



# GPL 12520

## 12V 52.0Ah

GPL 12520 is a general purpose battery with 8~10 years expected life under normal float charge. As with all CSB batteries, all are rechargeable, highly efficient, leak proof and maintenance free.



### Specification

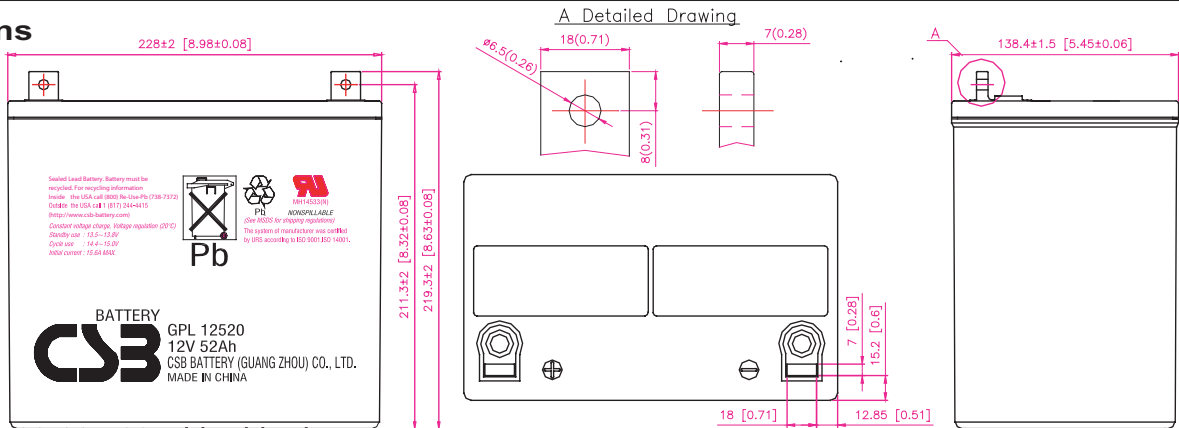
Cells Per Unit	6
Voltage Per Unit	12
Capacity	52Ah @ 20hr-rate to 1.75V per cell @25 °C (77°F)
Weight	Approx. 17.9kg (39.38 lbs)
Maximum Discharge Current	500A (5sec)
Internal Resistance	Approx. 5.5mΩ
Operating Temperature Range	Discharge: -15°C~50°C (5°F~122°F) Charge: -15°C~40°C (5°F~104°F) Storage: -15°C~40°C (5°F~104°F)
Nominal Operating Temperature Range	25°C±3°C (77°F±5°F)
Float Charging Voltage	13.5 to 13.8 VDC/Unit Average at 25°C (77°F)
Recommended Maximum Charging	15.6A
Current Limit	
Equalization and Cycle Service	14.4 to 15.0 VDC/unit Average at 25°C (77°F)
Self Discharge	CSB Batteries can be stored for more than 6 months at 25°C (77°F). Please charge batteries before using. For higher temperatures the time interval will be shorter.
Terminal	Thread lead L-Type terminal (nut & bolt) to accept M6~20bolt
Container Material	-PP plastics (UL 94 HB)*Flammability resistance of PPE (UL94-V0) can be available upon request.



CSB-manufactured batteries are UL-recognized components under UL924 and UL1989. CSB is also certified by ISO 9001 and ISO 14001.

### Dimensions

unit:(MM)



