

VALVE-REGULATED LEAD ACID BATTERIES: INDIVIDUAL DATA SHEET

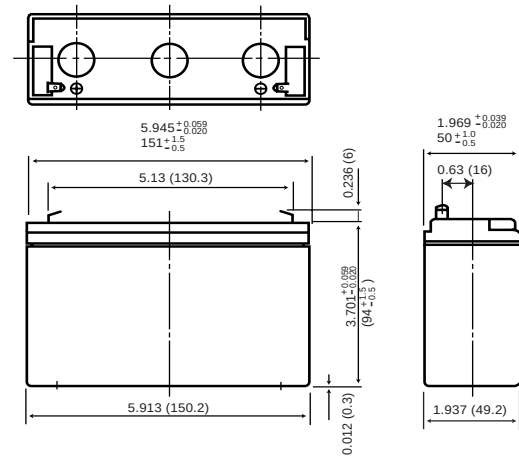
LC-P0612P

For standby power supplies. Expected trickle life: Approx. 6 years at 25°C, Approx. 10 years at 20°C.



Dimensions (mm)

Terminal type: Faston 187 or Faston 250



Battery case resin: Standard (UL94V-0) Color is grey.

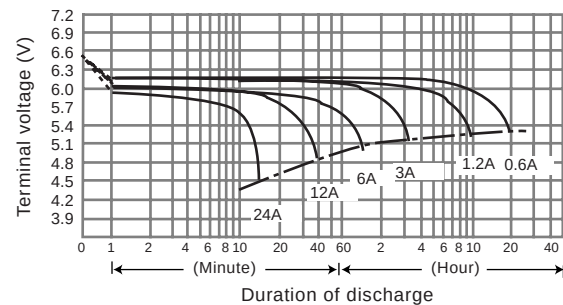
Specifications

Nominal Voltage		6V
Rated capacity (20 hour rate)		12Ah
Dimensions	Length	5.945 inches (151.0 mm)
	Width	1.969 inches (50.0 mm)
	Height	3.702 inches (94.0 mm)
	Total Height*	3.937 inches (100.0 mm)
Approx. mass		4.41 lbs. (2.0 kg)
Standard Terminals and Resin	UL94V-0 Faston 250	LC-P0612P1
Optional Terminals and Resin	UL94V-0 Faston 187	◆ LC-P0612P

* The total height with #250 terminal is 101.5mm.

◆ Please contact Panasonic for availability on optional items. Optional items may be subject to minimum order quantities.

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



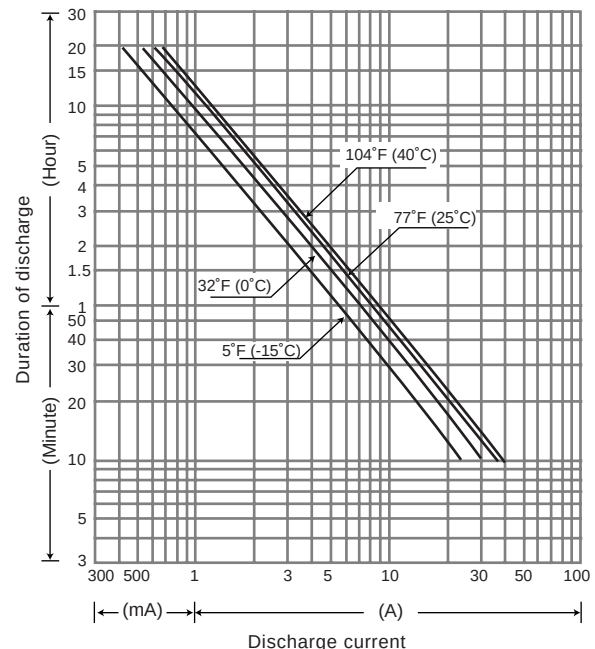
Characteristics

Capacity (note) 77°F (25°C)	20 hour rate (600mA)	12Ah
	10 hour rate (1130mA)	11.3Ah
	5 hour rate (2080mA)	10.4Ah
	1 hour rate (8100mA)	8.1Ah
	1.5 hour rate discharge Cut-off voltage 5.25 V	5.8A
Internal Resistance	Fully charged battery 77°F (25°C)	Approx. 15mΩ
Temperature dependency of capacity (20 hour rate)	104°F (40°C)	102%
	77°F (25°C)	100%
	32°F (0°C)	85%
	5°F (-15°C)	65%
Self discharge 77°F (25°C)	Residual capacity after standing 3 months	91%
	Residual capacity after standing 6 months	82%
	Residual capacity after standing 12 months	64%
Charge Method (Constant Voltage)	Trickle use	
	Initial current	1.8 A or smaller
	Control voltage	6.8V to 6.9V (per 6V cell 25°C)

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

(Note) For cycle use of the battery, please contact us in advance.

Duration of discharge vs. Discharge current (Note)



VALVE-REGULATED LEAD ACID BATTERIES: INDIVIDUAL DATA SHEET

LC-P067R2P



Specifications

Nominal Voltage		6V
Rated capacity (20 hour rate)		7.2Ah
Dimensions	Length	5.945 inches (151.0 mm)
	Width	1.339 inches (34.0 mm)
	Height	3.702 inches (94.0 mm)
	Total Height*	3.937 inches (100.0 mm)
Approx. mass		2.86 lbs. (1.30 kg)
Standard Terminals and Resin	UL94V-0 Faston 250	LC-P067R2P1
Optional Terminals and Resin	UL94V-0 Faston 187	◆ LC-P067R2P

◆ Please contact Panasonic for availability on optional items. Optional items may be subject to minimum order quantities.

Characteristics

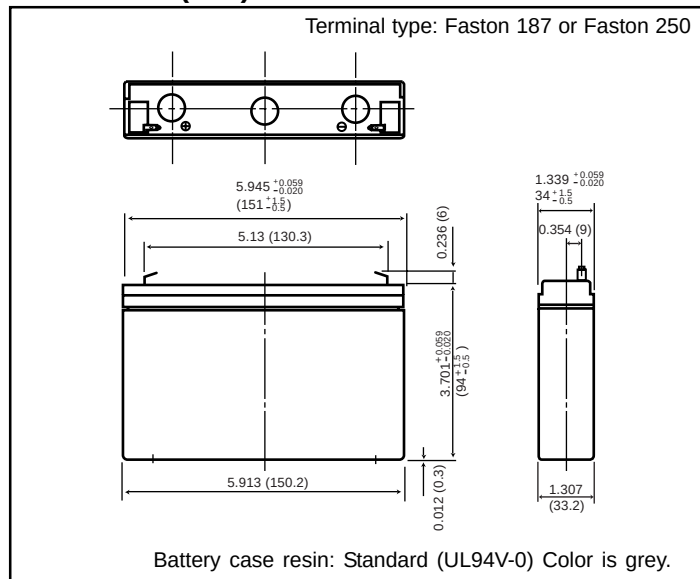
Capacity ^(note) 77°F (25°C)		20 hour rate (360mA)	7.2Ah
		10 hour rate (680mA)	6.8Ah
		5 hour rate (1260mA)	6.3Ah
		1 hour rate (4900mA)	4.9Ah
		1.5 hour rate discharge Cut-off voltage 5.25 V	3.5A
Internal Resistance		Fully charged battery 77°F (25°C)	Approx. 20mΩ
Temperature dependency of capacity (20 hour rate)		104°F (40°C)	102%
		77°F (25°C)	100%
		32°F (0°C)	85%
		5°F (-15°C)	65%
Self discharge 77°F (25°C)		Residual capacity after standing 3 months	91%
		Residual capacity after standing 6 months	82%
		Residual capacity after standing 12 months	64%
Charge Method (Constant Voltage)	Trickle use	Initial current	1.08 A or smaller
		Control voltage	6.8V to 6.9V (per 6V cell 25°C)

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

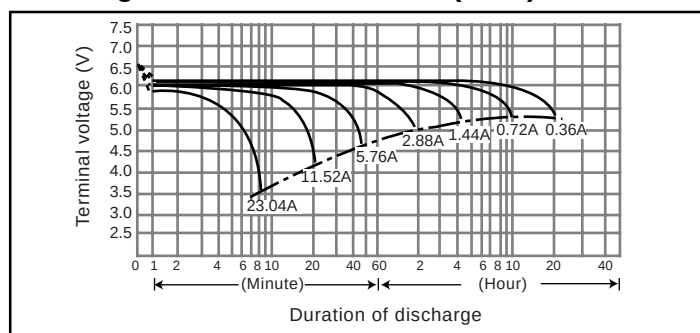
(Note) For cycle use of the battery, please contact us in advance.

For standby power supplies. Expected trickle life: Approx. 6 years at 25°C, Approx. 10 years at 20°C.

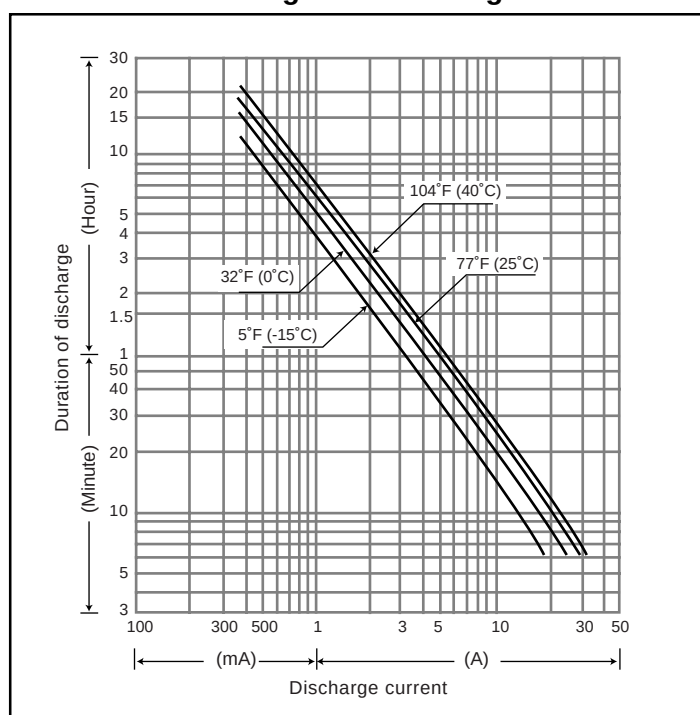
Dimensions (mm)



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



Duration of discharge vs. Discharge current (Note)



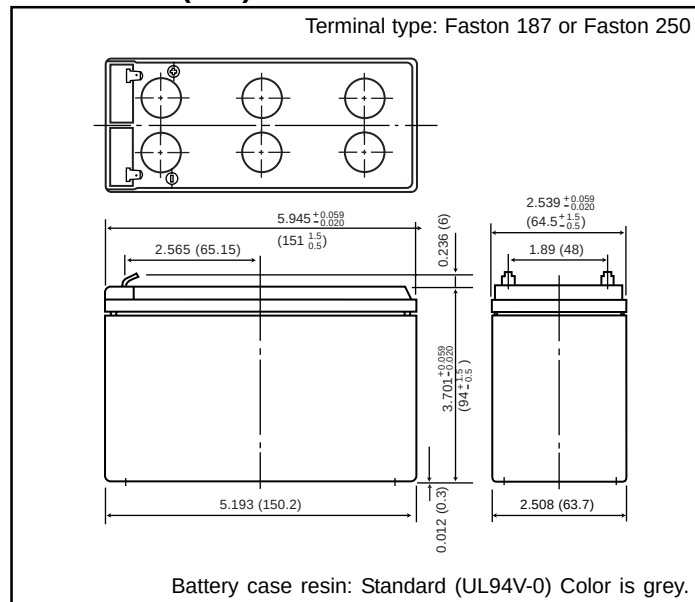
VALVE-REGULATED LEAD ACID BATTERIES: INDIVIDUAL DATA SHEET

LC-P127R2P



For standby power supplies. Expected trickle life: Approx. 6 years at 25°C, Approx. 10 years at 20°C.

