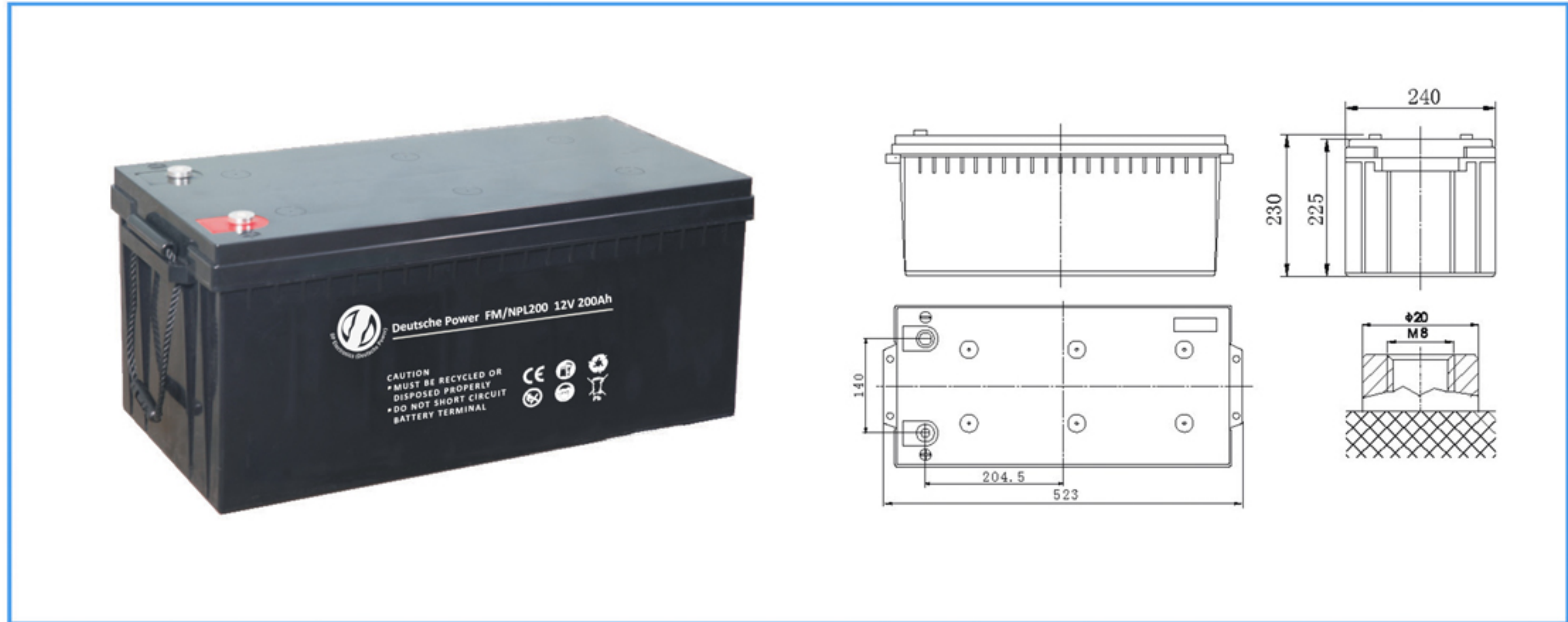


FM/NPL200

FM/NPL Battery Series
Solar Energy (Deep Cycle)



