.00	16.00	9.70	7.00	4.00	1.60	1.10	0.76	0.63		
A506/10S	NGA5060010HS0SA	39.00	28.00	17.00	12.70	7.10	3.00	1.90	1.25	1.02	42.00	29.00	17.00	12.80	7.10	3.00	1.90	1.25	1.02		
A508/3.5S	NGA50803D5HS0SA	12.70	8.50	5.30	3.90	2.30	1.01	0.63	0.41	0.34	13.10	8.70	5.30	3.90	2.30	1.01	0.63	0.41	0.34		
A512/1.2S	NGA51201D2HS0SA	4.52	2.96	1.79	1.32	0.80	0.36	0.22	0.13	0.10	4.66	3.00	1.80	1.33	0.80	0.36	0.22	0.13	0.10		
A512/2S	NGA5120002HS0SA	7.80	4.90	3.00	2.20	1.50	0.60	0.37	0.24	0.19	8.20	5.00	3.10	2.20	1.50	0.60	0.37	0.24	0.19		
A512/3.5S	NGA51203D5HS0SA	12.70	8.50	5.30	3.90	2.30	1.01	0.63	0.41	0.34	13.10	8.70	5.30	3.90	2.30	1.01	0.63	0.41	0.34		
A512/6.5S	NGA51206D5HS0SA	23.00	15.00	9.60	7.00	4.00	1.60	1.10	0.76	0.63	24.00	16.00	9.70	7.00	4.00	1.60	1.10	0.76	0.63		
A512/10S	NGA5120010HS0SA	39.00	28.00	17.00	12.70	7.10	3.00	1.90	1.25	1.02	42.00	29.00	17.00	12.80	7.10	3.00	1.90	1.25	1.02		
A512/16G5	NGA5120016HS0BA	58.0	41.0	24.0	18.0	10.6	4.6	2.9	1.8	1.5	61.0	42.0	25.0	18.0	10.7	4.6	2.9	1.8	1.5		
A512/25G5	NGA5120025HS0BA	67.5	45.4	30.2	22.7	14.4	6.2	4.1	2.7	2.2	71.8	46.9	30.7	22.9	14.5	6.2	4.1	2.7	2.2		
A512/30G6	NGA5120030HS0BA	98.9	67.0	44.0	32.4	20.1	8.2	5.3	3.4	2.8	105.1	68.7	44.4	32.6	20.1	8.2	5.3	3.4	2.8		
A512/40A	NGA5120040HS0CA	121.0	82.0	53.0	39.0	24.0	9.5	6.8	4.5	3.7	127.0	85.0	54.0	39.0	24.0	9.5	6.8	4.5	3.7		
A512/40G6	NGA5120040HS0BA	121.0	82.0	53.0	39.0	24.0	9.5	6.8	4.5	3.7	127.0	85.0	54.0	39.0	24.0	9.5	6.8	4.5	3.7		
A512/55A	NGA5120055HS0CA	161.2	112.3	73.6	54.7	35.7	14.4	9.3	6.2	5.1	169.8	116.2	74.6	55.2	35.8	14.4	9.3	6.2	5.1		
A512/60A	NGA5120060HS0CA	185.2	130.3	83.2	61.7	37.1	16.2	10.4	6.9	5.6	191.0	133.3	83.5	61.8	37.2	16.2	10.4	6.9	5.6		
A512/60G6	NGA5120060HS0BA	185.2	130.3	83.2	61.7	37.1	16.2	10.4	6.9	5.6	191.0	133.3	83.5	61.8	37.2	16.2	10.4	6.9	5.6		
A512/65A	NGA5120065HS0CA	178.5	129.8	88.8	67.0	40.9	17.9	11.7	7.6	6.3	193.1	135.7	90.3	67.7	41.1	18.0	11.7	7.6	6.3		
A512/65G6	NGA5120065HS0BA	178.5	129.8	88.8	67.0	40.9	17.9	11.7	7.6	6.3	193.1	135.7	90.3	67.7	41.1	18.0	11.7	7.6	6.3		
A512/85A	NGA5120085HS0CA	259.0	192.0	128.0	94.0	59.0	24.0	15.1	9.9	8.1	273.0	199.0	130.0	95.0	60.0	23.0	15.1	9.9	8.1		
A512/115A	NGA5120115HS0CA	332.0	222.0	156.0	116.0	67.0	28.0	19.0	13.0	10.5	343.0	227.0	158.0	117.0	68.0	28.0	19.0	13.0	10.5		
A512/120A	NGA5120120HS0CA	387.0	260.0	165.0	122.0	74.0	30.1	18.0	11.3	9.0	409.0	267.0	168.0	124.0	74.7	30.2	18.1	11.3	9.0		
A512/140A	NGA5120140HS0CA	423.0	294.0	189.0	141.0	85.4	35.4	21.2	13.3	10.6	452.0	303.0	193.0	143.0	86.3	35.4	21.2	13.3	10.6		
A512/200A	NGA5120200HS0CA	531.0	395.0	262.0	198.0	120.0	51.0	30.6	19.1	15.3	581.0	411.0	269.0	202.0	121.0	51.1	30.6	19.1	15.3		

The values are measured at 20°C and may change depending on the application or ambient temperature.