Dimensions (mm)



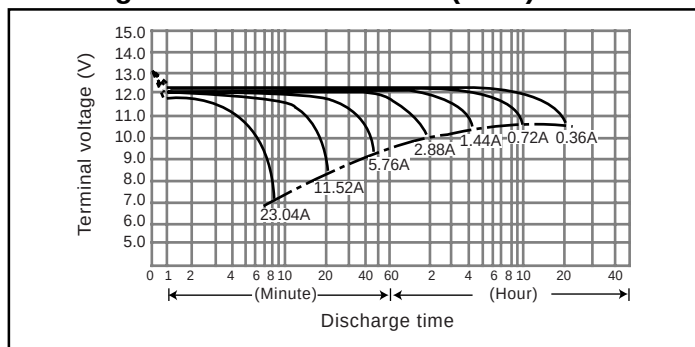
Specifications

Nominal Voltage		12V
Rated capacity (20 hour rate)		7.2Ah
Dimensions	Length	5.945 inches (151.0 mm)
	Width	2.539 inches (64.5 mm)
	Height	3.702 inches (94.0 mm)
	Total Height*	3.937 inches (100.0 mm)
Approx. mass		5.516 lbs. (2.50 kg)
Standard Terminals and Resin	UL94V-0 Faston 250	LC-P127R2P1
Optional Terminals and Resin	UL94V-0 Faston 187	◆ LC-P127R2P

* The total height with #250 terminal is 101.5mm.

◆ Please contact Panasonic for availability on optional items. Optional items may be subject to minimum order quantities.

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



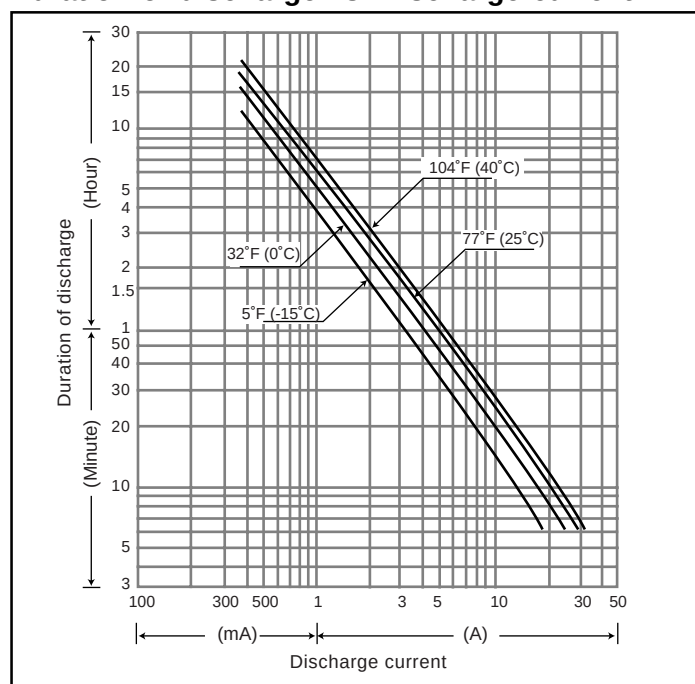
Characteristics

Capacity (note) 77°F (25°C)		20 hour rate (360mA)	7.2Ah
		10 hour rate (680mA)	6.8Ah
		5 hour rate (1260mA)	6.3Ah
		1 hour rate (4900mA)	4.9Ah
		1.5 hour rate discharge Cut-off voltage 10.5 V	3.5A
Internal Resistance		Fully charged battery 77°F (25°C)	Approx. 40mΩ
Temperature dependency of capacity (20 hour rate)		104°F (40°C)	102%
		77°F (25°C)	100%
		32°F (0°C)	85%
		5°F (-15°C)	65%
Self discharge 77°F (25°C)		Residual capacity after standing 3 months	91%
		Residual capacity after standing 6 months	82%
		Residual capacity after standing 12 months	64%
Charge Method (Constant Voltage)	Trickle use	Initial current	1.08 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.

(Note) For cycle use of the battery, please contact us in advance.

Duration of discharge vs. Discharge current (Note)



VALVE-REGULATED LEAD ACID BATTERIES: INDIVIDUAL DATA SHEET

LC-R0612P



Photo/Label for reference only.

Specifications

Nominal Voltage		6V
Rated Capacity (20 hour rate)		12.0Ah
Dimensions	Length	5.945 inches (151.0 mm)
	Width	1.969 inches (50.0 mm)
	Height	3.702 inches (94.0 mm)
	Total Height*	3.937 inches (100.0 mm)
Approx. mass		4.30 lbs. (1.95 kg)
Standard Terminals and Resin	UL94HB Faston 187	LC-R0612P
	UL94HB Faston 250	LC-R0612P1

* The total height with #250 terminal is 101.5mm.

Characteristics

Capacity (note) 77°F (25°C)		20 hour rate (360mA)	12Ah
		10 hour rate (680mA)	11.3Ah
		5 hour rate (1260mA)	10.4Ah
		1 hour rate (4900mA)	8.1Ah
		1.5 hour rate discharge Cut-off voltage 5.25 V	5.8A
Internal Resistance		Fully charged battery 77°F (25°C)	Approx. 15mΩ
Temperature dependency of capacity (20 hour rate)		104°F (40°C)	102%
		77°F (25°C)	100%
		32°F (0°C)	85%
		5°F (-15°C)	65%
Self discharge 77°F (25°C)		Residual capacity after standing 3 months	91%
		Residual capacity after standing 6 months	82%
		Residual capacity after standing 12 months	64%
Charge Method (Constant Voltage)	Cycle use (Repeating use)	Initial current	4.8 A or smaller
		Control voltage	7.25V to 7.45V (per 6V cell 25°C)
	Trickle use	Initial current	1.8 A or smaller
		Control voltage	6.8V to 6.9V (per 6V cell 25°C)

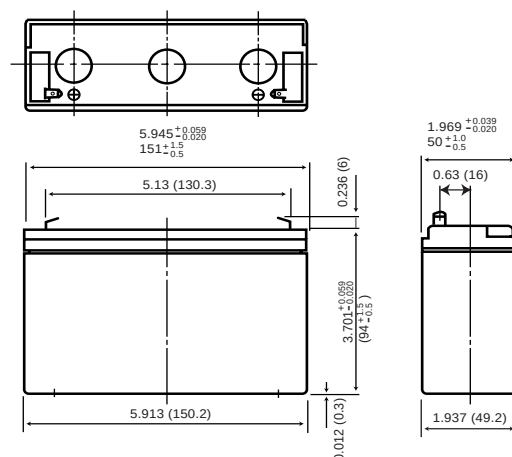
(Note) The above characteristics data are average values obtained within three charge/discharge. Cycles not the minimum values.

For main and standby power supplies.

Expected trickle life: 3-5 years at 25°C, Approx. 5 years at 20°C.

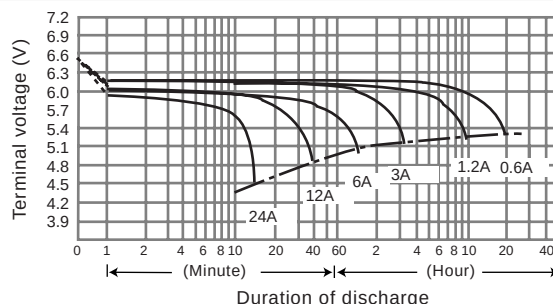
Dimensions (mm)

Terminal type: Faston 187 or Faston 250

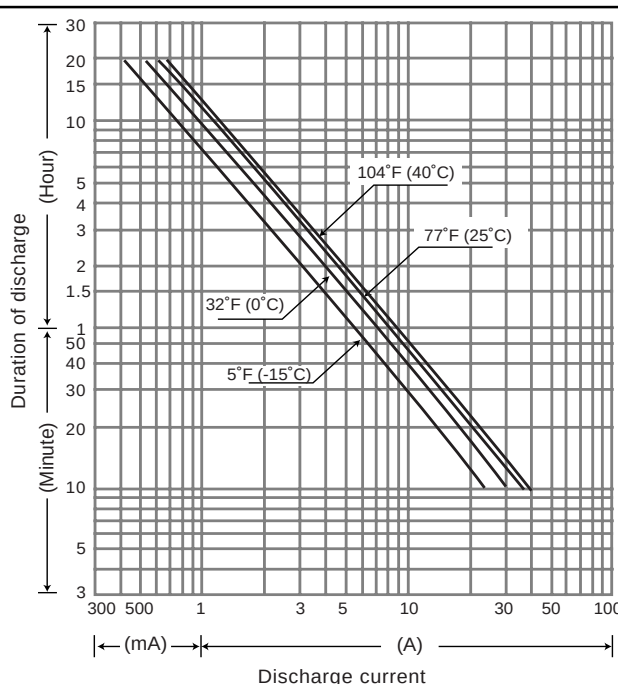


Battery case resin: Standard (UL94HB) Color is black.

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



Duration of discharge vs. Discharge current (Note)



VALVE-REGULATED LEAD ACID BATTERIES: INDIVIDUAL DATA SHEET

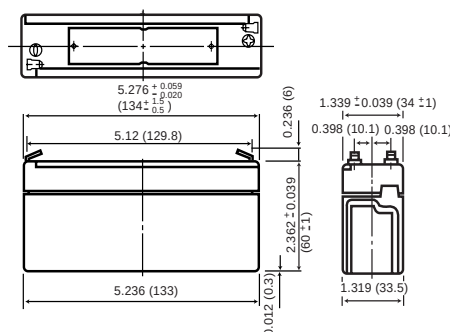
LC-R063R4P



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

Dimensions (mm)

Terminal type: Faston 187

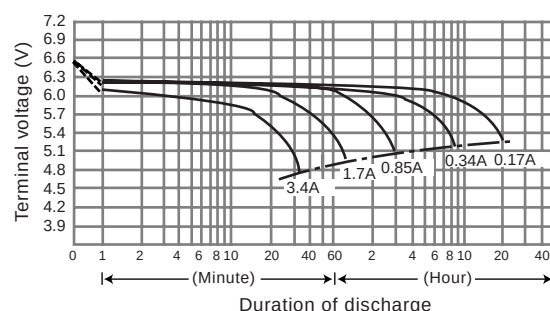


Battery case resin: Standard (UL94HB) Color is black.

Specifications

Nominal Voltage		6V
Rated Capacity (20 hour rate)		3.4Ah
Dimensions	Length	5.276 inches (134.0 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		1.37 lbs. (0.62 kg)
Standard Terminals and Resin	UL94HB Faston 187	LC-R063R4P

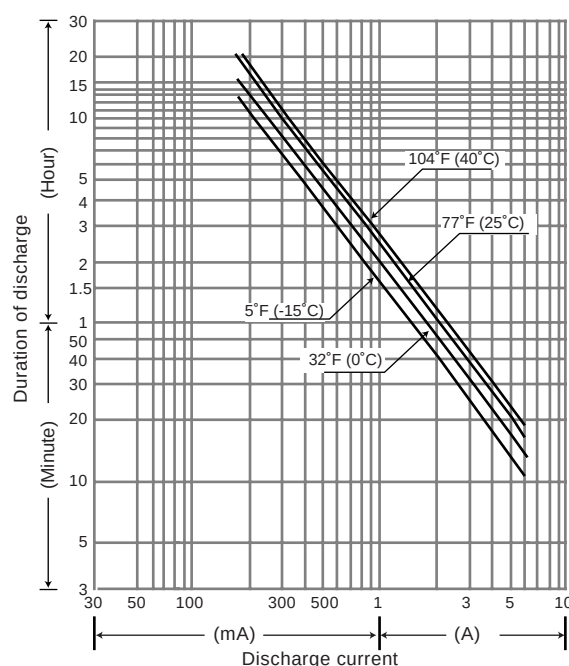
Discharge characteristics 77°F (25°C) (Note)



Characteristics

Capacity ^(note) 77°F (25°C)		20 hour rate (170mA) 10 hour rate (300mA) 5 hour rate (540mA) 1 hour rate (2100mA)	3.4Ah 3Ah 2.7Ah 2.1Ah
		1.5 hour rate discharge Cut-off voltage 5.25 V	1.5A
Internal Resistance		Fully charged battery 77°F (25°C)	Approx. 30mΩ
Temperature dependency of capacity (20 hour rate)		104°F (40°C)	102%
		77°F (25°C)	100%
		32°F (0°C)	85%
		5°F (-15°C)	65%
Self discharge 77°F (25°C)		Residual capacity after standing 3 months	91%
		Residual capacity after standing 6 months	82%
		Residual capacity after standing 12 months	64%
Charge Method (Constant Voltage)	Cycle use (Repeating use)	initial current	1.36 A or smaller
		Control voltage	7.25V to 7.45V (per 6V cell 25°C)
	Trickle use	initial current	0.51 A or smaller
		Control voltage	6.8V to 6.9V (per 6V cell 25°C)

Duration of discharge vs. Discharge current (Note)



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

VALVE-REGULATED LEAD ACID BATTERIES: INDIVIDUAL DATA SHEET

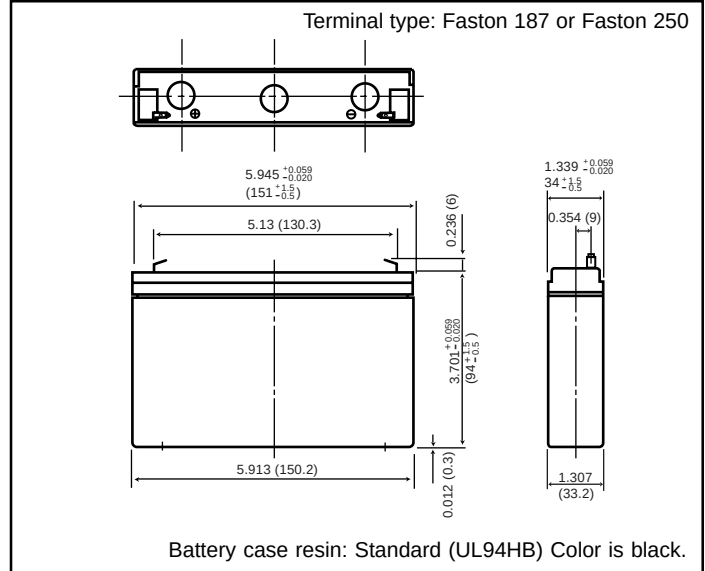
LC-R067R2P



Photo/Label for reference only.