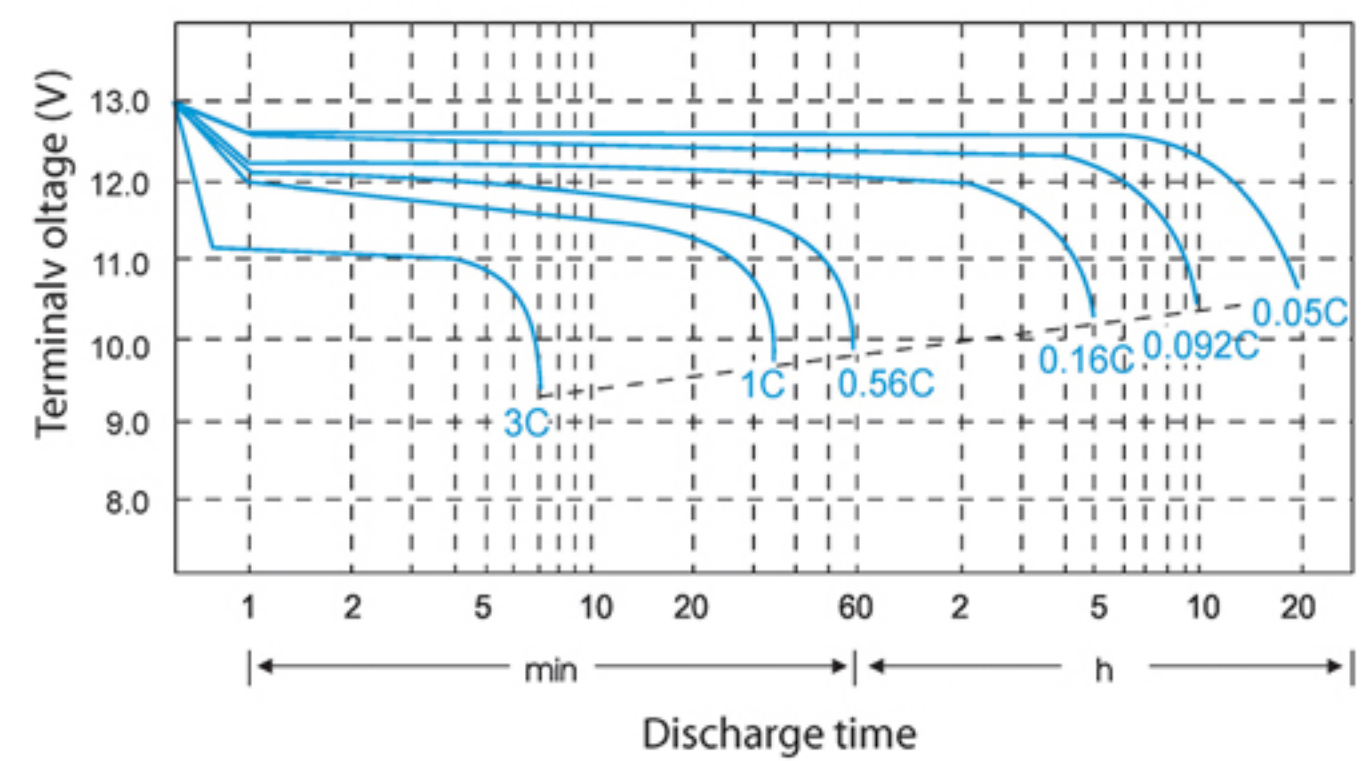
Specifications

Nominal Voltage	12V	
Rated Capacity (20 hour rate)	200Ah	
Dimensions	Total Height (with terminals)	9.06 inches(230mm)
	Height	8.86 inches(225mm)
	length	20.59 inches(523mm)
	width	9.45 inches(240mm)
Weight	Approx.132.66 Pound(60.3kg)	