1.85 V/C – Discharge in W/bloc at 20°C											1.80 V/C – Discharge in W/bloc at 20°C									
Type	Part number	3'	5'	10'	15'	20'	30'	45'	60'	90'	3'	5'	10'	15'	20'	30'	45'	60'	90'	
A502/10S	NGA5020010HSOSA	56.0	50.0	41.0	33.0	27.0	20.0	16.0	13.0	9.0	56.0	53.0	44.0	35.0	29.0	21.0	17.0	14.0	10.0	
A504/3.5S	NGA50403D5HSOSA	41.0	34.0	26.0	21.0	17.0	13.0	11.0	9.0	6.0	45.0	38.0	28.0	22.0	19.0	14.0	11.0	9.0	6.0	
A506/1.2S	NGA50601D2HSOSA	21.4	17.2	12.2	10.3	8.6	6.6	4.9	4.0	3.0	23.5	19.1	13.3	10.9	9.1	6.9	5.1	4.1	3.0	
A506/3.5S	NGA50603D5HSOSA	62.0	51.0	38.0	32.0	26.0	20.0	16.0	13.0	9.0	68.0	57.0	42.0	33.0	28.0	21.0	17.0	13.0	10.0	
A506/4.2S	NGA50604D2HSOSA	77.0	63.0	44.0	35.0	30.0	23.0	16.0	14.0	11.0	83.0	71.0	49.0	39.0	35.0	31.0	17.0	14.0	11.0	
A506/6.5S	NGA50606D5HSOSA	120.0	100.0	73.0	60.0	51.0	38.0	28.0	23.0	16.0	128.0	112.0	80.0	63.0	54.0	40.0	30.0	24.0	17.0	
A506/10S	NGA5060010HSOSA	167.0	149.0	124.0	98.0	80.0	60.0	49.0	39.0	28.0	168.0	159.0	131.0	104.0	86.0	64.0	51.0	41.0	29.0	
A508/3.5S	NGA50803D5HSOSA	83.0	68.0	51.0	42.0	35.0	27.0	22.0	17.0	12.0	91.0	76.0	56.0	44.0	37.0	28.0	23.0	18.0	13.0	
A512/1.2S	NGA51201D2HSOSA	42.7	34.4	24.3	20.7	17.2	13.2	9.8	8.0	5.9	47.0	38.3	26.5	21.7	18.1	13.7	10.2	8.2	6.0	
A512/2S	NGA5120002HSOSA	74.0	60.0	44.0	36.0	30.0	23.0	17.0	14.0	10.0	83.0	68.0	49.0	38.0	32.0	24.0	18.0	15.0	11.0	
A512/3.5S	NGA51203D5HSOSA	124.0	102.0	77.0	63.0	52.0	40.0	33.0	26.0	18.0	136.0	114.0	84.0	66.0	56.0	42.0	34.0	27.0	19.0	
A512/6.5S	NGA51206D5HSOSA	240.0	200.0	146.0	120.0	102.0	76.0	56.0	46.0	32.0	256.0	224.0	160.0	126.0	108.0	80.0	60.0	48.0	34.0	
A512/10S	NGA5120010HSOSA	335.0	298.0	248.0	195.0	160.0	120.0	98.0	78.0	56.0	336.0	318.0	261.0	209.0	172.0	128.0	101.0	81.0	59.0	
A512/16G5	NGA5120016HSOBA	485.0	433.0	352.0	295.0	252.0	192.0	150.0	119.0	87.0	584.0	485.0	384.0	309.0	269.0	203.0	156.0	124.0	90.0	
A512/25G5	NGA5120025HSOBA	535.0	463.0	387.0	324.0	278.0	225.0	170.0	140.0	105.0	623.0	555.0	418.0	360.0	303.0	240.0	180.0	146.0	109.0	
A512/30G6	NGA5120030HSOBA	857.0	751.0	568.0	479.0	400.0	310.0	251.0	200.0	144.0	1036.0	850.0	637.0	517.0	433.0	330.0	264.0	210.0	151.0	
A512/40A	NGA5120040HSOCA	958.0	848.0	703.0	578.0	490.0	395.0	300.0	243.0	178.0	1092.0	1007.0	758.0	646.0	538.0	415.0	318.0	255.0	186.0	
A512/40G6	NGA5120040HSOBA	958.0	848.0	703.0	578.0	490.0	395.0	300.0	243.0	178.0	1092.0	1007.0	758.0	646.0	538.0	415.0	318.0	255.0	186.0	
