

POWER SONIC®



SEALED RECHARGEABLE VRLA BATTERIES

Engineered With Vision. Built With Care.

The Power-Sonic Corporation has been a leading force since 1970 in the supply of high quality cost effective batteries. Power-Sonic markets an extensive range of rechargeable sealed lead acid batteries worldwide. These batteries envelop a broad spectrum of electronic and industrial applications, either as the prime or standby power source. Engineers and buyers continue to insist on Power-Sonic batteries, wherever reliable and cost effective DC power is required.

Power-Sonic is dedicated to continual product development to improve the performance and reliability of our product range. New batteries are constantly being introduced to meet the ever evolving needs of industry. We strive to produce batteries with superior performance characteristics and value, through advanced engineering and state-of-the art manufacturing processes, coupled with the use of premium raw materials.

Providing our customers with reliable, yet economical, products is the corner stone of the Power-Sonic mission.

Features

Sealed/Maintenance-Free

The valve regulated, spill-proof construction allows trouble-free, safe operation in any position. There is no need to add electrolyte, as gases generated during overcharge are recombined in a unique "oxygen cycle."

Valve Regulated Design

Our batteries incorporate a series of one-way low pressure valves. These self sealing valves allow the venting of any excess gasses that may be produced in the battery due to severe overcharging. Valve regulated batteries should never be recharged inside a sealed container.

Design Flexibility

Batteries may be used in series and/or parallel to obtain choice of voltage and capacity. Due to recent design breakthroughs, the same battery may be used in either cyclic or standby applications. Over 60 models are available to choose from.

Compact

Power-Sonic batteries use state-of-the-art design, high grade materials, and a carefully controlled plate-making process to provide excellent output per cell. The high energy density results in superior power/volume and power/weight ratios.

Rugged Construction

The high impact resistant battery case is made of non-conductive ABS plastic to UL94-HB. This material imparts very good resistance to shock, vibration, chemicals and heat. Certain models feature flame retardant (FR) cases/covers to UL94 V-O.

Wide Operating Temperature Range

Power-Sonic batteries may be discharged over a temperature range of -40°C to +60°C (-40°F to +140°F) and charged at temperatures ranging from -40°C to +50°C (-40°F to +122°F).

Long Service Life

Under normal operating conditions, four or five years of dependable service life can be expected in stand-by applications, or between 200 and 1000 charge/ discharge cycles depending on the average depth of discharge.

Deep Discharge Recovery

Special separators, advanced plate composition, and a carefully balanced electrolyte system have greatly improved the ability to recover from excessively deep discharge.

Lead Calcium Plates

Heavy duty lead calcium plates provide an extra margin of performance and life in both cyclic and float applications and give unequaled recovery from deep discharge.

Economical

The high watt-hour per dollar value is made possible by the materials used in a sealed lead-acid battery: they are readily available and low in cost.

Operation in any Orientation

Our SLA batteries can be be charged & discharged in any orientation except upside down without reduction in performance or leakage of electrolyte.

High Rate Discharge

Low internal resistance allows discharge currents of up to ten times the battery's rated capacity. Relatively small batteries may thus be specified in applications requiring high peak currents.

Long Shelf Life

A low self discharge rate allows storage of fully charged batteries for extended periods of time before charging is required. Lower storage temperatures further enhance shelf life characteristics.

Battery Construction

Terminals

Depending on the model, batteries come either with AMP Faston type terminals made of tin plated brass, post type terminals of the same composition with threaded nut and bolt hardware, or heavy duty flag terminals made of lead alloy. A special epoxy is used as sealing material surrounding the terminals.

Relief valve

In case of excessive gas pressure build-up inside the battery, the relief valve will open and relieve the pressure. The one-way valve not only ensures that no air gets into the battery where the oxygen would react with the plates causing internal discharge, but also represents an important safety device in the event of excessive overcharge. Vent release pressure is between 2-6 psi; the seal ring material is neoprene rubber.