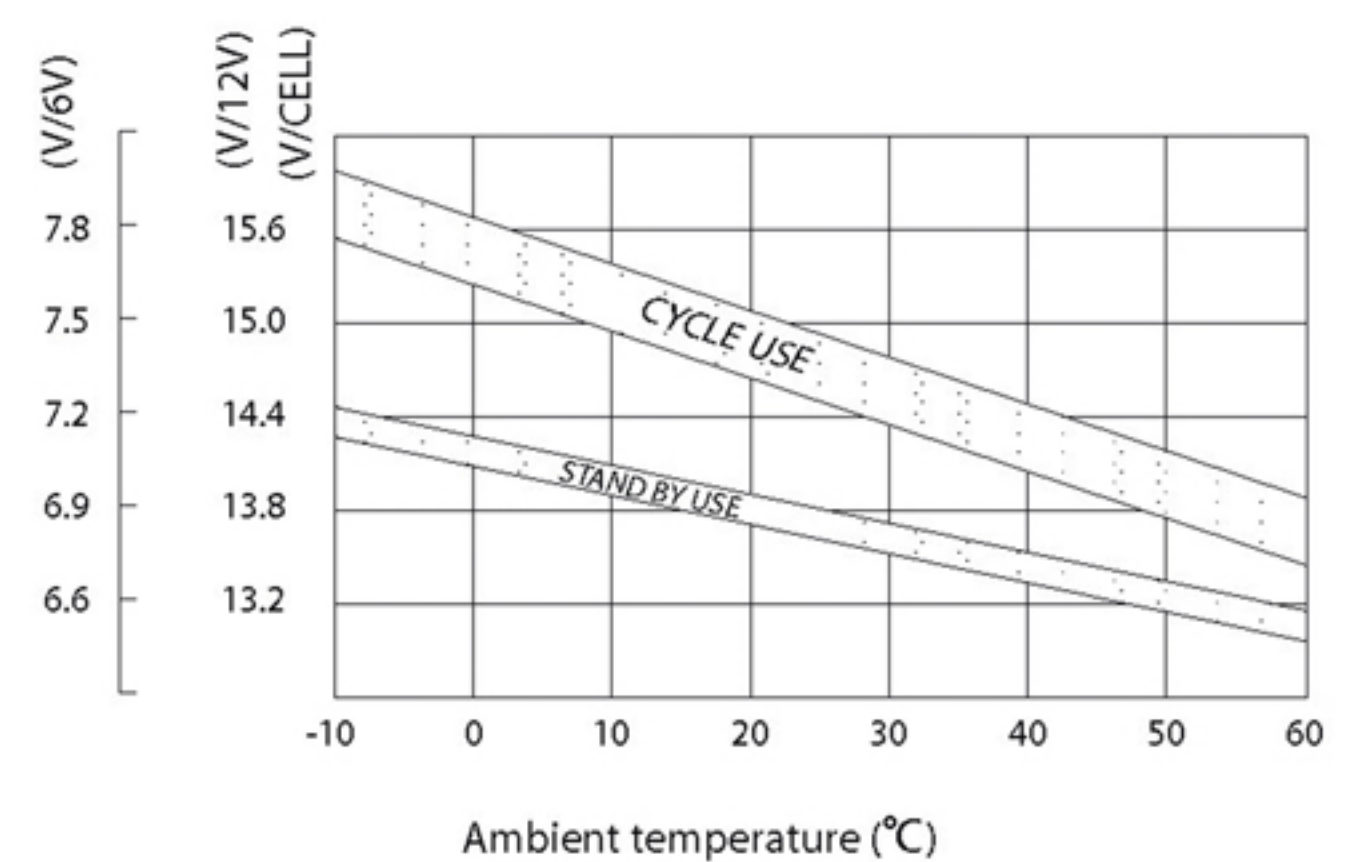
Characteristics

Capacity 77°F (25°C)	20 hour rate (10.0A)	200 Ah
	10 hour rate (18.4A)	184 Ah
	5 hour rate (32.0A)	160 Ah
	1hour rate (120.0A)	120 Ah
	15Minute Rate (328A)	82.0 Ah
Internal Resistance	Full charged Battery 77°F (25°C)	3.0 M
	104°F (40°C)	102%
Capacity affected by Temperature (20hour rate)	77°F (25°C)	100%
	°F (0°C)	85%
	5°F (-15°C)	65%
Self-Discharge 77°F (25°C)	Capacity after 3 month storage	91%
	Capacity after 6 month storage	81%
	Capacity after 12 month storage	60%
Max. Discharge Current 77°F (25°C)	1333A(5S)	
Terminal	M3	
Charge (Constant Voltage)	Cycle	Initial Charging Current less than 30A Voltage 14.4~14.7 V / 77°F (25°C)
	Float	Voltage 13.5~13.8V / 77°F (25°C)

Discharge Curves 77°F (25°C)



Relationship between charge voltage and temperature



Constant Current Discharge (AMPERES @25°C)

F.V/Time	5Min	10Min	15Min	30Min	45Min	1Hour	2Hour	3Hour	5Hour	10Hour	24Hour
1.65	553	386	299	189	143	109	74.3	51.5	34.2	22.1	8.90
1.70	511	364	286	177	134	103	72.2	50.0	33.5	21.2	8.64
1.80	403	305	244	146	128	98	68.9	48.3	32.1	20.0	8.35