A512/55A	NGA5120055HSOCA	1348.0	1172.0	922.0	844.0	718.0	572.0	457.0	367.0	269.0	1555.0	1362.0	1014.0	888.0	777.0	606.0	478.0	382.0	278.0	
A512/60A	NGA5120060HSOCA	1618.0	1414.0	1096.0	963.0	807.0	625.0	459.0	369.0	271.0	1955.0	1634.0	1181.0	1041.0	873.0	669.0	489.0	390.0	283.0	
A512/60G6	NGA5120060HSOBA	1618.0	1414.0	1096.0	963.0	807.0	625.0	459.0	369.0	271.0	1955.0	1634.0	1181.0	1041.0	873.0	669.0	489.0	390.0	283.0	
A512/65A	NGA5120065HSOCA	1180.0	1113.0	991.0	861.0	763.0	659.0	500.0	411.0	307.0	1459.0	1316.0	1109.0	989.0	851.0	693.0	544.0	441.0	327.0	
A512/65G6	NGA5120065HSOBA	1180.0	1113.0	991.0	861.0	763.0	659.0	500.0	411.0	307.0	1459.0	1316.0	1109.0	989.0	851.0	693.0	544.0	441.0	327.0	
A512/85A	NGA5120085HSOCA	1979.0	1802.0	1527.0	1310.0	1118.0	905.0	690.0	565.0	425.0	2279.0	2132.0	1684.0	1487.0	1245.0	970.0	740.0	600.0	447.0	
A512/115A	NGA5120115HSOCA	2808.0	2531.0	2009.0	1705.0	1439.0	1155.0	872.0	702.0	512.0	3189.0	2873.0	2190.0	1888.0	1569.0	1209.0	926.0	739.0	535.0	
A512/120A	NGA5120120HSOCA	3350.0	2862.0	2300.0	1895.0	1583.0	1200.0	938.0	757.0	583.0	3763.0	3276.0	2543.0	2027.0	1720.0	1285.0	966.0	794.0	608.0	
A512/140A	NGA5120140HSOCA	3674.0	3172.0	2549.0	2101.0	1755.0	1330.0	1040.0	839.0	647.0	4127.0	3631.0	2819.0	2246.0	1906.0	1424.0	1070.0	880.0	674.0	
A512/200A	NGA5120200HSOCA	4690.0	4102.0	3449.0	2843.0	2375.0	1800.0	1408.0	1135.0	875.0	5268.0	4695.0	3815.0	3040.0	2580.0	1928.0	1449.0	1191.0	912.0	

1.75 V/C – Discharge in W/bloc at 20°C											1.70 V/C – Discharge in W/bloc at 20°C									
Type	Part number	3'	5'	10'	15'	20'	30'	45'	60'	90'	3'	5'	10'	15'	20'	30'	45'	60'	90'	
A502/10S	NGA5020010HSOSA	60.0	58.0	45.0	36.0	30.0	22.0	17.0	14.0	10.0	64.0	60.0	46.0	38.0	31.0	22.0	17.0	14.0	10.0	
A504/3.5S	NGA50403D5HSOSA	49.0	41.0	30.0	23.0	20.0	15.0	12.0	9.0	6.0	53.0	44.0	31.0	24.0	20.0	15.0	12.0	9.0	7.0	
A506/1.2S	NGA50601D2HSOSA	25.1	20.7	14.0	11.1	9.3	7.0	5.2	4.2	3.0	26.8	21.9	14.4	11.2	9.4	7.1	5.2	4.2	3.1	
A506/3.5S	NGA50603D5HSOSA	73.0	62.0	45.0	35.0	29.0	22.0	18.0	14.0	10.0	80.0	66.0	46.0	36.0	30.0	22.0	18.0	14.0	10.0	
A506/4.2S	NGA50604D2HSOSA	89.0	77.0	52.0	40.0	36.0	31.0	17.0	15.0	11.0	97.0	81.0	54.0	41.0	36.0	32.0	17.0	15.0	11.0	
A506/6.5S	NGA50606D5HSOSA	138.0	121.0	86.0	66.0	57.0	42.0	30.0	24.0	17.0	150.0	126.0	88.0	68.0	58.0	42.0	31.0	24.0	17.0	