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

Dimensions (mm)

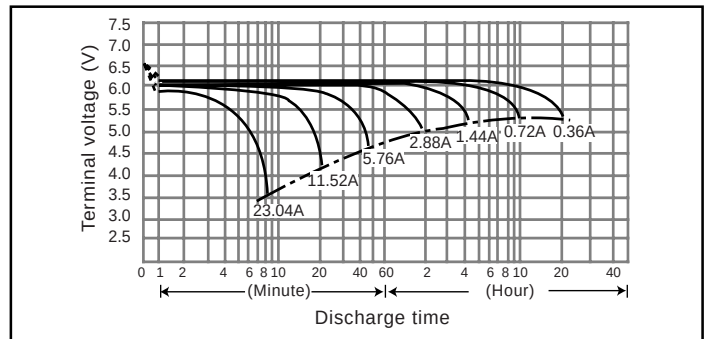


Specifications

Nominal Voltage		6V
Rated Capacity (20 hour rate)		7.2Ah
Dimensions	Length	5.945 inches (151.0 mm)
	Width	1.339 inches (34.0 mm)
	Height	3.702 inches (94.0 mm)
	Total Height*	3.937 inches (100.0 mm)
Approx. mass		2.78 lbs. (1.26 kg)
Standard Terminals and Resin	UL94HB Faston 187	LC-R067R2P
	UL94HB Faston 250	LC-R067R2P1
Optional Terminals and Resin	UL94HB Faston 187/250	◆ LC-R067R2P2

◆ Please contact Panasonic for availability on optional items. Optional items may be subject to minimum order quantities.

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

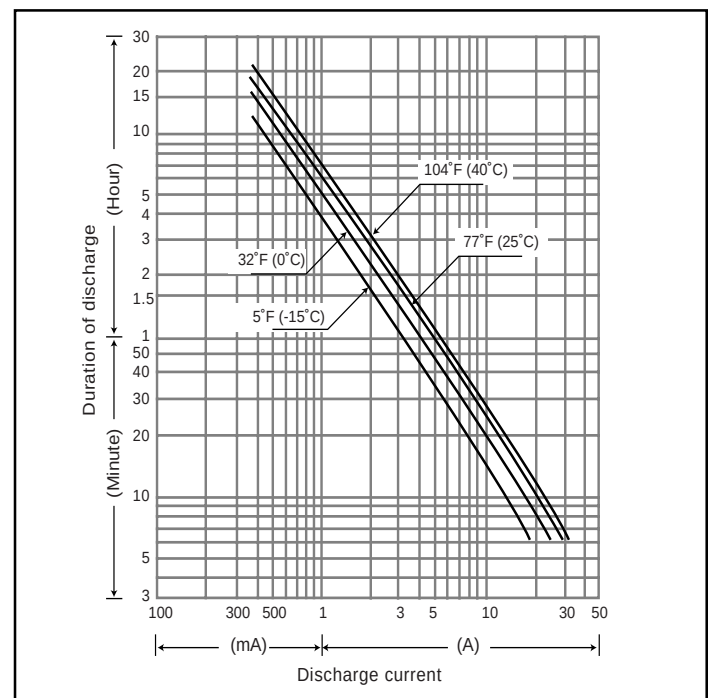


Characteristics

Capacity (note) 77°F (25°C)		20 hour rate (360mA)	7.2Ah
		10 hour rate (680mA)	6.8Ah
		5 hour rate (1260mA)	6.3Ah
		1 hour rate (4900mA)	4.9Ah
		1.5 hour rate discharge Cut-off voltage 5.25 V	3.5A
Internal Resistance		Fully charged battery 77°F (25°C)	Approx. 20mΩ
Temperature dependency of capacity (20 hour rate)		104°F (40°C)	102%
		77°F (25°C)	100%
		32°F (0°C)	85%
		5°F (-15°C)	65%
Self discharge 77°F (25°C)		Residual capacity after standing 3 months	91%
		Residual capacity after standing 6 months	82%
		Residual capacity after standing 12 months	64%
Charge Method (Constant Voltage)	Cycle use (Repeating use)	Initial current	2.88 A or smaller
		Control voltage	7.25V to 7.45V (per 6V cell 25°C)
	Trickle use	Initial current	1.08 A or smaller
		Control voltage	6.8V to 6.9V (per 6V 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)



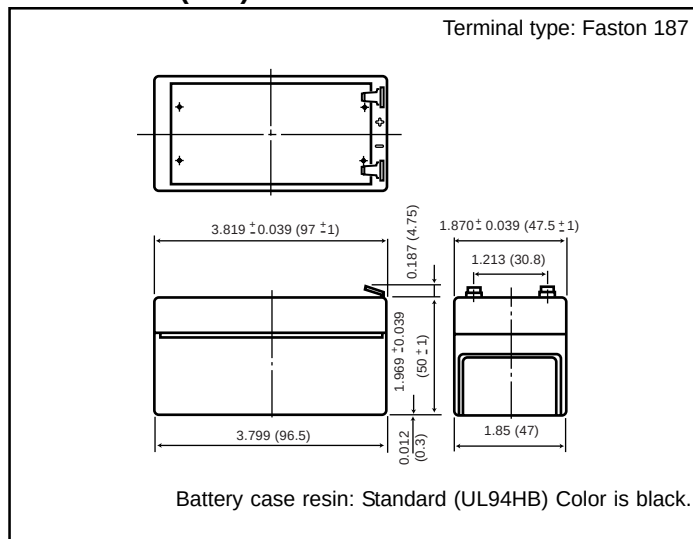
VALVE-REGULATED LEAD ACID BATTERIES: INDIVIDUAL DATA SHEET

LC-R121R3P



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

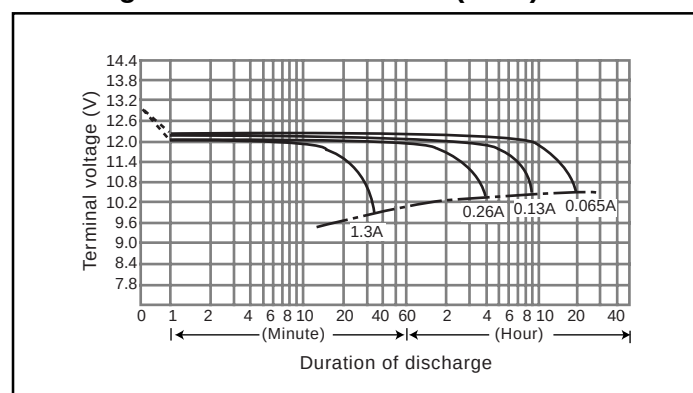
Dimensions (mm)



Specifications

Nominal Voltage		12V
Rated Capacity (20 hour rate)		1.3Ah
Dimensions	Length	3.819 inches (97.0 mm)
	Width	1.870 inches (47.5 mm)
	Height	1.969 inches (50.0 mm)
	Total Height	2.165 inches (55.0 mm)
Approx. mass		1.30 lbs. (0.59 kg)
Standard Terminals and Resin	UL94HB Faston 187	LC-R121R3P

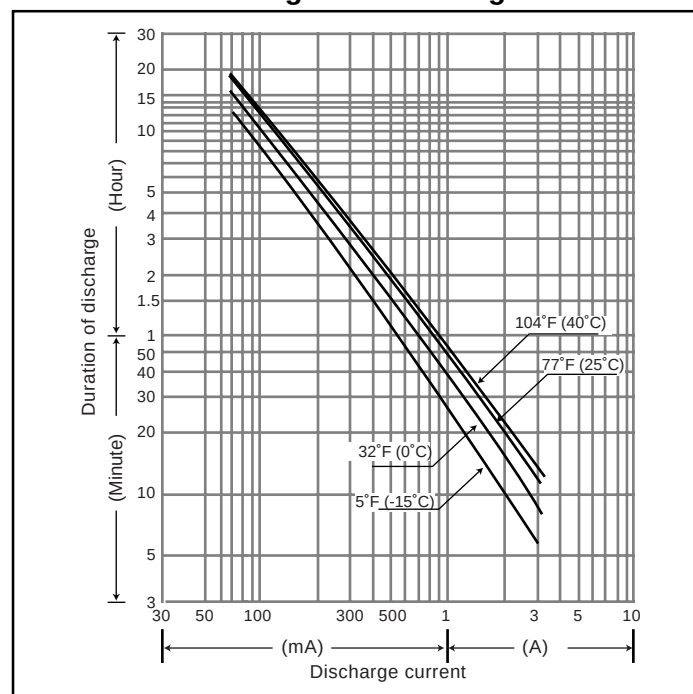
Discharge characteristics 77°F (25°C) (Note)



Characteristics

Capacity (note) 77°F (25°C)		20 hour rate (65mA)	1.3Ah
		10 hour rate (120mA)	1.2Ah
		5 hour rate (210mA)	1.05Ah
		1 hour rate (850mA)	0.85Ah
		1.5 hour rate discharge Cut-off voltage 10.5 V	0.6A
Internal Resistance		Fully charged battery 77°F (25°C)	Approx. 90mΩ
Temperature dependency of capacity (20 hour rate)		104°F (40°C)	102%
		77°F (25°C)	100%
		32°F (0°C)	85%
		5°F (-15°C)	65%
Self discharge 77°F (25°C)		Residual capacity after standing 3 months	91%
		Residual capacity after standing 6 months	82%
		Residual capacity after standing 12 months	64%
Charge Method (Constant Voltage)	Cycle use (Repeating use)	Initial current	0.52 A or smaller
		Control voltage	14.5V to 14.9V (per 12V cell 25°C)
	Trickle use	Initial current	0.195 A or smaller
		Control voltage	13.6V to 13.8V (per 12V cell 25°C)

Duration of discharge vs. Discharge current (Note)