Plates (electrodes)

Power-Sonic utilizes the latest technology and equipment to cast grids from a lead-calcium alloy free of antimony. The small amount of calcium and tin in the grid alloy imparts strength to the plate and guarantees durability even in extensive cycle service. Lead dioxide paste is added to the grid to form the electrically active material. In the charged state, the negative plate paste is pure lead and that of the positive lead dioxide. Both of these are in a porous or spongy form to optimize surface area and thereby maximize capacity. The heavy duty lead calcium alloy grids provide an extra margin of performance and life in both cyclic and float applications and give unparalleled recovery from deep discharge.

Separators

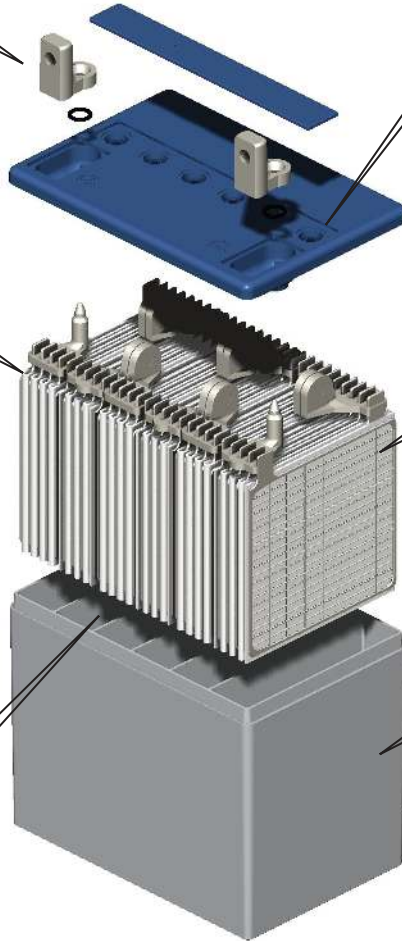
Power-Sonic separators are made of non-woven glass fiber cloth with high heat and oxidation resistance. The material further offers superior electrolyte absorption and retaining ability, as well as excellent ion conductivity.

Electrolyte

Immobilized dilute sulfuric acid: H_2SO_4 .

Container & case sealing

Case and lid material is ABS, high impact, resin with high resistance to chemicals and flammability. Case and cover are made of non-conductive ABS plastic to UL94-HB or UL94 V-0. Depending on the model the case sealing is ultrasonic, epoxy or heat seal.



Typical Applications

Power Sources

- Back-up power
- Computers
- UPS

Communications

- GPS equipment
- Marine communications
- Telecommunication systems

Lighting

- Emergency lighting
- Exit lights
- Hand held lights

Security Systems

- Burglar / Fire alarms
- Monitoring alarms
- Metal detectors

Automotive

- Electronic memory accessories
- Braking / Fuel systems

Recreation

- Fish finders
- Ride-on toys
- Electrical bicycles/scooters

Portable Equipment

- Audio-visual devices
- Test and measuring equipment
- Consumer electronics

Monitoring Equipment

- Fiber-optic test equipment
- Scientific instruments
- Weather instrumentation

Agricultural

- Livestock/game feeders
- Containment fencing

Military

- Aerospace
- Aircraft instrumentation
- Fire control systems

Miscellaneous

- Invisible fences
- DC power lifts
- Floor scrubbers
- Laser products
- Robotics
- Advertising signs

Battery Chargers

Power-sonic offers a wide range of chargers suitable for batteries up to 100AH. Please refer to the Charger Selection Guide in our specification sheets for "C-Series Switch Mode Chargers" and "Transformer Type A and F Series". Please contact our technical department for advice if you have difficulty in locating suitable models.

