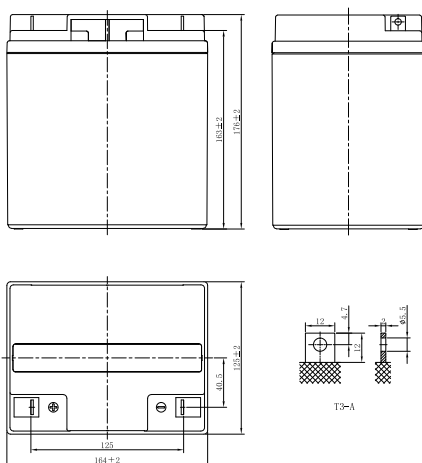


LS 12-28 (12V-28AH) LONG LIFE SERIES



CHARACTERISTICS

Item	Specifications	
Rated Voltage	12V	
Nominal Capacity (25°C)	C ₂₀ 1.75V/cell	28Ah
Dimension	Length	164mm (6.46inches)
	Width	125mm (4.92inches)
	Container Height	176mm (6.93inches)
	Total Height	176mm (6.93inches)
Approx Weight	9.10kg (20.1lbs)	
Terminal	T3-A/T2	
Container Material	ABS (UL94 HB or V-0 optional)	
Short-circuit current	700A	
Internal Resistance (25°C)	Approx 14 mΩ (Fully charged)	
Operating Temp. Range	Discharge	-15~50°C (5~122°F)
	Charge	-20~40°C (-4~104°F)
	Storage	-15~40°C (5~104°F)
Nominal Operating Temp. Range	25±3°C (77±5°F)	
Max.Charging Current (25°C)	0.3C	
Charge voltage (25°C)	Float Charge	Equalization Charge
	2.25-2.30V/cell	2.35-2.45V/cell
Temp. Coefficient	-3mV/cell/°C	-5mV/cell/°C
	40°C (104°F)	103%
Effect of temp. to Capacity	25°C (77°F)	100%
	0°C (32°F)	86%
Self Discharge	≤3% per month at 25°C (77°F). LS series batteries may be stored 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.	

DISCHARGE TABLE

Constant Current Discharge (Amperes) at 25°C (77°F)																
F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	65.9	58.4	46.3	40.1	28.5	20.9	17.1	12.2	9.68	7.02	5.58	4.64	3.97	3.12	2.57	1.37
1.80V/cell	69.3	61.4	48.1	41.3	29.2	21.3	17.4	12.4	9.83	7.13	5.66	4.70	4.02	3.16	2.60	1.39
1.75V/cell	72.6	64.4	49.9	42.5	29.9	21.8	17.7	12.6	9.98	7.23	5.73	4.76	4.07	3.20	2.63	1.40
1.70V/cell	76.0	67.4	51.7	43.8	30.6	22.2	18.0	12.7	10.1	7.34	5.81	4.83	4.13	3.24	2.66	1.41
1.67V/cell	78.1	69.2	52.8	44.6	31.0	22.4	18.2	12.9	10.2	7.40	5.86	4.86	4.16	3.26	2.68	1.42
1.60V/cell	82.8	73.4	55.2	46.3	32.0	23.0	18.7	13.2	10.4	7.55	5.97	4.95	4.23	3.31	2.72	1.44
Constant Power Discharge (Watts/cell) at 25°C (77°F)																
F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	126.9	111.7	89.0	77.1	55.1	40.6	33.3	23.7	18.9	13.8	11.0	9.16	7.85	6.19	5.11	2.74
1.80V/cell	132.6	116.7	92.0	79.2	56.2	41.3	33.8	24.1	19.2	14.0	11.1	9.27	7.95	6.26	5.16	2.77
1.75V/cell	138.4	121.8	94.8	81.1	57.3	41.9	34.3	24.4	19.4	14.2	11.3	9.38	8.03	6.33	5.22	2.80
1.70V/cell	143.9	126.7	97.7	83.2	58.4	42.6	34.8	24.7	19.7	14.3	11.4	9.49	8.13	6.40	5.28	2.83
1.67V/cell	147.3	129.7	99.5	84.4	59.1	43.0	35.0	24.9	19.8	14.4	11.5	9.55	8.18	6.44	5.32	2.84
1.60V/cell	155.0	136.4	103.3	87.1	60.5	43.9	35.7	25.4	20.2	14.7	11.7	9.70	8.31	6.54	5.40	2.89

LS 12-28 (12V-28AH) LONG LIFE SERIES



APPLICATIONS

- UPS and EPS
- Emergency light
- Railway signal and aircraft signal system
- Marine and power stations
- Alarm and security system
- Electronic apparatus and equipment
- Communication power supply, DC power supply

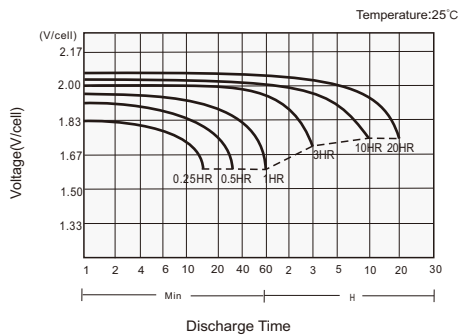
GENERAL FEATURES

- 10~12 years design life (25°C)
- Lead calcium alloy, sealed design, no watering required
- Puncture resistant micro-porous glass mat separators extend life
- Unique technology optimizes power capacity, cell consistency, and long-term reliability
- Designed for a wide range of applications

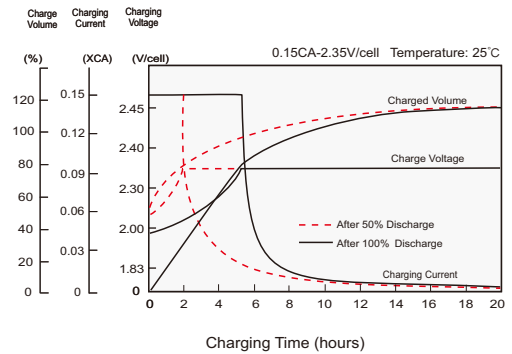
STANDARDS

- Compliance with IEC 60896 standards, EU Battery Directive
- UL, CE Approved
- Manufactured in DESA, ISO 45001, ISO 9001 and ISO 14001 certified production facilities

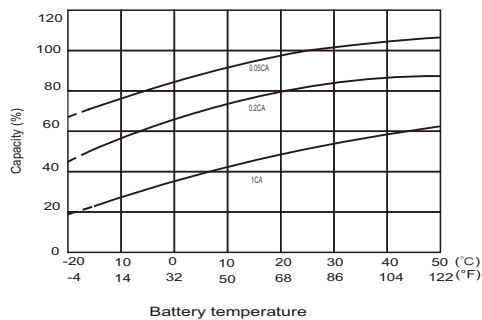
Discharge Characteristics



Charging Characteristics



Effects of Temperature on Capacity



Self Discharge Characteristics