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

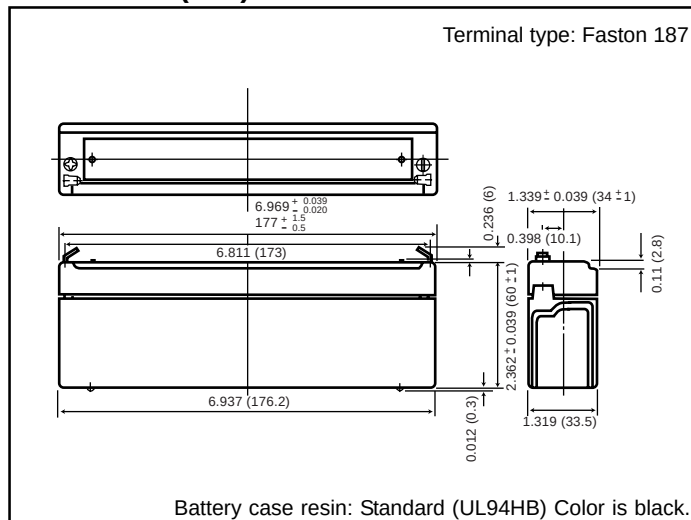
VALVE-REGULATED LEAD ACID BATTERIES: INDIVIDUAL DATA SHEET

LC-R122R2P



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

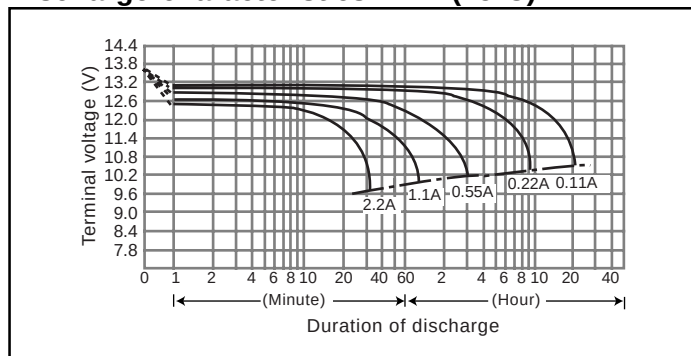
Dimensions (mm)



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

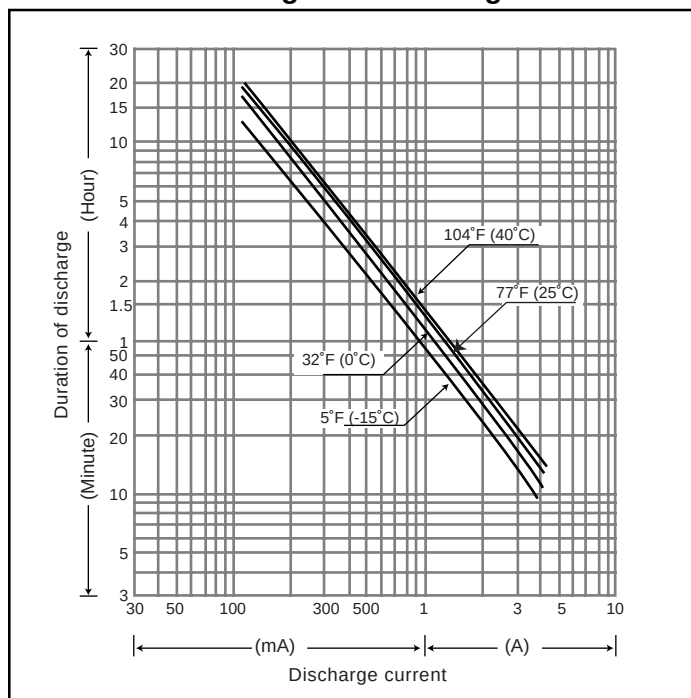
Discharge characteristics 77°F (25°C) (Note)



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)	102%
		77°F (25°C)	100%
		32°F (0°C)	85%
		5°F (-15°C)	65%
Self discharge 77°F (25°C)		Residual capacity after standing 3 months	91%
		Residual capacity after standing 6 months	82%
		Residual capacity after standing 12 months	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)

Duration of discharge vs. Discharge current (Note)



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

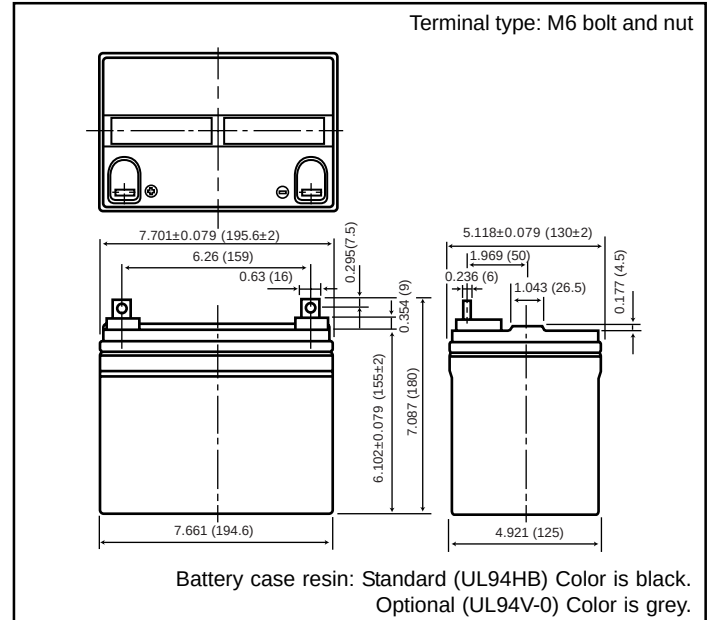
VALVE-REGULATED LEAD ACID BATTERIES: INDIVIDUAL DATA SHEET

LC-R1233P



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

Dimensions (mm)

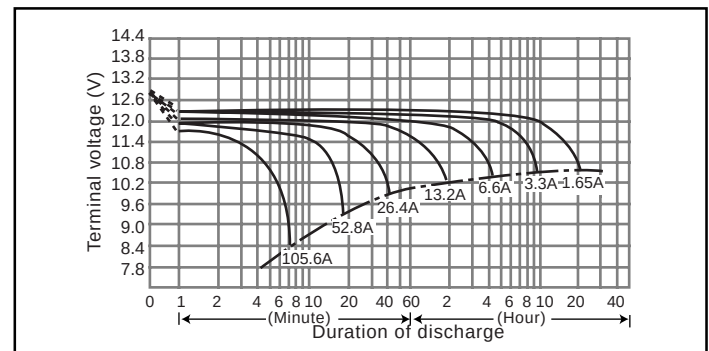


Specifications

Nominal Voltage		12V
Rated Capacity (20 hour rate)		33Ah
Dimensions	Length	7.701 inches (195.6 mm)
	Width	5.118 inches (130.0 mm)
	Height	6.102 inches (155.0 mm)
	Total Height	7.087 inches (180.0 mm)
Approx. mass (lbs.)		26.5 (12.0 kg)
Standard Terminals and Resin	UL94HB M6 Bolt and Nut	LC-R1233P
	UL94V-0 M6 Bolt and Nut	◆ LC-V1233P

◆ Please contact Panasonic for availability on optional items. Optional items may be subject to minimum order quantities.

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



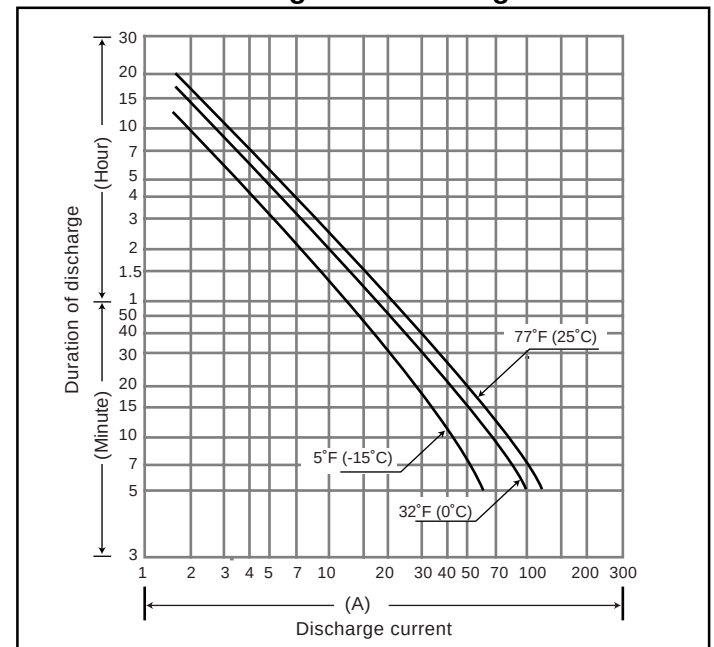
Characteristics

Capacity (note) 77°F (25°C)		20 hour rate (1.65A)	33Ah
		10 hour rate (3A)	30Ah
		5 hour rate (5.4A)	27Ah
		1 hour rate (20A)	20Ah
		1.5 hour rate discharge Cut-off voltage 10.5 V	13.4A
Internal Resistance		Fully charged battery 77°F (25°C)	Approx. 7mΩ
Temperature dependency of capacity (20 hour rate)		104°F (40°C)	102%
		77°F (25°C)	100%
		32°F (0°C)	85%
		5°F (-15°C)	65%
Self discharge 77°F (25°C)		Residual capacity after standing 3 months	91%
		Residual capacity after standing 6 months	82%
		Residual capacity after standing 12 months	64%
Charge Method (Constant Voltage)	Cycle use (Repeating use)	Initial current	13.2 A or smaller
		Control voltage	14.5V to 14.9V (per 12V cell 25°C)
	Trickle use	Initial current	4.95 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.

(Note) For cycle use of the battery, please consult us in advance.

Duration of discharge vs. Discharge current (Note)



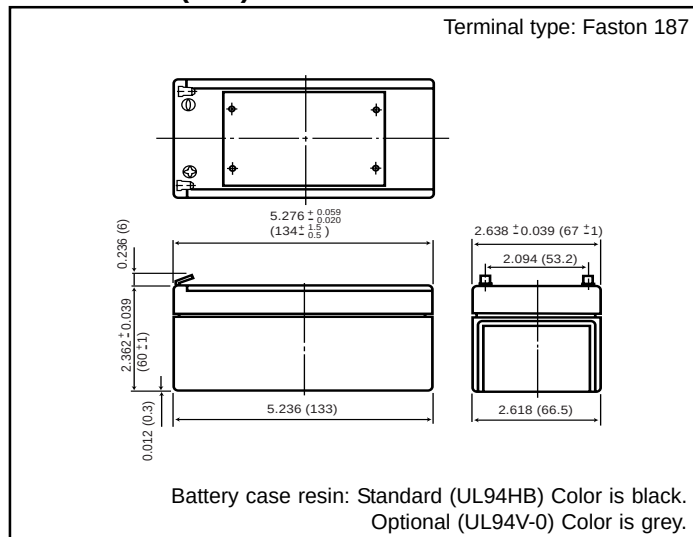
VALVE-REGULATED LEAD ACID BATTERIES: INDIVIDUAL DATA SHEET

LC-R123R4P



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

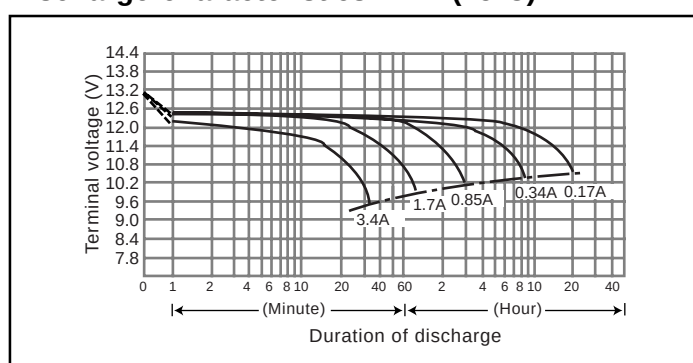
Dimensions (mm)



Specifications

Nominal Voltage		12V
Rated Capacity (20 hour rate)		3.4Ah
Dimensions	Length	5.276 inches (134.0 mm)
	Width	2.638 inches (67.0 mm)
	Height	2.362 inches (60.0 mm)
	Total Height	2.598 inches (66.0 mm)
Approx. mass		2.65 lbs. (1.20 kg)
Standard Terminals and Resin	UL94HB Faston 187	LC-R123R4P