PS-SERIES: General Purpose Batteries

Model	Nominal Voltage V	Nominal Capacity A.H.	Current @ 20-hr. rate mA	Length		Width		Height		Ht. Over Terminal		Weight		Standard Terminals
				in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kgs.	
PS-260	2	6.0	300	1.97	50	1.34	34	3.94	100	4.13	105	0.89	0.40	F1
PS-445	4	4.5	225	1.89	48	2.09	53	3.70	94	3.86	98	1.30	0.59	F2
PS-490	4	9.0	450	4.01	102	1.73	44	3.74	95	4.02	102	2.20	1.00	F2
PS-4100	4	10.0	500	4.01	102	1.97	50	3.70	94	3.85	98	2.50	1.13	F1
PS-610	6	1.1	55	2.00	51	1.65	42	2.00	51	2.20	56	0.44	0.20	F1
PS-612	6	1.4	70	3.82	97	0.94	24	2.00	51	2.20	56	0.66	0.30	F1
PS-621	6	2.0	100	1.69	43	1.46	37	2.99	76	2.99	76	0.75	0.34	F1/0
PS-628	6	2.9	145	2.60	66	1.30	33	3.86	98	4.06	103	1.30	0.59	F1
PS-630	6	3.5	175	5.28	134	1.34	34	2.35	60	2.56	65	1.37	0.62	F1
PS-632	6	3.5	175	2.60	66	1.30	33	4.65	118	4.80	122	1.37	0.62	F1
PS-640	6	4.5	225	2.76	70	1.86	47	3.94	100	4.25	108	1.60	0.73	F1
PS-650LS & LF	6	5.0	250	2.64	67	2.64	67	3.94	100	4.64	118	1.80	0.82	F1 or SP
PS-660	6	6.6	275	2.76	70	1.85	47	3.94	100	4.17	106	2.10	0.95	F1
PS-670	6	7.0	350	5.95	151	1.34	34	3.70	94	3.94	100	2.42	1.10	F1
PS-682	6	9.0	450	3.86	98	2.20	56	4.65	118	4.72	120	3.20	1.45	F1
PS-6100	6	12.0	600	5.95	151	2.00	51	3.70	94	3.86	98	4.30	1.95	F1 or F2
PS-6120FP	6	13.0	650	4.25	108	2.80	71	5.55	141	5.55	141	4.80	2.18	FP
PS-6200	6	20.0	1000	6.18	157	3.27	83	4.92	125	4.92	125	7.10	3.22	NB1
PS-6360	6	36.0	1800	6.25	159	3.35	85	6.50	165	6.93	176	12.10	5.49	F2 or NB1
PS-62000	6	210.0	10500	12.05	306	6.65	169	8.65	220	8.96	228	63.93	29.00	T8
PS-832	8	3.2	160	5.29	134	1.42	36	2.49	63	2.70	69	1.65	0.75	F1
PS-1208	12	0.8	40	3.78	96	0.98	25	2.44	62	n/a	n/a	0.77	0.35	WL
PS-1212	12	1.4	70	3.78	96	1.69	43	2.04	52	2.28	58	1.20	0.54	F1
PS-1220	12	2.5	125	7.00	178	1.38	35	2.36	60	2.56	65	2.10	0.95	F1
PS-1221S	12	2.0	100	5.91	150	0.80	20	3.52	89	n/a	n/a	1.50	0.68	F1/0
PS-1223	12	2.3	115	7.17	182	0.94	24	2.40	61	2.40	61	1.70	0.77	PC
PS-1227	12	2.9	145	3.11	79	2.20	56	3.90	99	4.13	105	2.40	1.09	F1
PS-1228	12	2.8	140	5.24	133	1.30	33	3.82	97	4.09	104	2.60	1.18	F1
PS-1230	12	3.4	170	5.24	133	2.64	67	2.36	60	2.60	66	2.90	1.32	F1
PS-1238	12	3.8	190	7.68	195	1.85	47	2.91	74	2.91	74	3.50	1.59	F1
PS-1250	12	5.0	250	3.54	90	2.76	70	3.98	101	4.21	107	3.50	1.59	F1 or F2
PS-1260	12	6.0	300	3.54	90	2.76	70	3.98	101	4.21	107	4.00	1.81	F2
PS-1270	12	7.0	350	5.95	151	2.56	65	3.70	94	3.86	98	4.80	2.18	F1 or F2
PS-1280	12	8.5	425	5.94	151	2.56	65	3.70	94	3.86	98	6.00	2.72	F2
PS-1290	12	8.5	425	5.95	151	2.56	65	3.70	94	3.86	98	6.00	2.72	F2
PS-12100H	12	10.5	550	5.94	151	2.56	65	4.37	111	4.61	117	7.00	3.18	F2
PS-12120	12	12.0	600	5.95	151	3.86	98	3.70	94	3.94	100	7.92	3.59	F2
PS-12140	12	14.0	700	5.95	151	3.86	98	3.70	94	3.94	100	9.25	4.20	F2
PS-12180	12	18.0	900	7.13	181	3.00	76	6.59	167	6.59	167	12.60	5.72	F2 or NB2
PS-12200	12	20.0	1000	7.14	181	3.03	77	6.59	167	6.59	167	13.20	5.99	NB2
PS-12260	12	26.0	1300	6.56	167	6.97	177	4.92	125	4.92	125	17.00	7.71	F2 or NB2
PS-12280	12	28.0	1400	6.50	165	4.92	125	6.97	177	6.97	177	20.70	9.39	NB1
PS-12330	12	33.0	1650	7.72	196	5.14	131	6.22	158	7.00	178	23.10	10.50	NB3
PS-12350	12	33.0	1750	7.72	196	5.14	131	6.22	158	7.00	178	24.70	11.20	NB3
PS-12400	12	40.0	2000	7.76	197	6.50	165	6.69	170	6.69	170	29.10	13.20	NB4
PS-12550	12	55.0	2750	9.04	230	5.45	138	8.15	207	8.98	228	36.00	16.33	U
PS-12750	12	75.0	3750	10.25	260	6.60	168	8.15	207	8.98	228	50.60	22.95	U
PS-121000	12	100.0	5000	12.00	305	6.60	168	8.15	207	8.98	228	68.00	30.84	U
PS-121100	12	110.0	5500	13.00	330	6.73	171	8.35	212	8.66	220	69.50	31.52	T11
PS-121400	12	140.0	7000	13.50	343	6.73	171	10.80	274	11.15	283	99.00	44.91	T11

