



DS SERIES - GENERAL PURPOSE

DS 12-9 (12V-9AH)

Specification

Nominal Voltage	12V	
Nominal Capacity(20HR)	9AH	
Dimensions	Length	151±2mm (5.95 inches)
	Width	65±1mm (2.56 inches)
	Container Height	93.5±1mm (3.68 inches)
	Total Height (with Terminal)	99±1mm (3.90 inches)
Approx Weight	Approx 2.66 kg (5.87lbs)	Terminal: Stainless
Battery Life	10 Years	
Container Material	ABS	
Rated Capacity	8.60 AH/0.430A	(20hr , 1.80V/cell,25°C/77°F)
	7.86 AH/0.786A	(10hr, 1.80V/cell,25°C/77°F)
	7.00 AH/1.40A	(5hr, 1.75V/cell,25°C/77°F)
	6.36AH/2.12A	(3hr, 1.75V/cell,25°C/77°F)
	5.84 AH/5.84A	(1hr, 1.60V/cell,25°C/77°F)
Max. Discharge Current	129A (5s)	
Internal Resistance	Approx 19mΩ	
Operating Temp.Range	Discharge : -15~50°C (5~122°F)	
	Charge : 0~40°C (32~104°F)	
	Storage : -15~40°C (5~104°F)	
Nominal Operating Temp. Range	25±3°C (77±5°F)	
Cycle Use	Initial Charging Current less than 2.58A.Voltage 14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/°C	
Standby Use	No limit on Initial Charging Current Voltage 13.5V~13.8V at 25°C(77°F)Temp. Coefficient -20mV/°C	
Capacity affected by Temperature	40°C (104°F)	103%
	25°C (77°F)	100%
	0°C (32°F)	86%
Self Discharge	Leoch LP series batteries may be stored for up to 6 months at 25°C(77°F) and then a freshening charge is required. For higher temperatures the time interval will be shorter. Self-discharge ratio less than 3% per month at 25°C(77°F).	



TSE

UL

ISO 14001

ISO 9001

CE

MSDS

Constant Current Discharge (Amperes) at 25 °C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	28.0	18.7	14.7	12.2	9.06	6.57	5.13	2.80	2.00	1.58	1.32	1.14	0.913	0.764	0.417
1.80V/cell	31.5	20.5	15.9	12.9	9.46	6.81	5.32	2.89	2.06	1.62	1.36	1.18	0.941	0.786	0.430
1.75V/cell	34.6	21.6	16.9	13.6	9.83	7.05	5.50	2.98	2.12	1.68	1.40	1.21	0.979	0.807	0.432
1.70V/cell	36.8	22.8	17.6	14.0	10.2	7.28	5.64	3.07	2.18	1.72	1.44	1.24	0.988	0.822	0.438
1.65V/cell	38.5	23.6	18.2	14.5	10.5	7.44	5.74	3.12	2.22	1.76	1.47	1.26	1.01	0.830	0.440
1.60V/cell	39.7	24.5	18.5	14.8	10.7	7.57	5.84	3.17	2.25	1.78	1.49	1.28	1.02	0.838	0.443

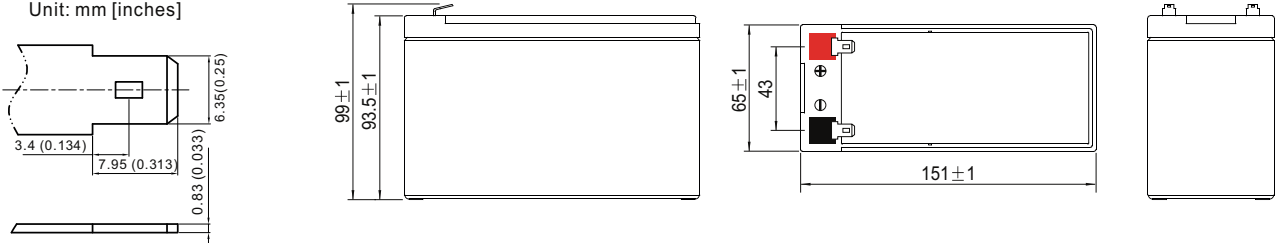
Constant Power Discharge (Watts) at 25 °C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	51.8	34.9	27.6	23.0	17.2	12.6	9.90	5.42	3.89	3.09	2.59	2.24	1.80	1.51	0.827
1.80V/cell	57.3	37.7	29.5	24.2	17.8	13.0	10.2	5.57	4.00	3.15	2.65	2.31	1.85	1.55	0.851
1.75V/cell	62.1	39.3	31.0	25.2	18.4	13.3	10.5	5.73	4.09	3.25	2.73	2.38	1.92	1.59	0.854
1.70V/cell	65.2	41.0	32.0	25.8	19.0	13.7	10.7	5.88	4.21	3.34	2.80	2.43	1.94	1.62	0.863
1.65V/cell	67.0	41.7	32.6	26.4	19.4	13.9	10.9	5.96	4.27	3.40	2.85	2.46	1.97	1.63	0.868
1.60V/cell	68.1	42.8	32.9	26.7	19.6	14.0	11.0	6.02	4.30	3.42	2.87	2.49	1.98	1.64	0.872