A506/10S	NGA5060010HSOSA	181.0	173.0	135.0	109.0	90.0	66.0	51.0	42.0	30.0	193.0	180.0	139.0	113.0	92.0	67.0	52.0	42.0	30.0	
A508/3.5S	NGA50803D5HSOSA	97.0	82.0	60.0	46.0	39.0	29.0	23.0	18.0	13.0	106.0	88.0	61.0	48.0	40.0	30.0	24.0	19.0	13.0	
A512/1.2S	NGA51201D2HSOSA	50.1	41.4	28.0	22.2	18.6	14.0	10.3	8.3	6.1	53.7	43.7	28.8	22.4	18.8	14.1	10.4	8.4	6.1	
A512/2S	NGA5120002HSOSA	91.0	75.0	52.0	40.0	33.0	25.0	18.0	15.0	11.0	99.0	80.0	53.0	41.0	34.0	25.0	19.0	15.0	11.0	
A512/3.5S	NGA51203D5HSOSA	146.0	123.0	89.0	69.0	59.0	44.0	35.0	27.0	19.0	159.0	131.0	92.0	72.0	60.0	45.0	35.0	28.0	20.0	
A512/6.5S	NGA51206D5HSOSA	276.0	242.0	172.0	132.0	114.0	84.0	60.0	48.0	34.0	300.0	252.0	176.0	136.0	116.0	84.0	62.0	48.0	34.0	
A512/10S	NGA5120010HSOSA	361.0	346.0	270.0	219.0	179.0	132.0	103.0	83.0	60.0	385.0	360.0	278.0	226.0	185.0	135.0	103.0	84.0	60.0	
A512/16G5	NGA5120016HSOBA	636.0	534.0	407.0	322.0	280.0	209.0	159.0	126.0	91.0	688.0	573.0	418.0	331.0	285.0	212.0	161.0	127.0	91.0	
A512/25G5	NGA5120025HSOBA	689.0	616.0	454.0	385.0	320.0	248.0	185.0	150.0	111.0	776.0	652.0	482.0	395.0	330.0	253.0	187.0	151.0	112.0	
A512/30G6	NGA5120030HSOBA	1118.0	951.0	690.0	538.0	453.0	341.0	271.0	214.0	153.0	1214.0	1037.0	726.0	558.0	465.0	347.0	274.0	216.0	155.0	
A512/40A	NGA5120040HSOCA	1226.0	1074.0	822.0	691.0	569.0	432.0	326.0	261.0	189.0	1391.0	1157.0	870.0	719.0	587.0	441.0	331.0	264.0	191.0	
A512/40G6	NGA5120040HSOBA	1226.0	1074.0	822.0	691.0	569.0	432.0	326.0	261.0	189.0	1391.0	1157.0	870.0	719.0	587.0	441.0	331.0	264.0	191.0	
A512/55A	NGA5120055HSOCA	1799.0	1496.0	1102.0	917.0	813.0	626.0	489.0	388.0	281.0	1912.0	1624.0	1163.0	935.0	834.0	636.0	493.0	392.0	283.0	
A512/60A	NGA5120060HSOCA	2267.0	1837.0	1274.0	1071.0	915.0	693.0	505.0	400.0	288.0	2406.0	2022.0	1348.0	1088.0	940.0	707.0	514.0	405.0	290.0	
A512/60G6	NGA5120060HSOBA	2267.0	1837.0	1274.0	1071.0	915.0	693.0	505.0	400.0	288.0	2406.0	2022.0	1348.0	1088.0	940.0	707.0	514.0	405.0	290.0	
A512/65A	NGA5120065HSOCA	1757.0	1591.0	1223.0	1083.0	914.0	721.0	567.0	457.0	336.0	1959.0	1739.0	1322.0	1142.0	954.0	739.0	577.0	464.0	340.0	
A512/65G6	NGA5120065HSOBA	1757.0	1591.0	1223.0	1083.0	914.0	721.0	567.0	457.0	336.0	1959.0	1739.0	1322.0	1142.0	954.0	739.0	577.0	464.0	340.0	
A512/85A	NGA5120085HSOCA	2561.0	2292.0	1847.0	1557.0	1329.0	1018.0	768.0	621.0	460.0	2900.0	2486.0	1993.0	1607.0	1381.0	1045.0	786.0	634.0	469.0	