All data subject to change without notice.

PG-SERIES: Power-Guard Long Life Batteries*

Model	Nominal Voltage	Rated Capacity (A.H.)			Length		Width		Height		Ht. Over Terminal		Weight		Standard Terminals
		10-hr.	5-hr.	1-hr.	in.	mm	in	mm	in	mm	in	mm	lbs.	kgs.	
PG-6V210	6	210.0	180.5	126.0	12.70	323	7.00	178	8.98	228	9.21	234	71.6	32.5	T11
PG-12V28	12	28.0	25.5	18.6	6.56	167	6.96	177	4.92	125	4.92	125	18.5	8.4	T12
PG-12V35	12	35.0	32.5	27.0	7.72	196	5.10	130	6.22	158	6.97	177	24.5	11.1	T6
PG-12V42	12	42.0	36.0	25.2	7.76	197	6.50	165	6.69	170	6.14	156	32.0	14.5	T6
PG-12V55	12	56.0	47.5	33.0	8.98	228	5.39	137	8.27	210	8.50	216	36.0	16.4	T6
PG-12V75	12	75.0	64.5	45.0	13.70	348	6.57	167	7.00	178	6.46	164	51.0	23.1	T6
PG-12V75T	12	75.0	64.5	45.0	10.24	260	6.61	168	8.27	210	8.51	216	55.0	24.9	T6
PG-12V100	12	100.0	87.0	60.8	12.05	306	6.61	168	8.27	210	8.51	216	69.5	31.5	T6
PG-12V110	12	110.0	88.5	67.1	13.00	330	6.80	173	8.35	212	8.66	220	69.2	31.4	T11
PG-12V120	12	124.0	106.5	74.4	16.14	410	6.97	177	8.86	225	8.30	211	81.5	37.0	T11
PG-12V140	12	144.0	120.5	84.0	13.50	345	6.73	171	10.79	274	11.02	280	99.0	44.9	T11
PG-12V150	12	153.0	131.5	91.8	19.09	485	6.70	170	9.53	242	8.82	224	103.3	46.7	T11
PG-12V200	12	210.0	180.5	126.0	20.55	522	9.45	240	8.58	218	8.82	224	144.0	65.3	T11

