VALVE REGULATED LEAD ACID BATTERIES (VRLA 6V and 12V)

Panasonic's tough Valve Regulated Lead Acid rechargeable batteries are designed to provide outstanding performance in withstanding overcharge, overdischarge, and resisting vibration and shock. Compact, these batteries save installation space, while providing full and reliable power. The use of special sealing epoxies, tongue and groove case and cover construction, and long-sealing paths for posts and connectors, assures that the Valve Regulated Lead Acid battery will offer exceptional leak resistance, and allows them to be used in any position.

Features:

- High quality and reliability
- Exceptional deep discharge recovery
- No corrosive gas generation
- Long service life
- Quick chargeability
- High power density
- Maintenance-free operation

Applications:

- UPS (Uninterruptible power supplies)
- Emergency lighting
- Wheelchairs
- Telecom back-up power supplies
- Lawn and garden tools
- Engine starters

Technical Data

Model No. [1]	Nominal Voltage (V)	Rated Capacity 20 Hours Rate (Ah)	End Use	Outline Dimensions (inch)				Wt. (Approx.) (lbs)	Terminal Types [3]	Battery-Case Resin [2]		
				L	W	H	Total Height			UL94HB	UL94V0	
LC-R061R3P	6	1.3	Main Power & Standby Power	3.82	0.95	1.97	2.17	0.66	B	O	--	
LC-R121R3P	12	1.3	Main Power & Standby Power	3.82	1.87	1.97	2.17	1.30	B	O	--	
LC-R122R2P	12	2.2	Main Power & Standby Power	6.97	1.34	2.36	2.60	1.76	B	O	--	
LC-R123R4P	12	3.4	Main Power & Standby Power	5.28	2.64	2.36	2.56	2.65	B	O	--	
LC-R063R4P	6	3.4	Main Power & Standby Power	5.28	1.34	2.36	2.60	1.37	B	O	--	

LC-R064R5P	6	4.5	Main Power & Standby Power	2.76	1.89	4.02	4.26	1.59	B	O	--	
LC-R067R2P(a)	6	7.2	Main Power & Standby Power	5.95	1.34	3.70	3.94	2.78	B/C	O	--	
LC-R127R2P(a)	12	7.2	Main Power & Standby Power	5.95	2.54	3.70	3.94	5.45	B/C	O	--	
LC-P067R2P(a)	6	7.2	Standby Power	5.95	1.34	3.70	3.94	2.87	B/C	X	--	
LC-P127R2P(a)	12	7.2	Standby Power	5.95	2.54	3.70	3.94	5.51	B/C	--	O	
LC-P0612P(a)	6	12.0	Standby Power	5.95	1.97	3.70	3.94	4.41	B/C	--	O	
LC-R0612P(a)	6	12.0	Main Power & Standby Power	5.95	1.97	3.70	3.94	4.30	B/C	O	--	
LC-RA1212P(a)	12	12.0	Main Power & Standby Power	5.95	3.86	3.70	4.01	8.36	B/C	O	--	
LC-PD1217P	12	17.0	Main Power & Standby Power	7.13	2.99	6.57	6.57	14.34	D/G	X	O	
LC-RD1217P	12	17.0	Main Power & Standby Power	7.13	2.99	6.57	6.57	14.34	D/G	O	--	
LC-X1220P LC-X1220AP	12	20.0	Standby Power	7.13	2.99	6.57	6.57	14.56	D/G	O	X	
LC-X1228P LC-X1228AP	12	28.0	Standby Power	6.50	4.92	6.90	7.07	24.34	D/G	O	--	
LC-XC1228AP	12	28.0	Main Power	6.50	4.90	6.90	7.07	24.34	D/G	O	--	
LC-R1233P	12	33.0	Main Power & Standby Power	7.70	5.12	6.10	7.09	26.50	E	O	O	

1. Numbers followed by an (a): Terminal designator codes and other special codes will appear at the end of the model number.
2. Battery cases marked with an O are the normal product using the standard resin. Those marked with an X indicate specifications as per special order.
3.
Terminal Types:
(B) Faston type 187 (indicated by model # suffix: P)
(C) Faston type 250 (indicated by model # suffix: P1)
(D) M5 bolt and nut type (indicated by model # suffix: P)
(E) M6 bolt and nut type (indicated by model # suffix: P)
(G) M5 threaded post type (indicated by model # suffix: AP)

High Power Series

Features:

- These high-power trickle use batteries offer a slimmer design and energy density up to 30% higher than conventional sealed lead acid batteries.
- Ideal for use as backup batteries in UPS
- Slim design to reduce UPS volume

Applications:

- UPS
- PBX
- Back-up Equipment

High Power Series for Back-Up Power/UPS Applications (All ratings are watts/cell at a 10 minute rate)

Model No.	Nominal Voltage (V)	Rated Capacity 10 Minute Rate (w/cell)	Outline Dimensions (inch)				Wt. (Approx.) (lbs)	Terminal Types [2]	Battery-Case Resin [1]		
			Length	Width	Height	Total Height			UL94HB	UL94V-0	
UP-RW1220P1	12	20	5.51	1.52	3.70	4.00	2.98	C	X	O	
UP-RW1245P1	12	45	5.95	2.54	3.70	4.00	5.75	C	X	O	

1. Battery cases marked with an O are the normal product using the standard resin. Those marked with an X indicate specifications as per special order.
2. Terminal: Faston type 250 (indicated by model # suffix: P1)

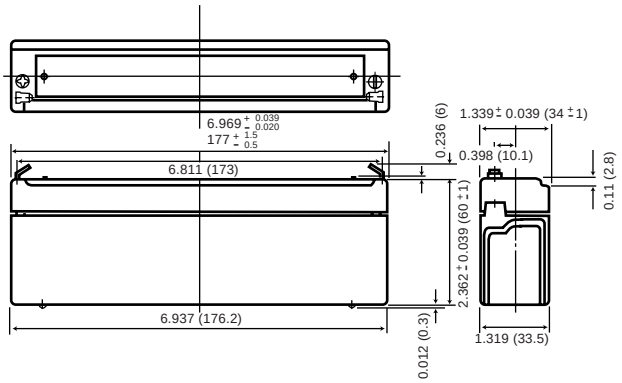
LC-R122R2P

For main and standby power supplies.
Expected trickle life: 3-5 years at 25°C, Approx. 5 years at 20°C.

Photo/Label for reference only.

Dimensions (mm)

Terminal type: Faston 187

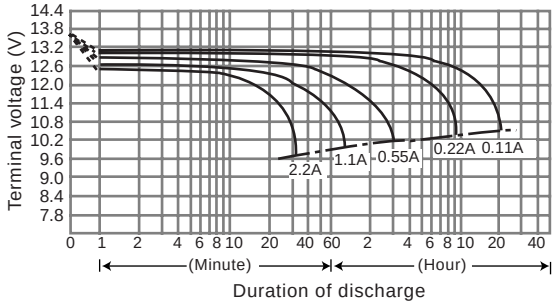


Battery case resin: Standard (UL94HB) Color is black.

Specifications

Nominal Voltage		12V
Rated Capacity (20 hour rate)		2.2Ah
Dimensions	Length	6.968 inches (177.0 mm)
	Width	1.339 inches (34.0 mm)
	Height	2.362 inches (60.0 mm)
	Total Height	2.598 inches (66.0 mm)
Approx. mass		1.76 lbs. (0.80 kg)
Standard Terminals and Resin	UL94HB Faston 187	LC-R122R2P

Discharge characteristics 77°F (25°C) (Note)



Characteristics

Capacity (note) 77˚F (25˚C)		20 hour rate (110mA) 10 hour rate (200mA) 5 hour rate (360mA) 1 hour rate (1300mA)	2.2Ah 2Ah 1.8Ah 1.3Ah
		1.5 hour rate discharge Cut-off voltage 10.5 V	0.95A
Internal Resistance		Fully charged battery 77˚F (25˚C)	Approx. 70mΩ
Temperature dependency of capacity (20 hour rate)		104˚F (40˚C) 77˚F (25˚C) 32˚F (0˚C) 5˚F (-15˚C)	102% 100% 85% 65%
Self discharge 77˚F (25˚C)		Residual capacity after standing 3 months Residual capacity after standing 6 months Residual capacity after standing 12 months	91% 82% 64%
Charge Method (Constant Voltage)	Cycle use (Repeating use)	Initial current	0.88 A or smaller
		Control voltage	14.5V to 14.9V (per 12V cell 25˚C)
	Trickle use	Initial current	0.33 A or smaller
		Control voltage	13.6V to 13.8V (per 12V cell 25˚C)

(Note) The above characteristics data are average values obtained within three charge/discharge. Cycles not the minimum values.

Duration of discharge vs. Discharge current (Note)