2013 Toyota Prius Plug-In

Battery Charge Profiles at Different Temperatures

Summary[2]

The 2013 Toyota Prius Plug-In's battery was charged from charge sustaining mode at 95^{0}F, 72^{0}F, and 20^{0}F. For all temperatures[3], the charger consumes constant power with regular interruptions until the battery approaches fully charged and a smaller constant power is drawn to finish charging. The peak power in 20^{0}F is slightly lower thatn in higher temperatures.

Select Battery Specifications[1]

Manufacturer:	Panasonic EV Energty
Type:	Lithium-Ion
Nominal System Voltage:	207.2 V
Rated Pack Energy:	4.4 kWh
Cooling:	Fan Cooled

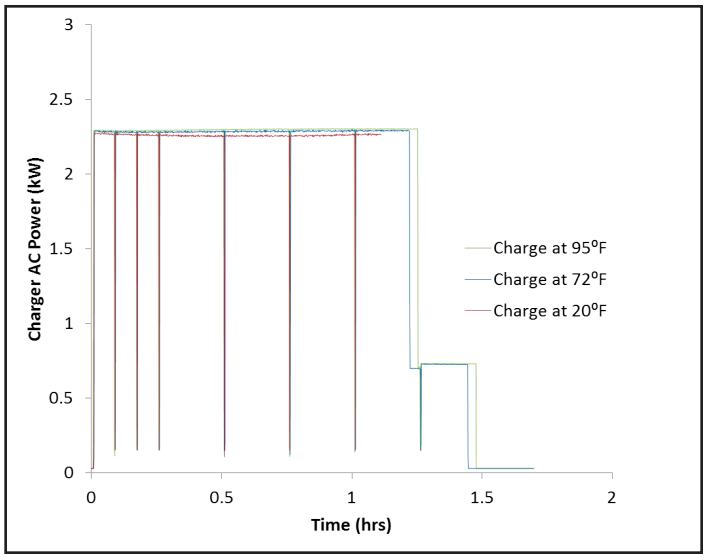

Fig. 1 Toyota Prius Plug-In charger power consumption during charge

Key Charging Experiment Results

	Peak Power (kW)	Energy Consumed (kWh)
Charge at 95^{0}F	2.30	2.99
Charge at 72^{0}F	2.30	2.90
Charge at 20^{0}F	2.27	2.47[3]

Notes:

1. Vehicle specifications were supplied by the manufacturer, measured, or derived from a literature review. For detailed specifications, see Baseline Testing Results available at avt.inl.gov
2. The experiments were conducted at Argonne National Laboratory (ANL) for the Advanced Vehicle Testing Activitiy (AVTA)
3. The charge at 20^{0}F was interrupted before its completion

As a production vehicle, this vehicle is assumed to meet all Federal Motor Vehicle Safety Standards (FMVSS) for Battery Electric Vehicles.

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