PGFT-SERIES: Front Terminal Batteries*

Model	Nominal Voltage	Rated Capacity		Length		Width		Height		Weight		Standard Terminal
		20-hr	10-hr	in.	mm.	in.	mm.	in.	mm.	lbs..	kgs.	
PGFT-12V55	12	60.6	57.1	10.91	277	4.17	106	8.74	222	61.71	28.0	T6
PGFT-12V75	12	82.6	77.9	22.20	564	4.49	114	7.36	187	57.30	26.0	T6
PGFT-12V90	12	99.0	93.4	20.00	508	4.33	110	9.39	238.5	68.32	31.0	T13
PGFT-12V90H	12	99.0	93.4	15.51	394	4.33	110	11.22	285	71.85	32.6	T6
PGFT-12V100	12	110.0	103.8	22.05	560	4.33	110	9.17	233	78.46	35.6	T13
PGFT-12V100H	12	110.0	103.8	15.51	394	4.33	110	11.22	285	76.04	34.5	T13
PGFT-12V125	12	137.6	129.8	21.69	551	4.33	110	11.30	287	89.26	40.5	T6
PGFT-12V150	12	158.8	150.0	21.69	551	4.33	110	11.30	287	102.30	46.4	T6
PGFT-12V180	12	190.0	180.0	22.05	560	4.96	126	11.02	280	119.02	54.0	T13

PDC-SERIES: AGM Deep Cycle Batteries

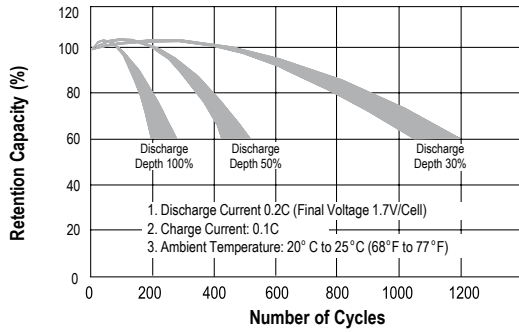
Model	Nominal Voltage	Rated Capacity AH		Length		Width		Height		Total Height		Weight		Standard Terminal
		20-hr	10-hr	in.	mm.	in.	mm.	in.	mm.	in.	mm.	lbs.	kgs.	
PDC-1275	12	7.5	7.2	5.94	151	2.56	65	3.72	94.5	3.94	100	5.5	2.5	F2
PDC-1285	12	8.5	8.0	5.94	151	2.56	65	3.72	94.5	3.94	100	6.0	2.7	F2
PDC-12140	12	14.0	13.0	5.96	151.5	3.92	100	3.82	97	3.98	101	9.5	4.3	F2
PDC-12200	12	21.0	20.0	7.15	181.5	3.01	77	6.73	171	6.73	171	15	6.9	B (T12)
PDC-12260	12	28.0	26.0	6.56	166.5	6.89	175	4.92	125	4.92	125	21	9.4	NB
PDC-12260H	12	26.0	24.0	6.50	165	4.92	125	6.89	175	6.89	175	21	9.5	B (T12)
PDC-12350	12	35.0	33.0	7.68	195	5.12	130	6.46	164	7.09	180	25	11.2	NB
PDC-12400	12	40.0	38.0	7.76	197	6.50	165	6.69	170	6.69	170	32	14.5	B (T6)
PDC-12600	12	60.0	55.0	9.04	230	5.45	138	8.27	210	8.66	220	39	17.7	U (T9)
PDC-12800	12	80.0	75.0	10.24	260	6.61	168	8.27	210	9.06	230	50	22.7	U (T14)
PDC-121000	12	100	92.0	12.05	306	6.61	168	8.27	210	8.50	216	61	27.5	U (T14)
PDC-121100	12	107	100	12.99	330	6.81	173	8.46	215	8.66	220	67	30.4	B (T6)
PDC-121200	12	120	115	12.99	330	6.81	173	8.35	212	8.66	220	69	31.4	B (T11)
PDC-121300	12	128	120	16.14	410	6.97	177	8.86	225	8.86	225	83	37.6	B (T11)
PDC-121600	12	161	150	19.09	485	6.69	170	9.45	240	9.45	240	94	42.5	B (T11)
PDC-122000	12	214	200	20.55	522	9.45	240	8.58	218	8.82	224	138	62.5	B (T11)
PDC-122500	12	268	250	20.55	522	10.55	268	8.66	220	8.90	226	161	73.0	B (T11)