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

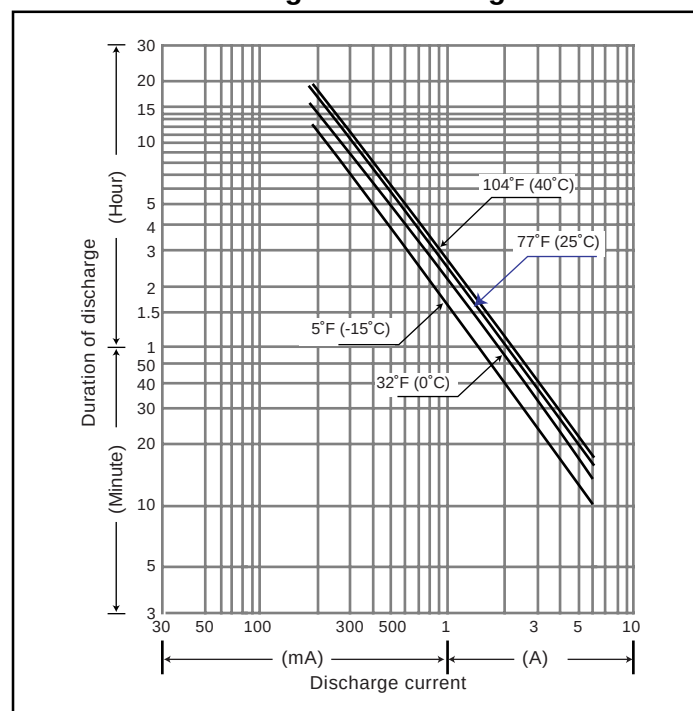


Characteristics

Capacity (note) 77°F (25°C)		20 hour rate (170mA)	3.4Ah
		10 hour rate (300mA)	3Ah
		5 hour rate (540mA)	2.7Ah
		1 hour rate (2100mA)	2.1Ah
		1.5 hour rate discharge Cut-off voltage 10.5 V	1.5A
Internal Resistance		Fully charged battery 77°F (25°C)	Approx. 60mΩ
Temperature dependency of capacity (20 hour rate)		104°F (40°C)	102%
		77°F (25°C)	100%
		32°F (0°C)	85%
		5°F (-15°C)	65%
Self discharge 77°F (25°C)		Residual capacity after standing 3 months	91%
		Residual capacity after standing 6 months	82%
		Residual capacity after standing 12 months	64%
Charge Method (Constant Voltage)	Cycle use (Repeating use)	Initial current	1.36 A or smaller
		Control voltage	14.5V to 14.9V (per 12V cell 25°C)
	Trickle use	Initial current	0.51 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)



VALVE-REGULATED LEAD ACID BATTERIES: INDIVIDUAL DATA SHEET

LC-RA1212P



Photo/Label for reference only.

Specifications

Nominal Voltage		12V
Rated Capacity (20 hour rate)		12Ah
Dimensions	Length	5.945 inches (151.0 mm)
	Width	3.860 inches (98.0 mm)
	Height	3.702 inches (94.0 mm)
	Total Height*	3.937 inches (100.0 mm)
Approx. mass		8.36 lbs. (3.8 kg)
Standard Terminals and Resin	UL94HB Faston 187	LC-RA1212P
	UL94HB Faston 250	LC-RA1212P1

* The total height with #250 terminal is 101.5mm.

Characteristics

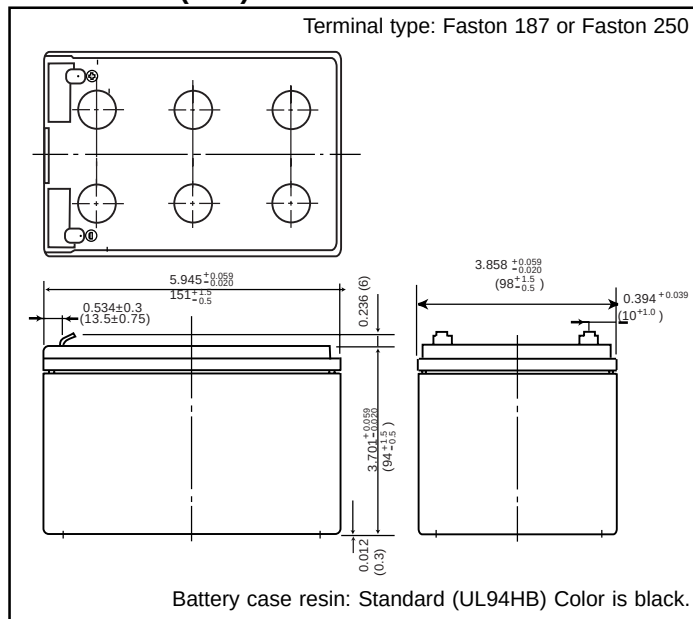
Capacity ^(note) 77°F (25°C)		20 hour rate (600mA)	12Ah
		10 hour rate (1130mA)	11.3Ah
		5 hour rate (2080mA)	10.4Ah
		1 hour rate (8100mA)	8.1Ah
		1.5 hour rate discharge Cut-off voltage 10.5 V	5.8A
Internal Resistance		Fully charged battery 77°F (25°C)	Approx. 30mΩ
Temperature dependency of capacity (20 hour rate)		104°F (40°C)	102%
		77°F (25°C)	100%
		32°F (0°C)	85%
		5°F (-15°C)	65%
Self discharge 77°F (25°C)		Residual capacity after standing 3 months	91%
		Residual capacity after standing 6 months	82%
		Residual capacity after standing 12 months	64%
Charge Method (Constant Voltage)	Cycle use (Repeating use)	Initial current	4.8 A or smaller
		Control voltage	14.5V to 14.9V (per 12V cell 25°C)
	Trickle use	Initial current	1.8 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.

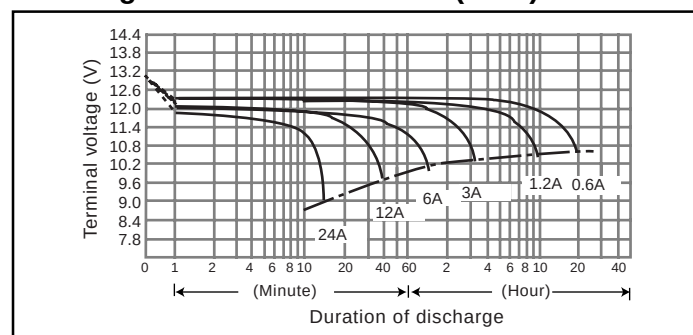
For main and standby power supplies.

Expected trickle life: 3-5 years at 25°C, Approx. 5 years at 20°C.

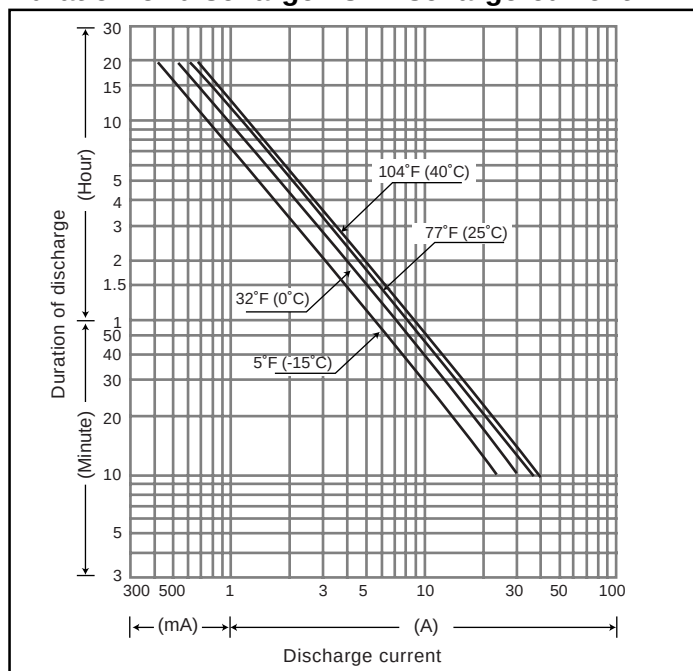
Dimensions (mm)



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



Duration of discharge vs. Discharge current (Note)



VALVE-REGULATED LEAD ACID BATTERIES: INDIVIDUAL DATA SHEET

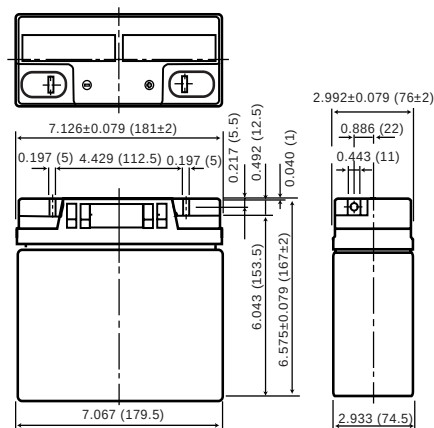
LC-RD1217P



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

Dimensions (mm)

Terminal type: LC-RD1217P: M5 bolt and nut



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

Specifications

Nominal Voltage		12V
Rated Capacity (20 hour rate)		17Ah
Dimensions	Length	7.126 inches (181.0 mm)
	Width	2.992 inches (76.0 mm)
	Height	6.575 inches (167.0 mm)
	Total Height	6.575 inches (167.0 mm)
Approx. mass		14.34 lbs. (6.5 kg)
Standard Terminals and Resin	UL94HB M5 Bolt and Nut	LC-RD1217P

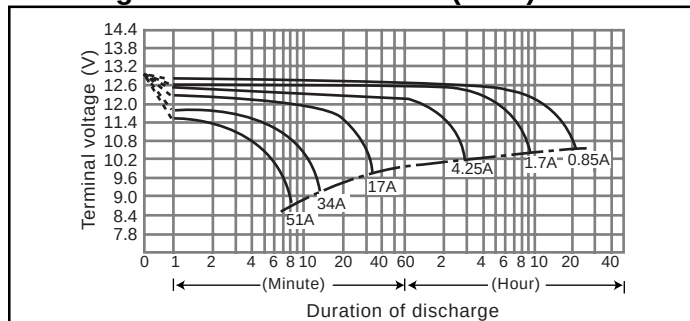
Characteristics

Capacity ^(note) 77°F (25°C)		20 hour rate (850mA)	17Ah
		10 hour rate (1500mA)	15Ah
		5 hour rate (2600mA)	13Ah
		1 hour rate (10000mA)	10Ah
		1.5 hour rate discharge Cut-off voltage 10.5 V	7A
Internal resistance		Fully charged battery 77°F (25°C)	Approx. 12mΩ
Temperature dependency of capacity (20 hour rate)		104°F (40°C)	102%
		77°F (25°C)	100%
		32°F (0°C)	85%
		5°F (-15°C)	65%
Self discharge 77°F (25°C)		Residual capacity after standing 3 months	91%
		Residual capacity after standing 6 months	82%
		Residual capacity after standing 12 months	64%
Charge Method (Constant Voltage)	Cycle use (Repeating use)	Initial current	6.8 A or smaller
		Control voltage	14.5V to 14.9V (per 12V cell 25°C)
	Trickle use	Initial current	2.55 A or smaller
		Control voltage	13.6V to 13.8V (per 12V cell 25°C)

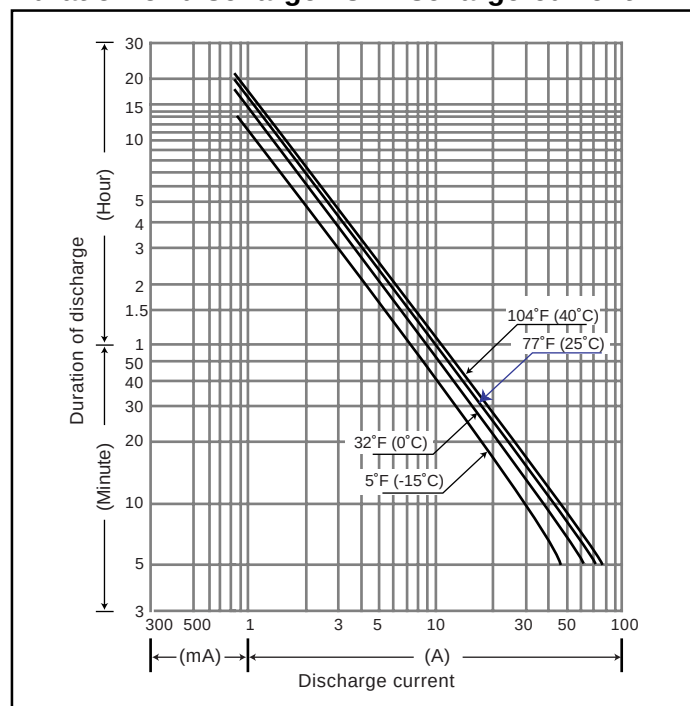
(Note) The above characteristics data are average values obtained within three charge/discharge. Cycles not the minimum values.

