



**VISION Rechargeable Products
Sealed Lead Acid Battery**

www.vision-batt.com

HP&HF Series

High Rate Discharge

The new VISION HP/HF series batteries are specially designed for applications where need high power output. By optimum design of battery grids and plate paste formula, the HP/HF series can deliver up to 40% more power than VISION standard CP/FM series.

Shenzhen Center power tech co., ltd has more than 15 year's experience in the manufacturing of VRLA batteries. SZCPT is one of the biggest manufacturers of SLA (or VRLA) batteries in the world, the biggest one in Mainland China and the first in China to develop and commercialize the sealed lead-acid battery with brand name VISION and has been at the forefront of battery technology from day one.

SZCPT leads the world in innovative battery technology. Our global network of sales and service engineers, backed in turn by our agents and distributors, means that we are currently active in more than 100 countries.

Shenzhen Center Power Tech. Co., Ltd

HF12-650W-X 12V 150Ah

(Edition June 2004)

General Features

- Positive and negative plates in lead-calcium tin alloy
- Superior energy density
- Operates at a low internal pressure.
- Gas Recombination
- Usable in any orientation
- A recognized component of UL
- Very high power output
- Application specific designs
- A couple Range from 13W to 890W per cell for 10' @ 1.60Vpc
- Six months shelf life at 20°C
- Design life 10 years



Dimensions and Weight

	SI Units	English Units
Length	482±2mm	19.0±2inch
Width	170±1mm	6.69±1inch
Height	240±2mm	9.45±2inch
Total Height	240±2mm	9.45±2inch
Approx. Weight	46.4Kg	102lbs

Performance Characteristics

- Nominal Voltage 12V
- Number of cell 6
- Nominal Capacity 68°F(20°C)
 - 10 min wattage @1.6V650W/cell
 - 20 hour rate (7.86A, 10.5V) 157.2 Ah
- Nominal Capacity 77°F(25°C)
 - 10 hour rate (15.0A, 10.8V) 150Ah
- Internal Resistance
 - Fully Charged battery 68°F(20°C) 2.9mOhms
- Self-Discharge
 - 3% of capacity declined per month at 20°C(average)
- Operating Temperature Range
 - Discharge -20~60°C
 - Charge -10~60°C
 - Storage -20~60°C
- Max. Discharge Current 68°F(20°C) 1000A(5s)
- Charge Methods: Constant Voltage Charge 68°F(20°C)
 - Cycle use 14.5-14.7V
 - Maximum charging current 45A
 - Temperature compensation -30mV/°C
- Standby use 13.6-13.8V
 - Temperature compensation -20mV/°C



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Discharge Data

Constant Current Discharge Data (Amperes at 20°C)																									
End Voltage Per cell / V	5min	10min	15min	20min	25min	30min	35min	40min	45min	50min	55min	1h	1.5h	2h	2.5h	3h	4h	5h	6h	7h	8h	9h	10h	12h	24h
1.60	462	365	306	256	226	206	181	162	148	135	124	115	81.0	63.8	53.5	46.7	36.4	30.3	25.9	22.7	20.4	18.6	17.1	14.4	7.35
1.65	434	346	290	243	215	196	172	154	140	128	118	110	77.3	61.0	51.2	44.7	34.9	29.1	24.8	21.8	19.6	17.8	16.4	13.9	7.10
1.70	407	326	274	230	203	185	163	146	133	122	112	105	73.7	58.2	48.9	42.7	33.4	27.8	23.8	20.9	18.8	17.1	15.8	13.4	6.85
1.75	379	306	258	216	191	175	154	138	126	115	107	99.3	70.0	55.3	46.6	40.7	31.9	26.6	22.8	20.0	18.0	16.4	15.1	12.9	6.60
1.80	363	294	249	210	186	170	150	135	123	113	104	97.1	68.5	54.2	45.6	39.9	31.3	26.1	22.4	19.7	17.7	16.1	14.9	12.7	6.52

Constant Power Discharge Data (Watts per cell at 20°C)																									
End Voltage Per cell / V	5min	10min	15min	20min	25min	30min	35min	40min	45min	50min	55min	1h	1.5h	2h	2.5h	3h	4h	5h	6h	7h	8h	9h	10h	12h	24h
1.60	825	650	550	457	402	365	324	294	270	246	226	210	149	118	100	87.7	70.8	60.7	51.8	45.4	40.7	37.0	34.0	29.4	15.2
1.65	790	626	530	442	389	353	314	285	262	239	220	204	145	115	97.4	85.5	69.1	59.3	50.7	44.5	39.8	36.2	33.3	28.9	15.0
1.70	755	602	511	426	376	342	304	276	254	232	214	199	141	112	94.8	83.3	67.5	57.9	49.5	43.5	39.0	35.5	32.7	28.4	14.7
1.75	720	577	492	411	362	330	294	267	246	225	207	193	137	109	92.3	81.1	65.8	56.6	48.4	42.5	38.1	34.7	32.0	27.8	14.5
1.80	685	553	473	396	349	318	284	258	238	218	201	187	133	106	89.7	78.9	64.1	55.2	47.2	41.5	37.3	34.0	31.3	27.3	14.2

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

Performance drawings