All data subject to change without notice.

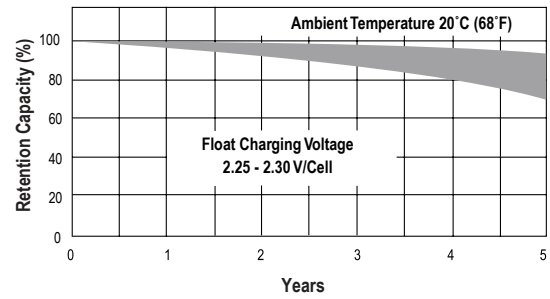
* Also available in "FR": UL94 V-0 rated

Performance Characteristics: PS Series

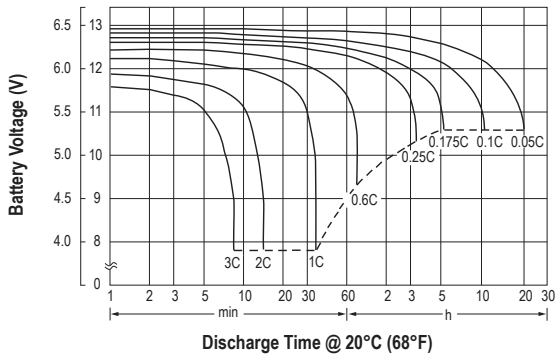
Life Characteristics in Cyclic Use



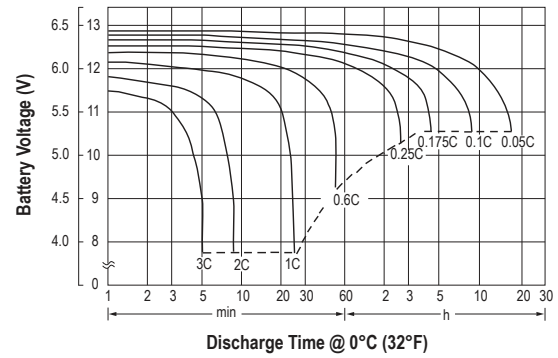
Life Characteristics in Stand-by Use



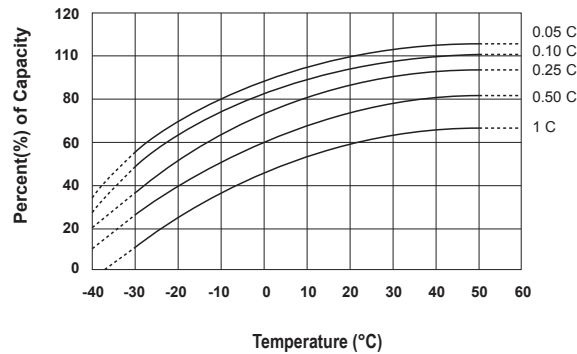
Characteristic Discharge Curves



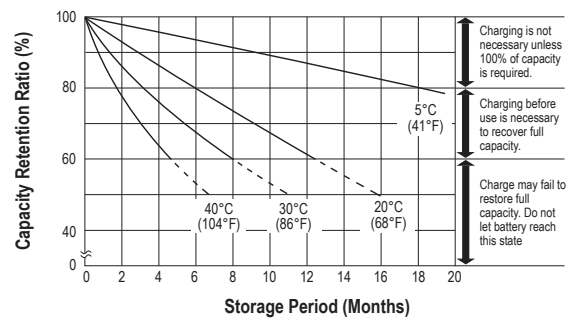
Characteristic Discharge Curves



Effect of Temperature on Capacity

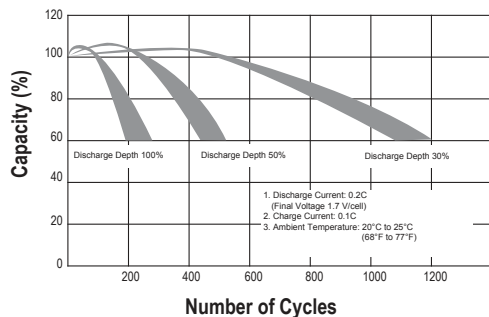


Self-Discharge Characteristics

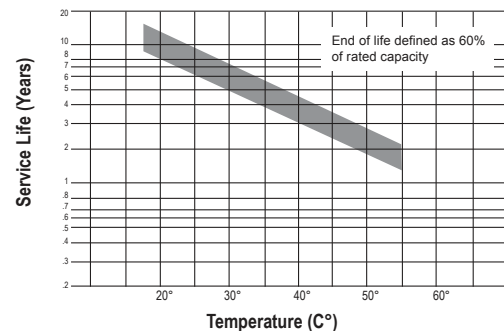


Performance Characteristics: PG & PGFT Series