(Note) For cycle use of the battery, please contact us in advance.

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



Duration of discharge vs. Discharge current (Note)



LC-WTP1212



Contents indicated (including the recycle marking, etc) are subject to change without notice.

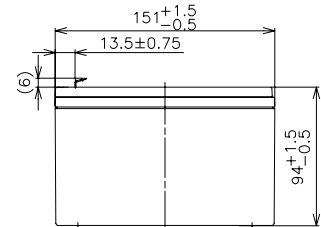
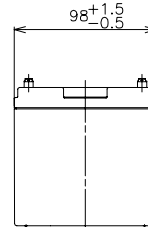
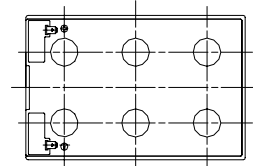
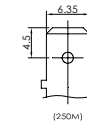
For pitch backup systems in wind turbines

Expected life: 10 years at 20°C, 5 years at 25°C

(based on a weekly discharge cycle of max 15 seconds)

■Dimensions(mm)

Terminal type (option)



Battery case resin: Flame-retardant (UL94V-0)

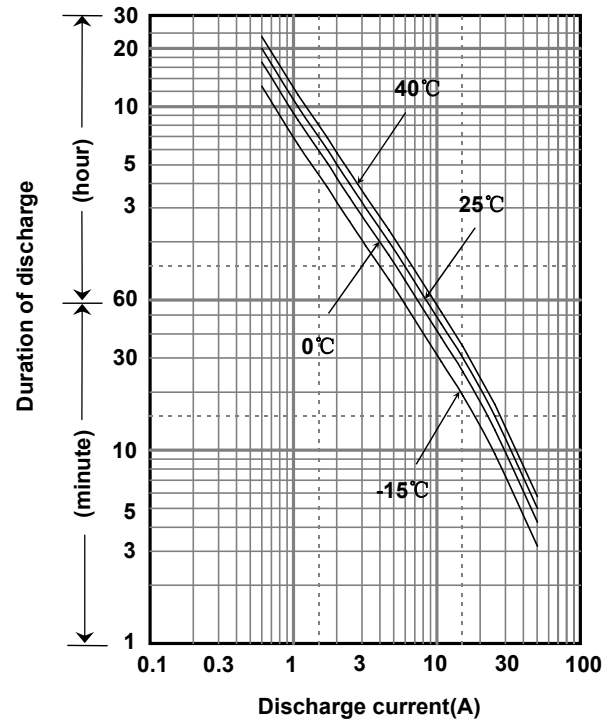
■Specification

Nominal Voltage		12V
Rated Capacity(20HR)		12Ah
Dimensions	Length	151 mm
	Width	98 mm
	Height	94 mm
	Total height	100 mm
Approx. Mass		3.85 kg
Terminal		250M

■Characteristics

Capacity (25 °C)	20 hour rate	12Ah
	10 hour rate	10Ah
	3 hour rate	9.3Ah
	1 hour rate	8.1Ah
Internal Resistance	Fully charged battery (25 °C)	15 mΩ
Temperature Dependency of Capacity (20 hour rate)	40 °C	102%
	25 °C	100%
	0 °C	85%
	-15 °C	65%
Self Discharge (25 °C)	After 3 months	91%
	After 6 months	82%
	After 12 months	64%

■Duration of discharge vs. discharge current



■Large current discharge characteristics(25°C)

Peak current(A for milliseconds)	267	250	233	217	200	187	175	157	143	133	125
Discharge current(A)	240	225	210	195	180	168	158	142	130	120	113
Discharge time(sec)	3	6	10	15	20	25	30	40	50	60	70

Peak current(A for milliseconds)	117	110	103	98	92	87	82	77	73	70	67
Discharge current(A)	105	100	93	88	83	78	73	70	67	63	60
Discharge time(sec)	80	90	100	110	120	130	140	150	160	170	180

The cut off voltage should be more than 8.0V.
Battery should be charged after each discharge.

■Charging Method

**Control voltage: 13.6V~13.8V at 20°C~25°C with temperature compensation, Initial current: 1.80A or smaller

**Please consult us for the right control voltage if the ambient temperature is different.

■Operating Temperature Range

*Storage	Charge	Discharge
-40°C~ 50°C	-20°C~ 50°C	-20°C~ 50°C

* For storage, please ensure that battery is fully charged.

Data in this sheet are for reference only and are not guaranteed values.

LC-WTP127R2



Contents indicated (including the recycle marking, etc) are subject to change without notice.

■ Specification

Nominal Voltage		12V
Rated Capacity(20HR)		7.2Ah
Dimensions	Length	151 mm
	Width	64.5 mm
	Height	94 mm
	Total height	100 mm
Approx. Mass		2.50 kg
Terminal		250M

■ Characteristics

Capacity (25 °C)	20 hour rate	7.2Ah
	10 hour rate	6.5Ah
	3 hour rate	5.8Ah
	1 hour rate	4.9Ah
Internal Resistance	Fully charged battery (25 °C)	21 mΩ
Temperature Dependency of Capacity (20 hour rate)	40 °C	102%
	25 °C	100%
	0 °C	85%
	-15 °C	65%
Self Discharge (25 °C)	After 3 months	91%
	After 6 months	82%
	After 12 months	64%

■ Large current discharge characteristics(25°C)

Peak current(A for milliseconds)	160	150	140	130	120	112	105	94	86	80	75
Discharge current(A)	144	135	126	117	108	101	95	85	78	72	68
Discharge time(sec)	3	6	10	15	20	25	30	40	50	60	70

Peak current(A for milliseconds)	70	66	62	59	55	52	49	46	44	42	40
Discharge current(A)	63	60	56	53	50	47	44	42	40	38	36
Discharge time(sec)	80	90	100	110	120	130	140	150	160	170	180

The cut off voltage should be more than 8.0V.
Battery should be charged after each discharge.

■ Charging Method

****Control voltage: 13.6V~13.8V at 20°C~25°C with temperature compensation, Initial current: 1.08A or smaller**

****Please consult us for the right control voltage if the ambient temperature is different.**

■ Operating Temperature Range

*Storage	Charge	Discharge
-40°C~ 50°C	-20°C~ 50°C	-20°C~ 50°C

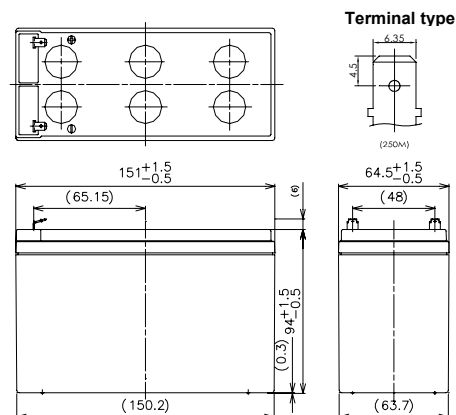
* For storage, please ensure that battery is fully charged.

For pitch backup systems in wind turbines

Expected life: 10 years at 20°C, 5 years at 25°C

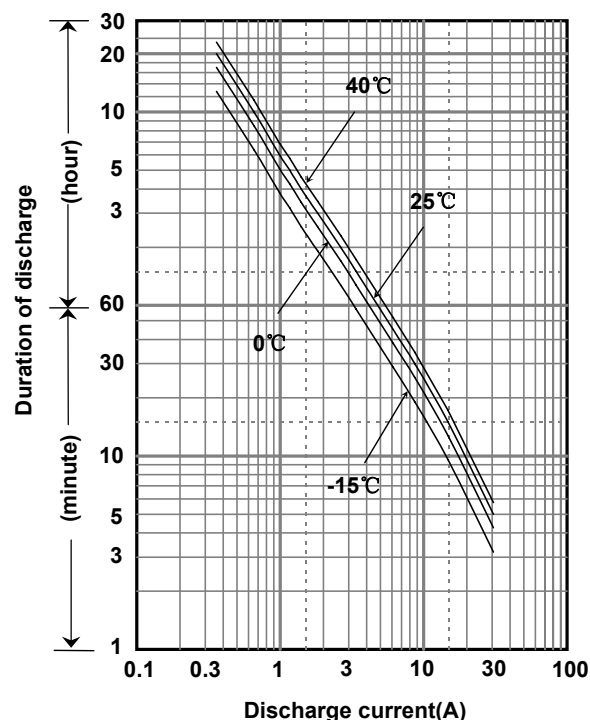
(based on a weekly discharge cycle of max 15 seconds)

■ Dimensions(mm)



Battery case resin: Flame-retardant (UL94V-0)

■ Duration of discharge vs. discharge current



LC-WTV1212



Contents indicated (including the recycle marking, etc) are subject to change without notice.

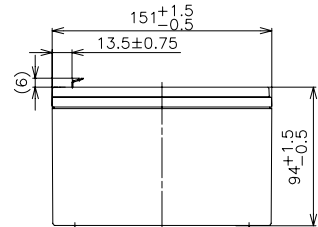
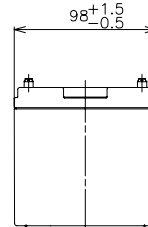
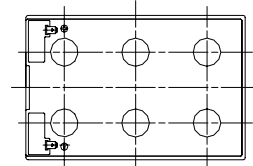
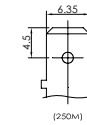
For pitch backup systems in wind turbines

Expected life: 5 years at 20°C, 3 years at 25°C

(based on a weekly discharge cycle of max 15 seconds)

■Dimensions(mm)

Terminal type (option)



Battery case resin: Flame-retardant (UL94V-0)

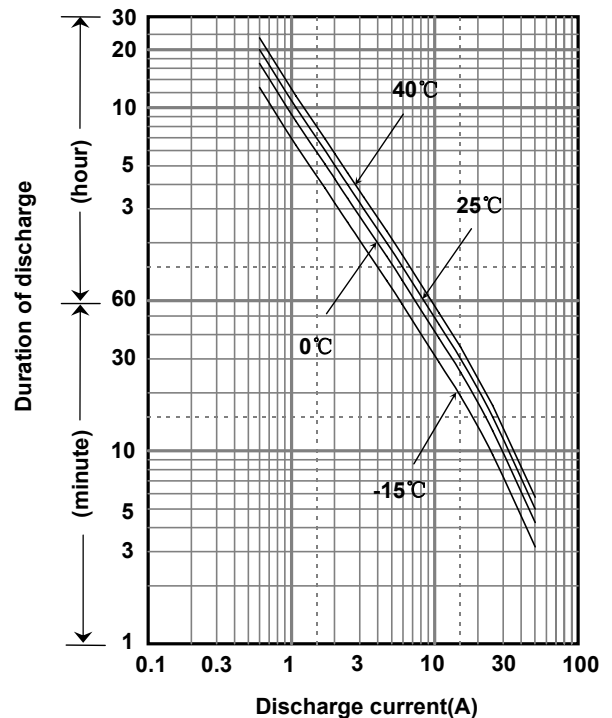
■Specification

Nominal Voltage		12V
Rated Capacity(20HR)		12Ah
Dimensions	Length	151 mm
	Width	98 mm
	Height	94 mm
	Total height	100 mm
Approx. Mass		3.85 kg
Terminal		250M

■Characteristics

Capacity (25 °C)	20 hour rate	12Ah
	10 hour rate	10Ah
	3 hour rate	9.3Ah
	1 hour rate	8.5Ah
Internal Resistance	Fully charged battery (25 °C)	15 mΩ
Temperature Dependency of Capacity (20 hour rate)	40 °C	102%
	25 °C	100%
	0 °C	85%
	-15 °C	65%
Self Discharge (25 °C)	After 3 months	91%
	After 6 months	82%
	After 12 months	64%

■Duration of discharge vs. discharge current



■Large current discharge characteristics(25°C)

Peak current(A for milliseconds)	267	250	233	217	200	187	175	157	143	133	125
Discharge current(A)	240	225	210	195	180	168	158	142	130	120	113
Discharge time(sec)	3	6	10	15	20	25	30	40	50	60	70

Peak current(A for milliseconds)	117	110	103	98	92	87	82	77	73	70	67
Discharge current(A)	105	100	93	88	83	78	73	70	67	63	60
Discharge time(sec)	80	90	100	110	120	130	140	150	160	170	180

The cut off voltage should be more than 8.0V.
Battery should be charged after each discharge.