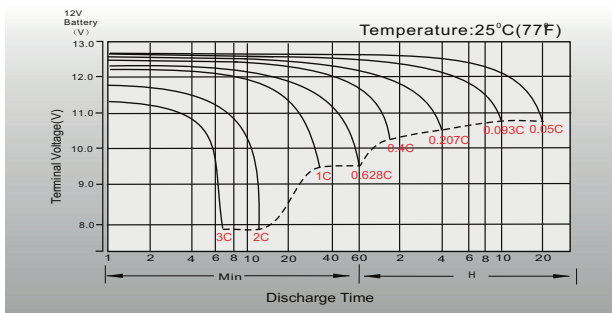
Dimensions

T2 Terminal

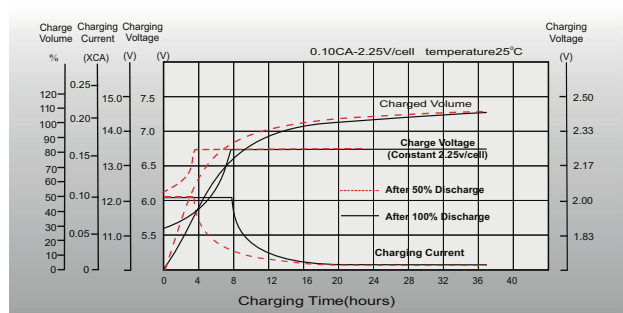
Unit: mm [inches]



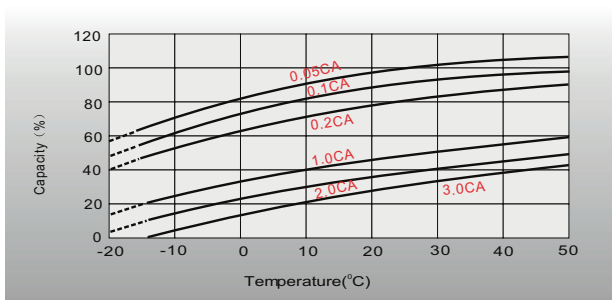
Discharge Characteristics



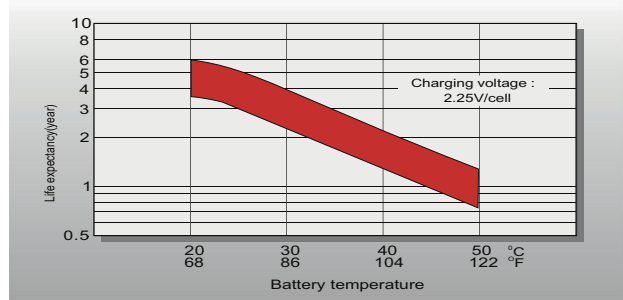
Float Charging Characteristics



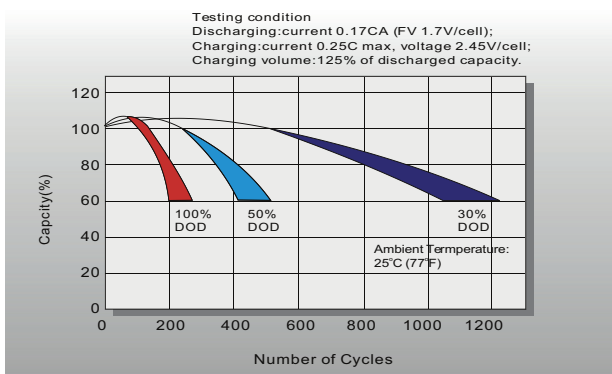
Temperature Effects in Relation to Battery Capacity



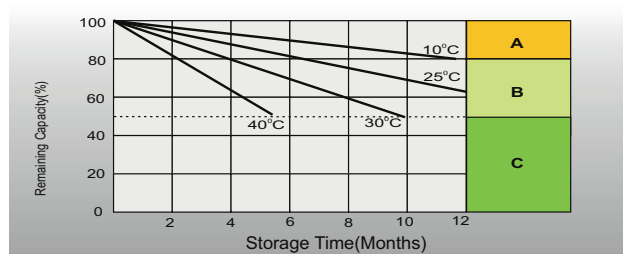
Effect of Temperature on Long Term Float Life



Cycle Life in Relation to Depth of Discharge



Self Discharge Characteristics



A No supplementary charge required (Carry out supplementary charge before use if 100% capacity is required.)

Supplementary charge required before use. Optional charging way as below:

B 1. Charged for above 3 days at limited current 0.25CA and constant voltage 2.25V/cell.
2. Charged for above 20 hours at limited current 0.25CA and constant voltage 2.45V/cell.
3. Charged for 8-10 hours at limited current 0.05CA.

C Supplementary charge may often fail to recover the capacity. The battery should never be left standing till this is reached.