A512/115A	NGA5120115HSOCA	3642.0	3101.0	2374.0	1986.0	1653.0	1255.0	956.0	759.0	547.0	4106.0	3361.0	2511.0	2030.0	1703.0	1281.0	971.0	770.0	553.0	
A512/120A	NGA5120120HSOCA	4237.0	3552.0	2627.0	2134.0	1800.0	1334.0	989.0	815.0	622.0	4536.0	3800.0	2690.0	2201.0	1849.0	1365.0	1008.0	830.0	632.0	
A512/140A	NGA5120140HSOCA	4647.0	3937.0	2912.0	2365.0	1995.0	1479.0	1096.0	904.0	689.0	4974.0	4211.0	2981.0	2440.0	2050.0	1513.0	1117.0	920.0	700.0	
A512/200A	NGA5120200HSOCA	5932.0	5092.0	3941.0	3201.0	2700.0	2002.0	1484.0	1223.0	933.0	6350.0	5446.0	4034.0	3302.0	2774.0	2048.0	1512.0	124		

		1.65 V/C – Discharge in W/bloc at 20°C										1.60 V/C – Discharge in W/bloc at 20°C									
Type	Part number	3'	5'	10'	15'	20'	30'	45'	60'	90'	3'	5'	10'	15'	20'	30'	45'	60'	90'		
A502/10S	NGA5020010HSOSA	68.0	62.0	47.0	38.0	31.0	23.0	17.0	14.0	10.0	73.0	63.0	48.0	38.0	31.0	23.0	17.0	14.0	10.0		
A504/3.5S	NGA50403D5HSOSA	57.0	46.0	31.0	24.0	20.0	15.0	12.0	9.0	7.0	59.0	46.0	32.0	25.0	20.0	15.0	12.0	9.0	7.0		
A506/1.2S	NGA50601D2HSOSA	28.2	22.6	14.7	11.2	9.5	7.1	5.2	4.2	3.1	29.2	23.1	14.8	11.3	9.5	7.1	5.2	4.2	3.1		
A506/3.5S	NGA50603D5HSOSA	85.0	68.0	47.0	36.0	30.0	23.0	18.0	14.0	10.0	89.0	69.0	47.0	37.0	31.0	23.0	18.0	14.0	10.0		
A506/4.2S	NGA50604D2HSOSA	102.0	82.0	55.0	41.0	36.0	32.0	17.0	15.0	11.0	106.0	83.0	55.0	42.0	37.0	32.0	17.0	15.0	11.0		
A506/6.5S	NGA50606D5HSOSA	160.0	129.0	90.0	69.0	59.0	43.0	31.0	25.0	18.0	168.0	132.0	92.0	70.0	59.0	43.0	31.0	25.0	18.0		
A506/10S	NGA5060010HSOSA	205.0	186.0	142.0	114.0	93.0	68.0	52.0	42.0	30.0	218.0	190.0	144.0	115.0	94.0	68.0	52.0	42.0	30.0		
A508/3.5S	NGA50803D5HSOSA	113.0	91.0	62.0	49.0	41.0	30.0	24.0	19.0	13.0	119.0	93.0	63.0	49.0	41.0	30.0	24.0	19.0	13.0		
A512/1.2S	NGA51201D2HSOSA	56.4	45.3	29.4	22.5	18.9	14.2	10.5	8.4	6.1	58.4	46.2	29.7	22.5	19.0	14.2	10.5	8.4	6.2		
A512/2S	NGA5120002HSOSA	103.0	82.0	54.0	41.0	34.0	25.0	19.0	15.0	11.0	106.0	84.0	55.0	42.0	34.0	25.0	19.0	15.0	11.0		
A512/3.5S	NGA51203D5HSOSA	170.0	137.0	93.0	73.0	61.0	45.0	35.0	28.0	20.0	178.0	139.0	95.0	74.0	61.0	45.0	36.0	28.0	20.0		
A512/6.5S	NGA51206D5HSOSA	320.0	258.0	180.0	138.0	118.0	86.0	62.0	50.0	36.0	336.0	264.0	184.0	140.0	118.0	86.0	62.0	50.0	36.0		
A512/10S	NGA5120010HSOSA	410.0	371.0	283.0	229.0	187.0	136.0	104.0	84.0	61.0	437.0	381.0	287.0	231.0	188.0	136.0	104.0	85.0	61.0		