■Charging Method

**Control voltage: 13.6V~13.8V at 20°C~25°C with temperature compensation, Initial current: 1.80A or smaller

**Please consult us for the right control voltage if the ambient temperature is different.

■Operating Temperature Range

*Storage	Charge	Discharge
-40°C~ 50°C	-20°C~ 50°C	-20°C~ 50°C

* For storage, please ensure that battery is fully charged.

Data in this sheet are for reference only and are not guaranteed values.

LC-WTV127R2



Contents indicated (including the recycle marking, etc) are subject to change without notice.

■ Specification

Nominal Voltage		12V
Rated Capacity(20HR)		7.2Ah
Dimensions	Length	151 mm
	Width	64.5 mm
	Height	94 mm
	Total height	100 mm
Approx. Mass		2.50 kg
Terminal		250M

■ Characteristics

Capacity (25 °C)	20 hour rate	7.2Ah
	10 hour rate	6.5Ah
	3 hour rate	5.8Ah
	1 hour rate	4.9Ah
Internal Resistance	Fully charged battery (25 °C)	21 mΩ
Temperature Dependency of Capacity (20 hour rate)	40 °C	102%
	25 °C	100%
	0 °C	85%
	-15 °C	65%
Self Discharge (25 °C)	After 3 months	91%
	After 6 months	82%
	After 12 months	64%

■ Large current discharge characteristics(25°C)

Peak current(A for milliseconds)	160	150	140	130	120	112	105	94	86	80	75
Discharge current(A)	144	135	126	117	108	101	95	85	78	72	68
Discharge time(sec)	3	6	10	15	20	25	30	40	50	60	70

Peak current(A for milliseconds)	70	66	62	59	55	52	49	46	44	42	40
Discharge current(A)	63	60	56	53	50	47	44	42	40	38	36
Discharge time(sec)	80	90	100	110	120	130	140	150	160	170	180

The cut off voltage should be more than 8.0V.
Battery should be charged after each discharge.

■ Charging Method

****Control voltage: 13.6V~13.8V at 20°C~25°C with temperature compensation, Initial current: 1.08A or smaller**

****Please consult us for the right control voltage if the ambient temperature is different.**

■ Operating Temperature Range

*Storage	Charge	Discharge
-40°C~ 50°C	-20°C~ 50°C	-20°C~ 50°C

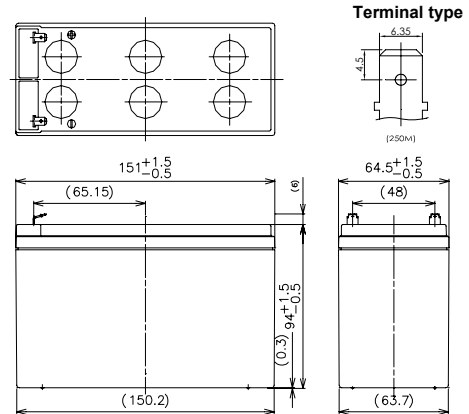
* For storage, please ensure that battery is fully charged.

For pitch backup systems in wind turbines

Expected life: 5 years at 20°C, 3 years at 25°C

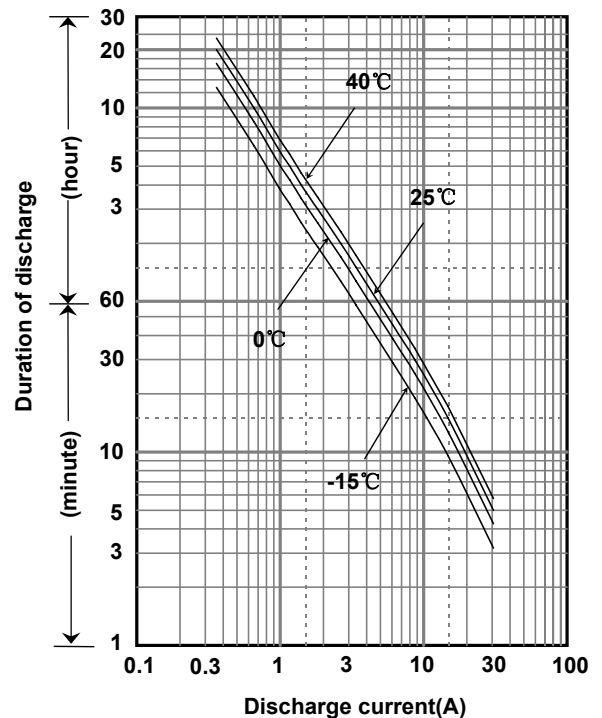
(based on a weekly discharge cycle of max 15 seconds)

■ Dimensions(mm)



Battery case resin: Flame-retardant (UL94V-0)

■ Duration of discharge vs. discharge current



VALVE-REGULATED LEAD ACID BATTERIES: INDIVIDUAL DATA SHEET

LC-X1220P/LC-X1220AP



Photo/Label for reference only.

(a) The photo and dimensions represent LC-X1220P.

Specifications

Nominal Voltage		12V
Rated Capacity (20 hour rate)		20Ah
Dimensions	Length	7.126 inches (181.0 mm)
	Width	2.992 inches (76.0 mm)
	Height	6.575 inches (167.0 mm)
	Total Height	6.575 inches (167.0 mm)
Approx. mass		14.56 lbs. (6.6 kg)
Standard Terminals and Resin	UL94HB M5 Bolt and Nut	LC-X1220P
Optional Terminals and Resin	UL94HB M5 Threaded Post	◆ LC-X1220AP

◆ Please contact Panasonic for availability on optional items. Optional items may be subject to minimum order quantities.

Characteristics

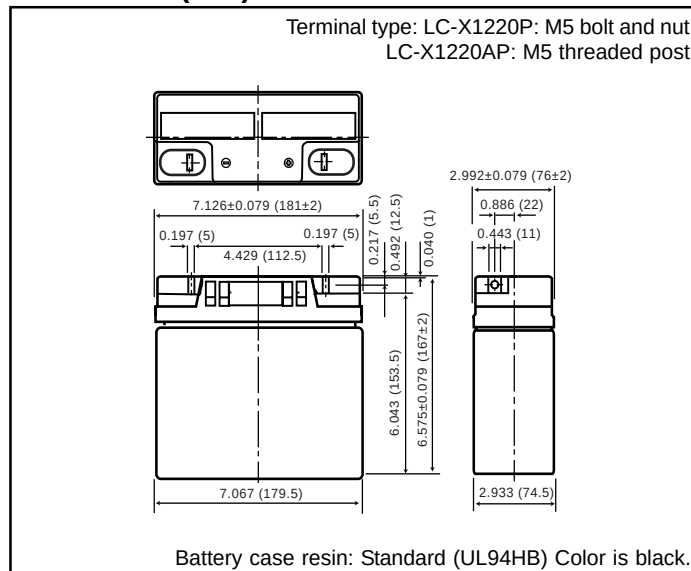
Capacity (note) 77°F (25°C)		20 hour rate (1.2A)	20Ah
		10 hour rate (2.2A)	18Ah
		5 hour rate (3.8A)	16Ah
		1 hour rate (14A)	12Ah
		1.5 hour rate discharge Cut-off voltage 10.5 V	9.8A
Internal Resistance		Fully charged battery 77°F (25°C)	Approx. 11mΩ
Temperature dependency of capacity (20 hour rate)		104°F (40°C)	102%
		77°F (25°C)	100%
		32°F (0°C)	85%
		5°F (-15°C)	65%
Self discharge 77°F (25°C)		Residual capacity after standing 3 months	91%
		Residual capacity after standing 6 months	82%
		Residual capacity after standing 12 months	64%
Charge Method (Constant Voltage)	Cycle use (Repeating use)	Initial current	8 A or smaller
		Control voltage	14.5 V to 14.9 V (per 12V cell 25°C)
	Trickle use	Initial current	3 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.

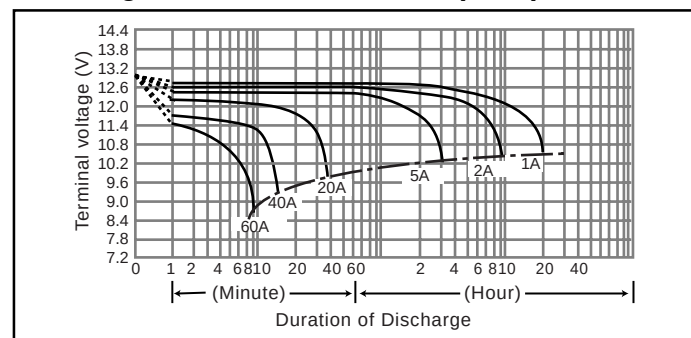
(Note) For cycle use of the battery, please contact us in advance.

For main and standby power supplies. Expected trickle life: Approx. 6 years at 25°C, Approx. 10 years at 20°C.

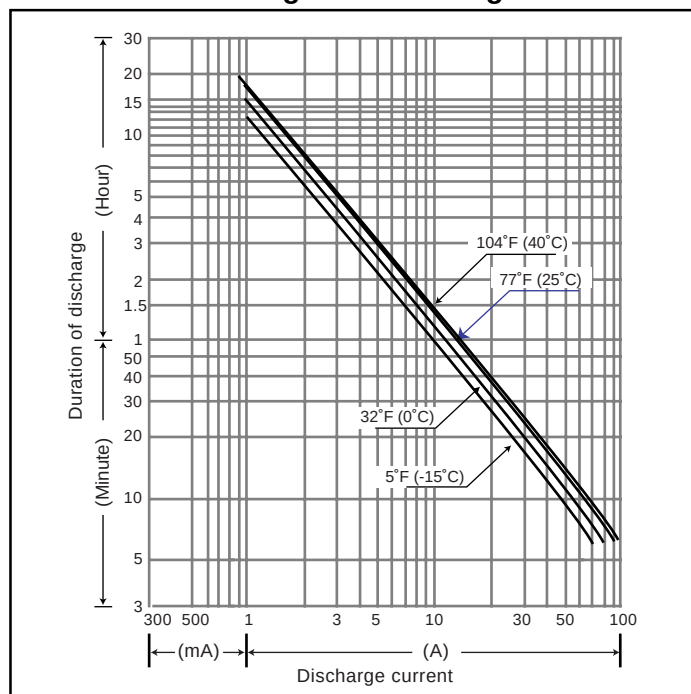
Dimensions (mm)



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



Duration of discharge vs. Discharge current (Note)



VALVE-REGULATED LEAD ACID BATTERIES: INDIVIDUAL DATA SHEET

LC-X1228P/LC-X1228AP



Photo/Label for reference only.

(a) The photo and dimensions represent LC-X1228AP.

Specifications

Nominal Voltage		12V
Rated Capacity (20 hour rate)		28Ah
Dimensions	Length	6.496 inches (165 mm)
	Width	4.921 inches (125 mm)
	Height	7.07 inches (179.5 mm)
	Total Height	LC-X1228AP 6.890 inches (175 mm) LC-X1228P 7.067 inches (179.5 mm)
Approx. mass		24.34 lbs. (11 kg)
Standard Terminals and Resin	UL94HB M5 Bolt and Nut	LC-X1228P
	UL94HB M5 Threaded Post	LC-X1228AP
Optional Terminals and Resin	UL94V-0 M5 Bolt and Nut	◆ LC-P1228P
	UL94V-0 M5 Threaded Post	◆ LC-P1228AP

◆ Please contact Panasonic for availability on optional items. Optional items may be subject to minimum order quantities.