Constant Power Discharge (WATTS PER CELL@25°C)

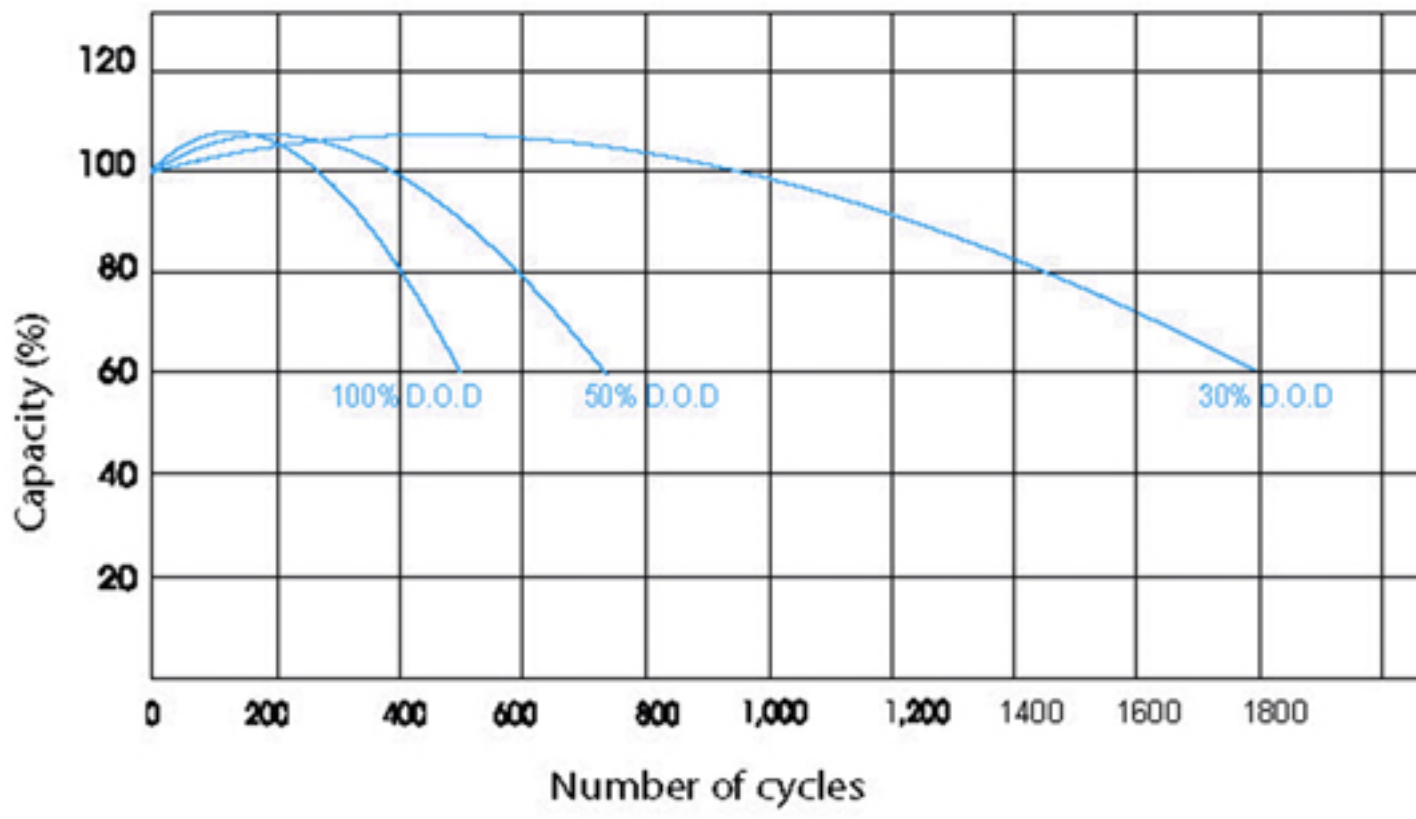
Cut off voltage V/cell	5min	10min	15min	30min	45min	1h	2h	3h	5h	10h	24h
1.60	985	697	545	349	263	231	138.0	95.8	63.2	37.3	15.8
1.65	965	691	541	343	260	228	136.0	94.6	63.0	36.8	15.6
1.67	961	685	540	338	256	223	135.0	94.0	62.8	36.2	15.5
1.70	908	672	529	331	252	219	134.0	93.2	62.6	36.0	15.4
1.75	836	629	499	296	250	216	133.0	92.8	62.0	35.1	15.3
1.80	751	584	469	281	246	211	130.0	92.1	61.4	34.4	15.1
1.85	601	485	410	257	226	207	124.0	89.3	57.2	32.8	14.8