Depth of Discharge vs. Number of Cycles

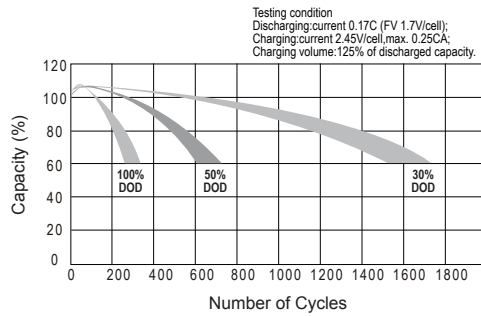


Service Life at Various Ambient Temperatures

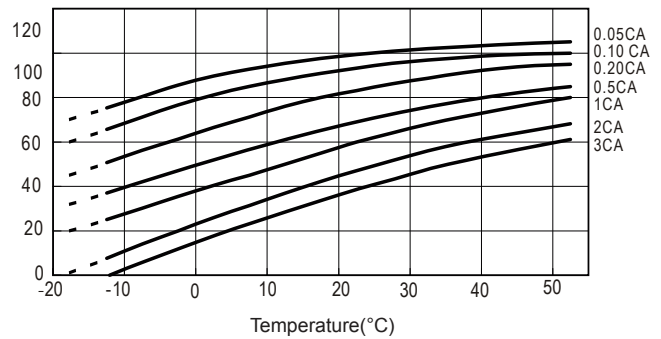


Performance Characteristics: PDC Series

Cycle Life in Relation to Depth of Discharge



Effects of Temperature on Capacity



Charging

Cycle Applications: Limit initial current to 0.25C (C is the nominal amp hour capacity of the battery). Charge until battery voltage (under charge) reaches 2.45 volts per cell at 68°F (20°C). Hold at 2.45 volts per cell until current drops to approximately 0.01C ampere. Battery is fully charged under these conditions, and charger should either be disconnected or switched to “float” voltage.