A512/16G5	NGA5120016HSOBA	741.0	601.0	423.0	335.0	288.0	213.0	161.0	128.0	92.0	783.0	621.0	426.0	338.0	289.0	214.0	162.0	128.0	92.0		
A512/25G5	NGA5120025HSOBA	854.0	693.0	501.0	400.0	335.0	255.0	188.0	152.0	112.0	908.0	725.0	514.0	403.0	339.0	256.0	189.0	153.0	113.0		
A512/30G6	NGA5120030HSOBA	1310.0	1095.0	746.0	569.0	471.0	351.0	276.0	217.0	155.0	1393.0	1121.0	755.0	576.0	474.0	352.0	276.0	218.0	156.0		
A512/40A	NGA5120040HSOCA	1514.0	1235.0	902.0	729.0	597.0	446.0	333.0	265.0	192.0	1577.0	1299.0	923.0	735.0	603.0	449.0	334.0	266.0	192.0		
A512/40G6	NGA5120040HSOBA	1514.0	1235.0	902.0	729.0	597.0	446.0	333.0	265.0	192.0	1577.0	1299.0	923.0	735.0	603.0	449.0	334.0	266.0	192.0		
A512/55A	NGA5120055HSOCA	2005.0	1726.0	1204.0	945.0	845.0	642.0	496.0	394.0	284.0	2107.0	1800.0	1231.0	957.0	851.0	645.0	498.0	395.0	285.0		
A512/60A	NGA5120060HSOCA	2548.0	2176.0	1404.0	1098.0	954.0	715.0	519.0	409.0	292.0	2680.0	2279.0	1439.0	1104.0	963.0	719.0	522.0	410.0	293.0		
A512/60G6	NGA5120060HSOBA	2548.0	2176.0	1404.0	1098.0	954.0	715.0	519.0	409.0	292.0	2680.0	2279.0	1439.0	1104.0	963.0	719.0	522.0	410.0	293.0		
A512/65A	NGA5120065HSOCA	2139.0	1853.0	1395.0	1171.0	976.0	749.0	582.0	466.0	341.0	2315.0	1976.0	1443.0	1183.0	987.0	754.0	584.0	468.0	342.0		
A512/65G6	NGA5120065HSOBA	2139.0	1853.0	1395.0	1171.0	976.0	749.0	582.0	466.0	341.0	2315.0	1976.0	1443.0	1183.0	987.0	754.0	584.0	468.0	342.0		
A512/85A	NGA5120085HSOCA	3115.0	2719.0	2109.0	1663.0	1410.0	1060.0	797.0	642.0	474.0	3264.0	2923.0	2190.0	1700.0	1427.0	1069.0	804.0	648.0	477.0		
A512/115A	NGA5120115HSOCA	4304.0	3582.0	2603.0	2057.0	1732.0	1296.0	980.0	776.0	557.0	4467.0	3755.0	2665.0	2073.0	1750.0	1306.0	985.0	780.0	560.0		
A512/120A	NGA5120120HSOCA	4847.0	4002.0	2761.0	2246.0	1883.0	1387.0	1022.0	843.0	640.0	5135.0	4156.0	2812.0	2276.0	1906.0	1403.0	1032.0	852.0	646.0		
A512/140A	NGA5120140HSOCA	5316.0	4435.0	3060.0	2489.0	2087.0	1538.0	1133.0	934.0	709.0	5631.0	4606.0	3117.0	2522.0	2113.0	1555.0	1144.0	945.0	716.0		
A512/200A	NGA5120200HSOCA	6786.0	5736.0	4142.0	3369.0	2825.0	2081.0	1533.0	1264.0	959.0	7189.0	5957.0	4218.0	3413.0	2860.0	2104.0	1548.0	1279.0	969.0		

The values are measured at 20°C and may change depending on the application or ambient temperature.

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