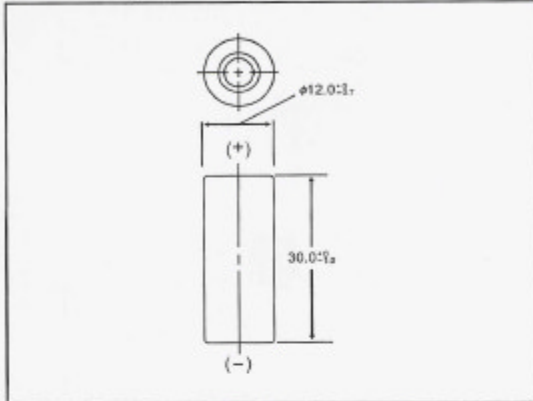


NICKEL CADMIUM BATTERIES: INDIVIDUAL DATA SHEET

P-18N N size (KR12/30) Type: N

Dimensions (with tube) (mm)



Specifications

	mm	inch
Diameter	12.0 +0 / -0.7	0.47 +0 / -0.03
Height	30.0 +0 / -1.0	1.18 +0 / -0.04
Approximate Weight	Grams	Ounces
	8g	0.28

Nominal Voltage		1.2V		
Discharge Capacity*	Average**	190mAh		
	Rated (Min.)	180mAh		
Approx. Internal impedance at 1000Hz at charged state.		24mΩ		
Charge	Standard	18mA (0.1C) x 16hrs.		
	Short Time	45mA (0.25C) x 6hrs.		
	Trickle	Max Current	9mA (0.05I) x 30h and over	
		Min Current	6mA (0.033I) x 45h and over	
Ambient Temperature	Charge	Standard	°C	°F
			0°C to 45°C	32°F to 113°F
	Short Time	10°C to 45°C 50°F to 113°F		
	Discharge	-20°C to 65°C -4°F to 149°F		
	Storage	< 2 years	-20°C to 35°C -4°F to 95°F	
< 6 months		-20°C to 45°C -4°F to 113°F		

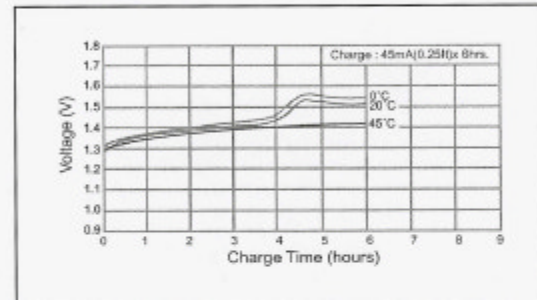
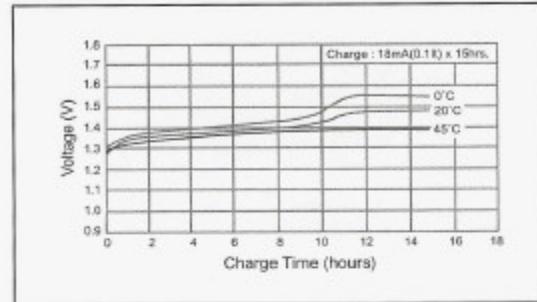
* 0.2It discharge capacity after charging at 0.1It for 16 hours.

** For reference only.

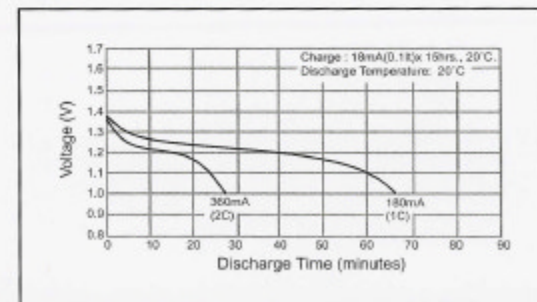
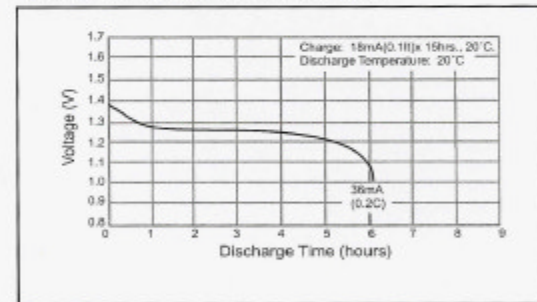
Battery performance and cycle life are strongly affected by how they are used. In order to maximize battery safety, please consult Panasonic when determining charge / discharge specs, warning label contents and unit design.

Note: [It] was previously expressed as [C]. [It] is an IEC standard expression for the amount of charge or discharge current and is expressed as: It(A) = Cn (Ah)/h.
 • [It] is the reference test current in amperes
 • [Cn] is the rated capacity of the cell or battery in Ampere-hours.
 n = the time base [hours] for which the rated capacity is declared

Typical Charge Characteristics



Typical Discharge Characteristics



Panasonic

NICKEL CADMIUM HANDBOOK

FEBRUARY 2002

This information is generally descriptive only and is not intended to make or imply any representation, guarantee or warranty with respect to any cells and batteries. Cell and battery design/specifications are subject to modification without notice. Contact Panasonic for the latest information.

	specifications for model/type:	N – NiCd 180mAh
	Ansmann drawing number / part number:	5004060
	drawn by / date:	Gramlich / 08.07.2003