### Constant Current Discharge Characteristics Unit:A (25°C , 77°F)

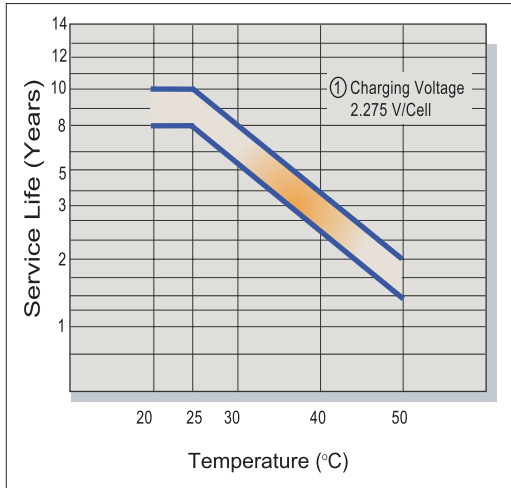
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	233.00	149.00	112.00	64.90	36.80	21.00	14.60	11.70	9.90	6.66	5.42	2.91
1.67V	215.00	142.00	108.20	63.50	36.20	20.80	14.40	11.60	9.83	6.62	5.40	2.90
1.70V	197.00	134.00	104.40	62.00	35.70	20.60	14.30	11.50	9.76	6.58	5.37	2.89
1.75V	179.00	126.00	100.60	60.60	35.20	20.30	14.20	11.40	9.69	6.54	5.34	2.88
1.80V	161.00	118.00	96.80	59.20	34.70	20.10	14.00	11.30	9.62	6.50	5.31	2.87
1.85V	143.00	111.00	93.00	57.80	34.20	19.90	13.90	11.20	9.55	6.46	5.29	2.85

### Constant Power Discharge Characteristics Unit:W (25°C , 77°F)

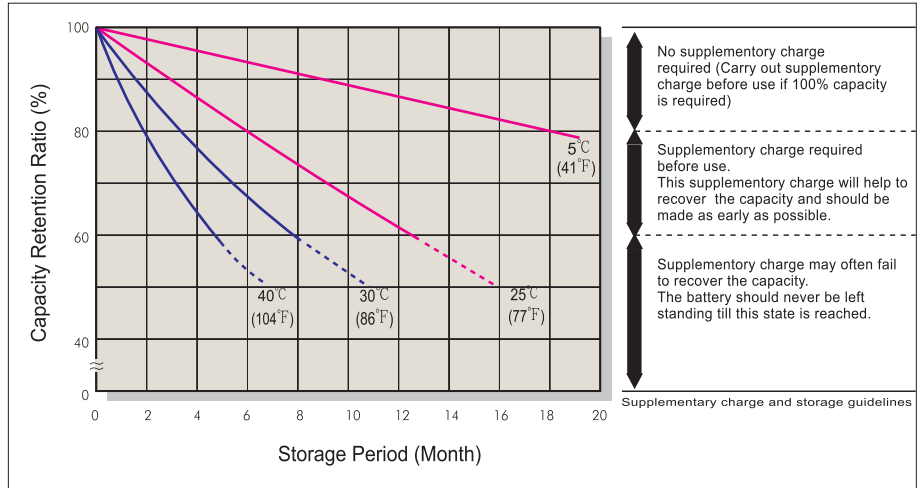
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	2209.00	1477.00	1125.00	668.00	386.00	221.00	154.00	124.00	106.00	71.50	58.70	34.40
1.67V	2063.00	1406.00	1077.00	661.00	380.00	219.00	153.00	123.00	106.00	71.40	58.40	34.30
1.70V	1917.00	1335.00	1028.00	653.00	376.00	217.00	152.00	123.00	106.00	71.30	58.20	34.20
1.75V	1767.00	1252.00	986.00	634.00	372.00	214.00	151.00	122.00	105.00	70.90	58.00	33.70
1.80V	1619.00	1169.00	944.00	615.00	368.00	212.00	151.00	121.00	104.00	70.40	57.90	33.30
1.85V	1459.00	1088.00	904.00	598.00	363.00	209.00	150.00	119.00	103.00	69.90	57.70	33.00

• All mentioned values are average values.