“Float” or “Stand-by” Service: Hold battery across constant voltage source of 2.25 to 2.30 volts per cell continuously. When held at this voltage, the battery will seek its own current level and maintain itself in a fully charged condition.

Application Notes

Continuous over- or undercharging is the single worst enemy of a lead-acid battery. Caution should be exercised to insure that


the charger is disconnected after cycle charging, or that the float voltage is set correctly.


Because there is a chance of off-gassing hydrogen and oxygen if the battery is overcharged, it is important to provide adequate air circulation. Never charge or discharge a battery in a hermetically sealed enclosure.

Batteries should not be stored in a discharged state (or in a hot place). If a battery is discharged for some time it may not readily take a charge. To overcome this, leave the charger connected and the battery should eventually begin to accept a charge.

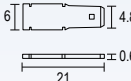
Due to the self-discharge characteristics of this type of battery, it is imperative that they be charged within 6 months of storage, otherwise permanent loss of capacity might occur as a result of sulfation. To prolong shelf life without charging, store batteries at 50°F (10°C) or less.


Terminal Options

F1  **FASTON**
0.187" x 0.032"
quick disconnect tabs.

F2  **FASTON**
0.250" x 0.032"
quick disconnect tabs

FP  **FASTON POLARIZED**
Positive: "F2", Negative: "F1"

F1/0 
6 4.8
0.6
21

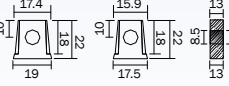
SP  **SPRING TERMINALS**
Fully collapsible positive and negative contacts

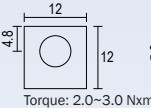
WL **INSULATED WIRE LEADS**
• Molex Housing 5264-02 & 5263-PBT plug on PS-605
• AMP Housing 1-480318-0 & 8116-1 on PS-1208

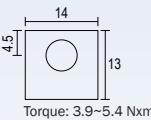
PC **PRESSURE CONTACTS**

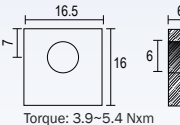
TH  **TOY BATTERY CONNECTORS**
H-connector PS-6120 TH

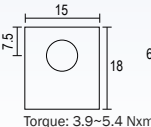
TS  **TOY BATTERY CONNECTORS**
S-connector PS-6120 TS

U 
17.4 15.9 13 19 17.5 13
Positive Negative
Torque: 11.0~14.7 Nxm

NB1 
12 4.8 12 1.2 5.6
Torque: 2.0~3.0 Nxm

NB2 
14 4.5 13 1.2 6
Torque: 3.9~5.4 Nxm

NB3 
16.5 7 16 6 6
Torque: 3.9~5.4 Nxm

NB4 
15 7.5 18 6 5.5
Torque: 3.9~5.4 Nxm

T6 **THREADED INSERT - 6mm STUD**
16mm M6 6mm
Torque: 3.9~5.4 Nxm

T8 **THREADED INSERT - 6mm STUD**
20mm M6 6mm
Torque: 3.9~5.4 Nxm

T11 **THREADED INSERT - 8mm STUD**
20mm M8 7mm
Torque: 11.0~14.7 Nxm

T12 **THREADED INSERT - 5mm STUD**
12mm M5 6mm
Torque: 2.0~3.0 Nxm



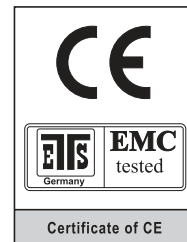
Quality is always #1

We employ IQC, PQC and ISO 9001 Quality Management Systems to test materials, monitor manufacturing processes and evaluate finished products prior to shipment. All our batteries are 100% tested with advanced computer equipment prior to being released for sale.

Power-Sonic management and staff are committed to providing the best possible service to satisfy our customer's needs, and fulfill our undertaking to deliver top grade products on time and at a competitive price.



Certificate of UL



Certificate of CE



Certificate of ISO9001

Our batteries are manufactured to international standards including JIS, DIN and IEC and have UL and CE certification.

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