FM/NPL200

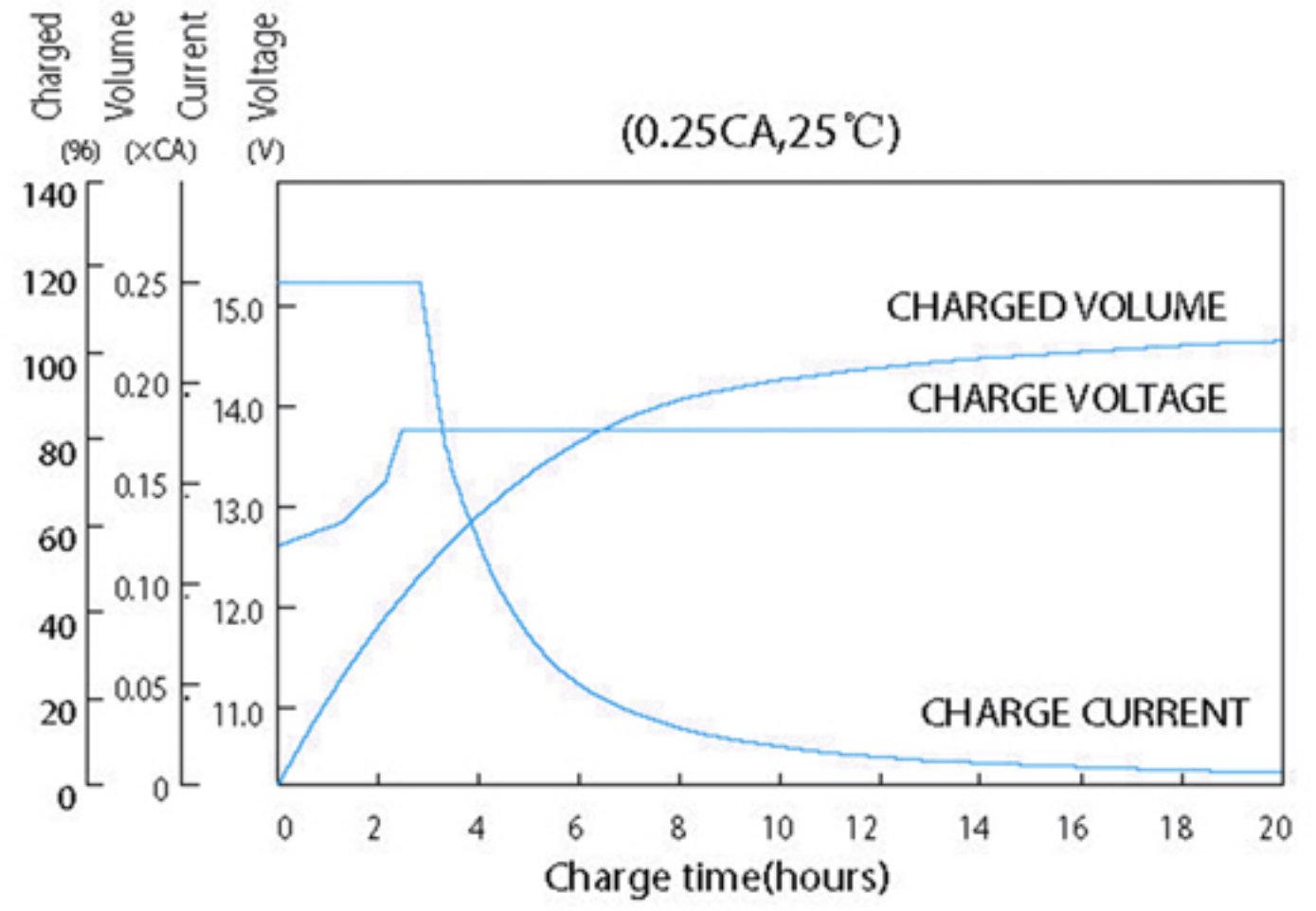
FM/NPL Battery Series
Solar Energy (Deep Cycle)

The operating environment temperature above 40°C should be avoided. After long term storage, the battery actual capacity would be less than the rated capacity. Full capacity will be obtained through several charge/discharge cycles. To get the longest life, Deutsche Power battery should be fully charged before storage.