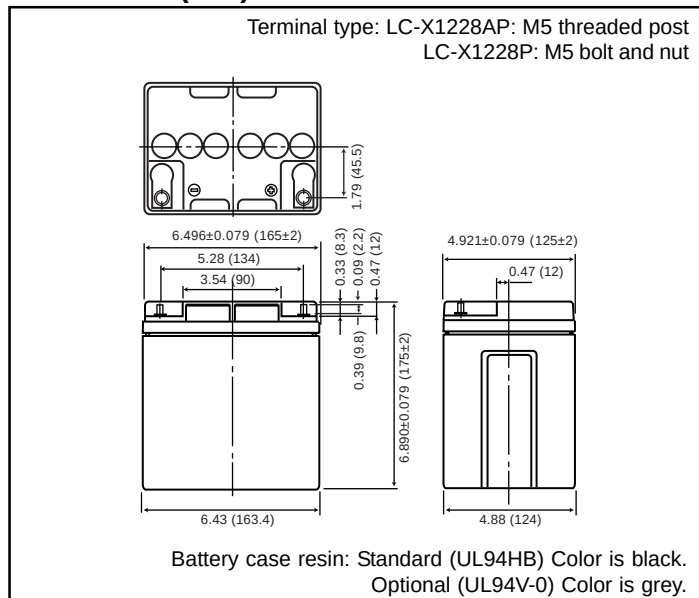
Characteristics

Capacity (note) 77°F (25°C)	20 hour rate (1.40A)	28.0Ah
	10 hour rate (2.65A)	26.5Ah
	5 hour rate (5.00A)	25.0Ah
	1 hour rate (21.0A)	21.0Ah
Internal Resistance	1.5 hour rate discharge	9.80A
	Cut-off voltage 10.5 V	
Temperature dependency of capacity (20 hour rate)	Fully charged battery 77°F (25°C)	Approx. 6.0mΩ
	104°F (40°C)	102%
	77°F (25°C)	100%
	32°F (0°C)	85%
Self discharge 77°F (25°C)	5°F (-15°C)	65%
	Residual capacity after standing 3 months	91%
	Residual capacity after standing 6 months	82%
	Residual capacity after standing 12 months	64%
Charge Method (Constant Voltage)	Trickle use	
	Initial current	4.20 A or smaller
	Control voltage	13.6V to 13.8V (per 12V cell 25°C)

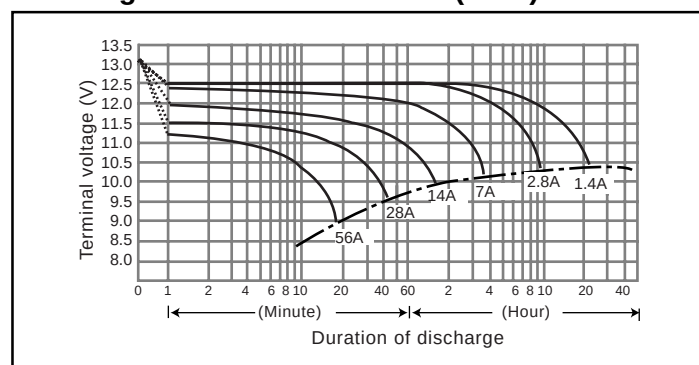
(Note) The above characteristics data are average values obtained within three charge/discharge. Cycles not the minimum values.

For standby power supplies. Expected trickle life: Approx. 6 years at 25°C, Approx. 10 years at 20°C.

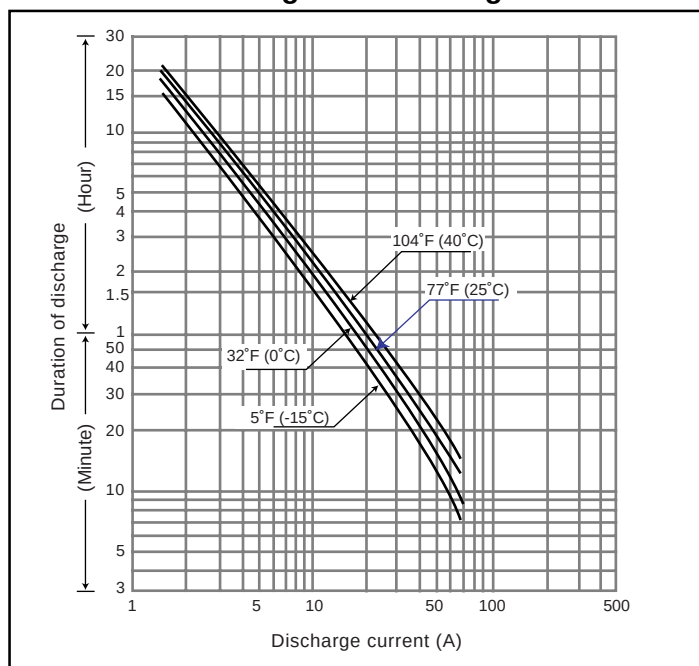
Dimensions (mm)



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



Duration of discharge vs. Discharge current (Note)



VALVE-REGULATED LEAD ACID BATTERIES: INDIVIDUAL DATA SHEET

LC-XC1228AP

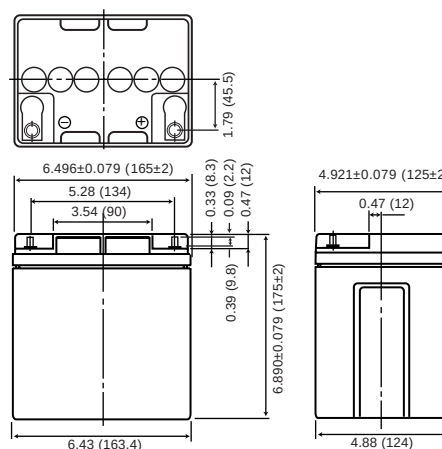
For main power supplies.
Cycle long life type.



Photo/Label for reference only.

Dimensions (mm)

Terminal type: LC-XC1228AP: M5 threaded post

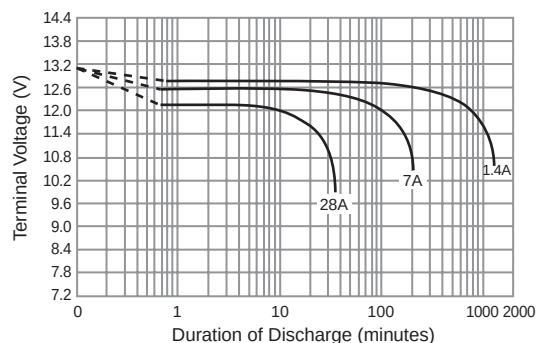


Battery case resin: Standard (UL94HB) Color is black.

Specifications

Nominal Voltage		12V
Rated Capacity (20 hour rate)		28Ah
Dimensions	Length	6.496 inches (165 mm)
	Width	4.921 inches (125 mm)
	Height	6.890 inches (175 mm)
	Total Height	7.07 inches (179.5 mm)
Approx. mass		24.34 lbs. (11 kg)
Standard Terminals and Resin	UL94HB M5 Threaded Post	LC-XC1228AP

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

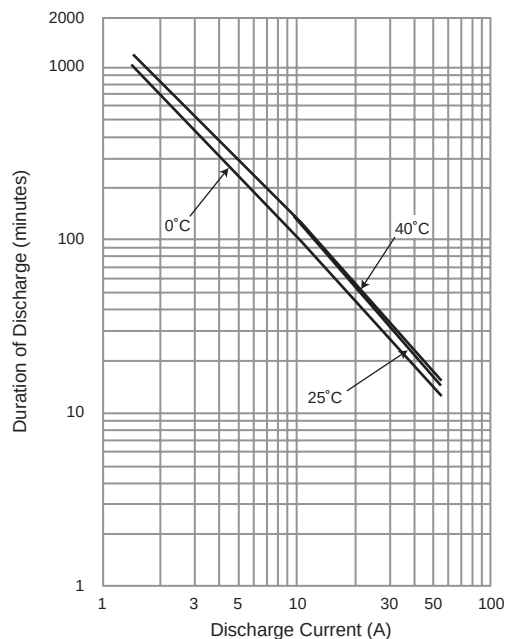


Characteristics

Capacity (note) 77°F (25°C)		20 hour rate (1.4A)	28Ah
		10 hour rate (2.65A)	26.5Ah
		5 hour rate (4.8A)	24Ah
		1 hour rate (18A)	18Ah
		1.5 hour rate discharge	14A
		Cut-off voltage 10.5 V	
Internal Resistance		Fully charged battery 77°F (25°C)	Approx. 10mΩ
Temperature dependency of capacity (20 hour rate)		104°F (40°C)	102%
		77°F (25°C)	100%
		32°F (0°C)	85%
		5°F (-15°C)	65%
Self discharge 77°F (25°C)		Residual capacity after standing 3 months	91%
		Residual capacity after standing 6 months	82%
		Residual capacity after standing 12 months	64%
Charge Method (Constant Voltage)	Cycle use (Repeating use)	Initial current	11.2 A or smaller
		Control voltage	14.5V to 14.9V (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)



VALVE-REGULATED LEAD ACID BATTERIES: INDIVIDUAL DATA SHEET

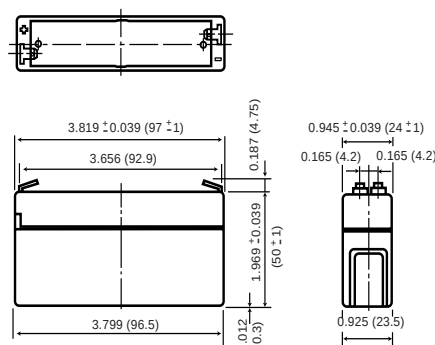
LC-R061R3P



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

Dimensions (mm)

Terminal type: Faston 187

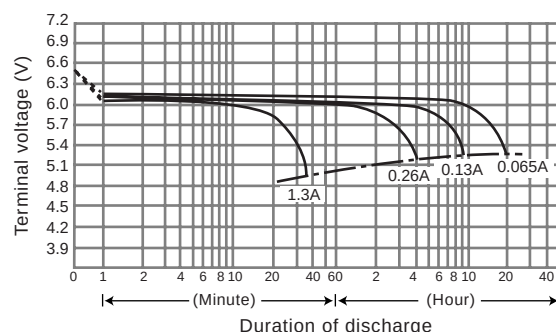


Battery case resin: Standard (UL94HB) Color is black.

Specifications

Nominal Voltage		6V
Rated Capacity (20 hour rate)		1.3Ah
Dimensions	Length	3.819 inches (97.0 mm)
	Width	0.945 inches (24.0 mm)
	Height	1.969 inches (50.0 mm)
	Total Height	2.165 inches (55.0 mm)
Approx. mass		.661 lbs. (0.30 kg)
Standard Terminals and Resin	UL94HB Faston 187	LC-R061R3P

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

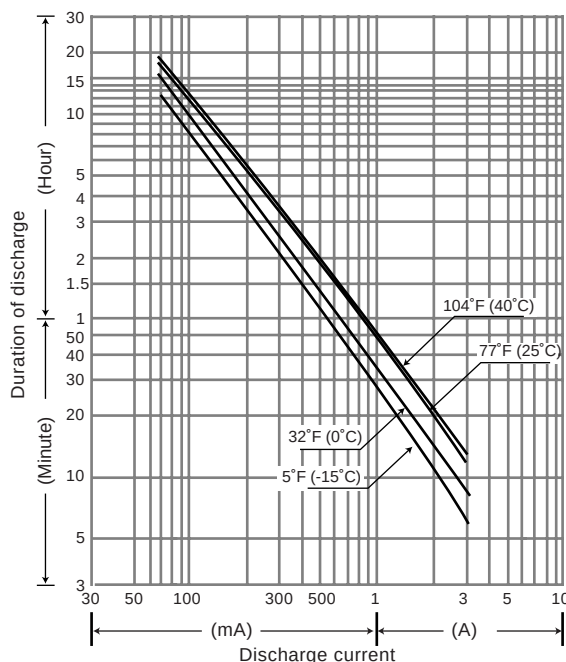


Characteristics

Capacity (note) 77°F (25°C)		20 hour rate (65mA)	1.3Ah
		10 hour rate (120mA)	1.2Ah
		5 hour rate (210mA)	1.05Ah
		1 hour rate (850mA)	0.85Ah
		1.5 hour rate discharge Cut-off voltage 5.25 V	0.6A
Internal Resistance		Fully charged battery 77°F (25°C)	Approx. 50mΩ
Temperature dependency of capacity (20 hour rate)		104°F (40°C)	102%
		77°F (25°C)	100%
		32°F (0°C)	85%
		5°F (-15°C)	65%
Self discharge 77°F (25°C)		Residual capacity after standing 3 months	91%
		Residual capacity after standing 6 months	82%
		Residual capacity after standing 12 months	64%
Charge Method (Constant Voltage)	Cycle use (Repeating use)	initial current	0.52 A or smaller
		Control voltage	7.25V to 7.45V (per 6V cell 25°C)
	Trickle use	initial current	0.195 A or smaller
		Control voltage	6.8V to 6.9V (per 6V 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)



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