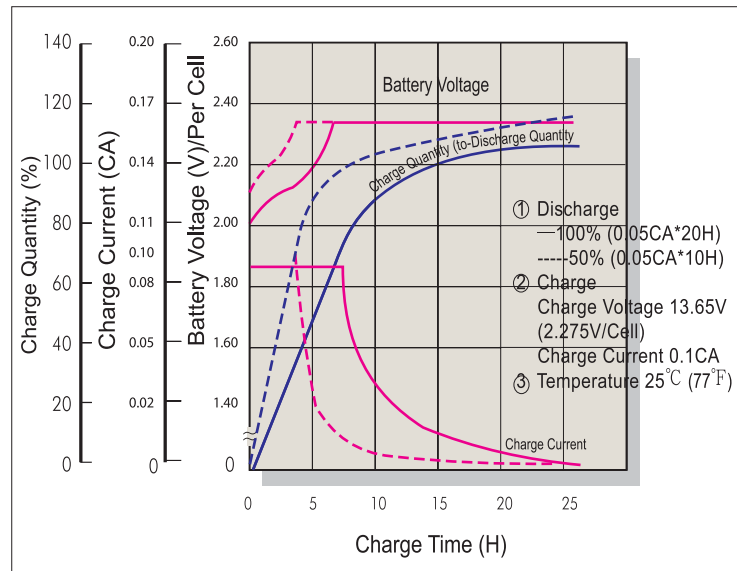
### Trickle (or Float) Service Life



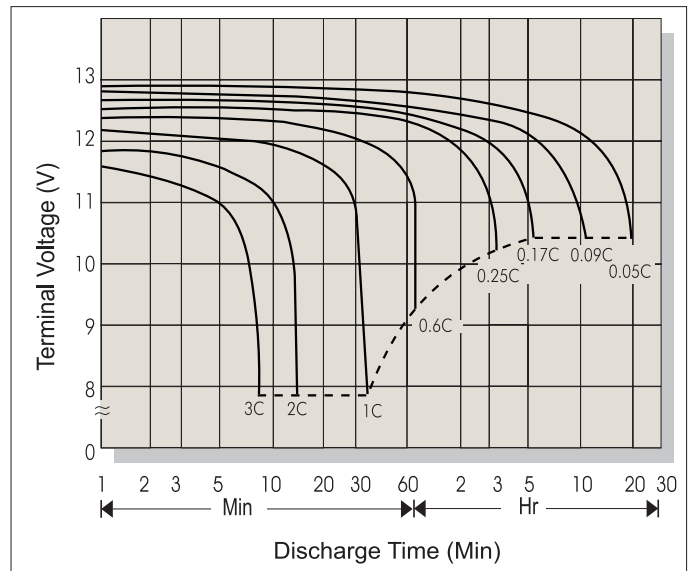
### Capacity Retention Characteristic



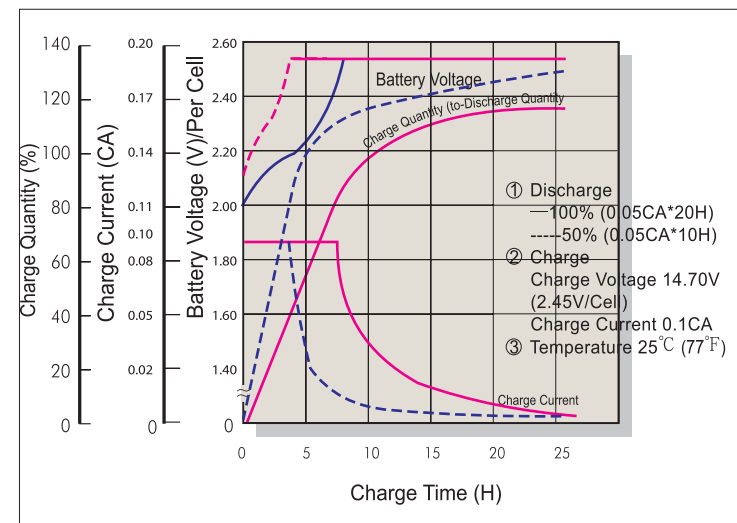
### Battery Voltage and Charge Time for Standby Use



### Terminal Voltage (V) and Discharge Time (25°C 77°F)



### Battery Voltage and Charge Time for Cycle Use



### Discharge Current VS. Discharge Voltage

Final Discharge Voltage V/Cell	1.75	1.70	1.55	1.30
Discharge Current (A)	0.2C>(A)	0.2C<(A)<0.5C	0.5C<(A)<1.0C	(A)>1.0C

### Charging Procedures

Application	Charge Voltage (V/Cell)			Max. Charge Current
	Temperature	Set Point	Allowable Range	
Cycle Use	25°C (77°F)	2.45	2.40-2.50	0.3C
Standby	25°C (77°F)	2.275	2.25-2.30	

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