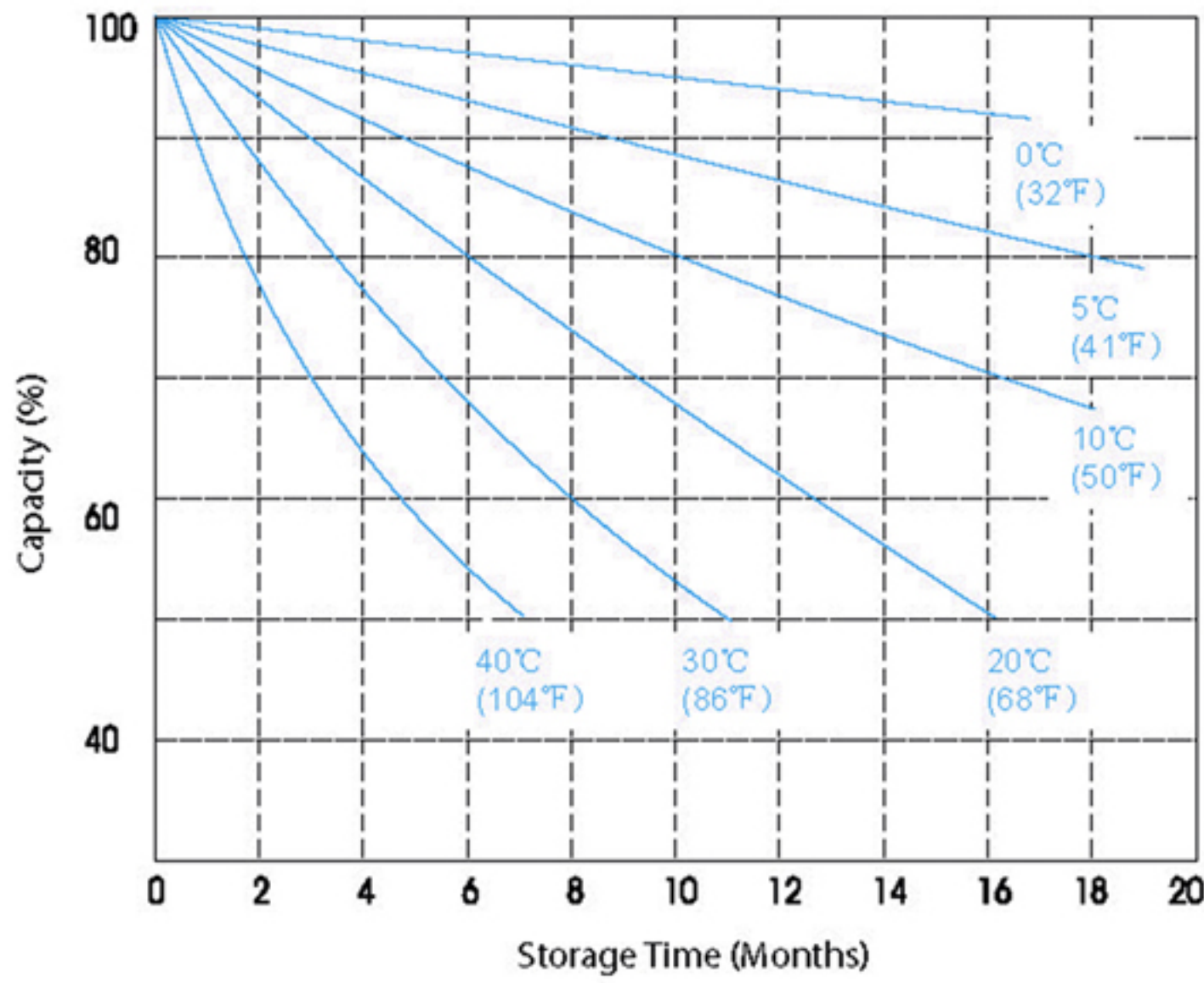
Cycle service life in relation to depth of discharge



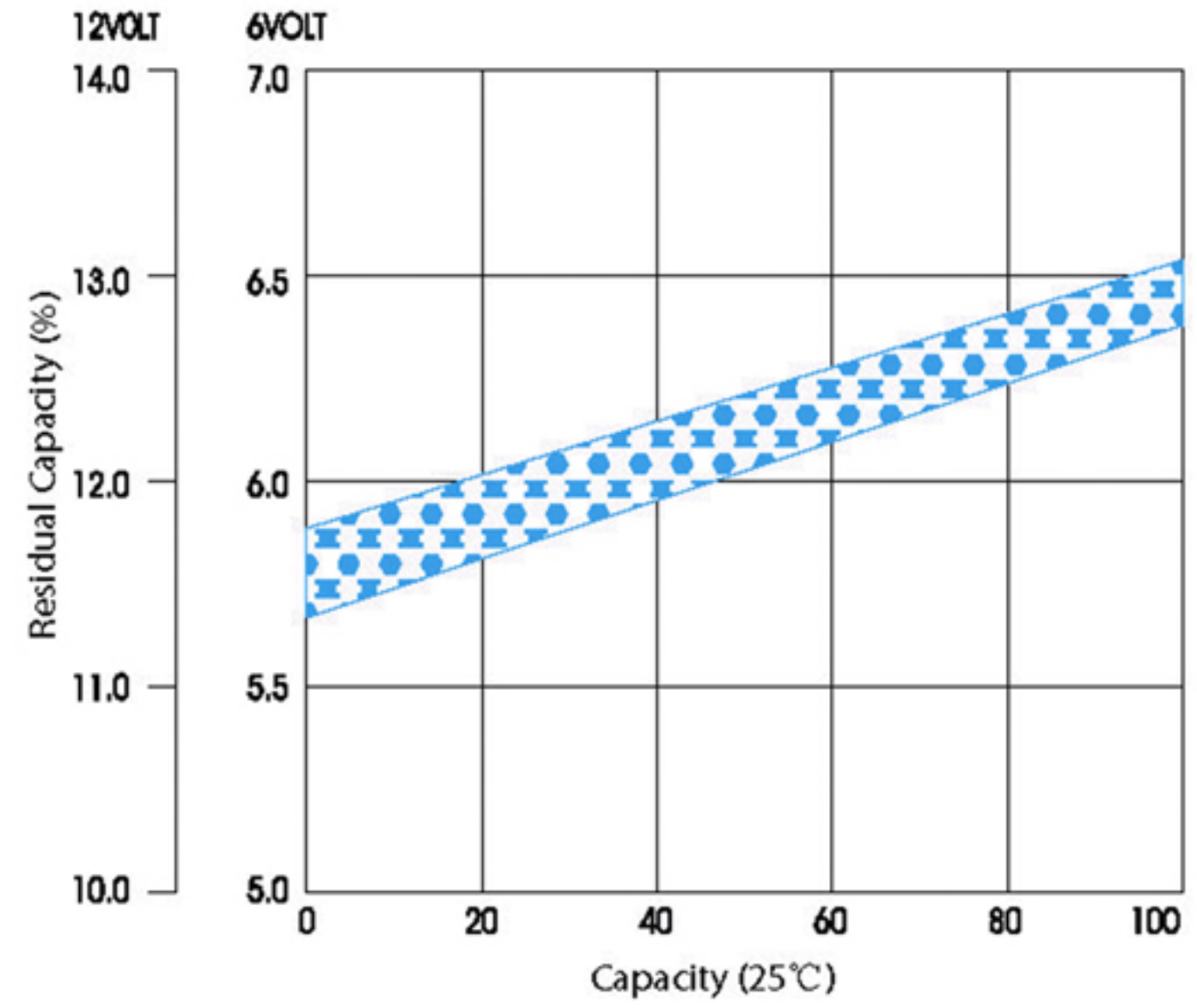
Constant voltage charge characteristic



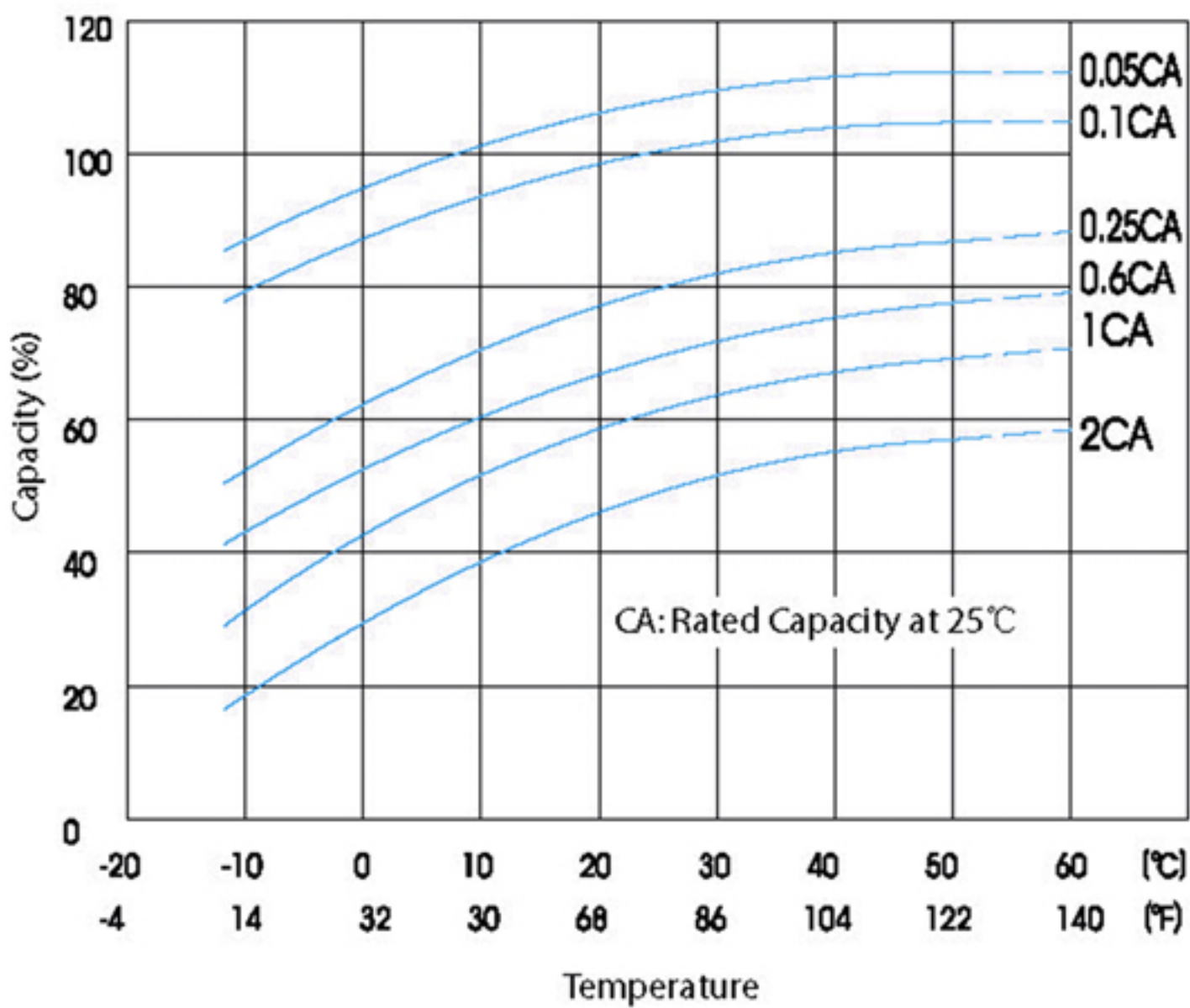
Self-Discharge Characteristics



Relationship of OCV and Residual Capacity % (25°C)



Temperature effects on capacity



Temperature effects float life

