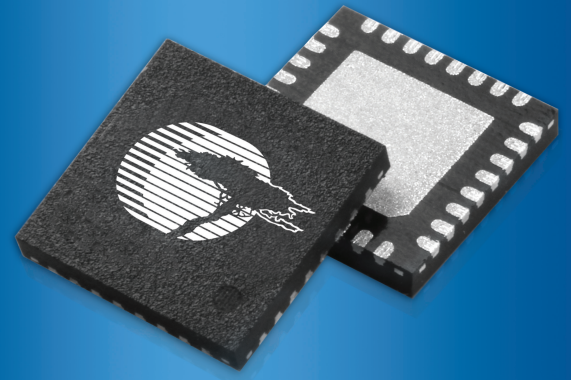


Ultra Low Voltage Boost Power Management IC for Solar and Thermal Energy Harvesting MB39C831



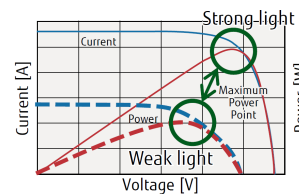
Ultra Low Voltage Boost PMIC, Maximum Power Point Tracking

MB39C831 is a high efficiency, synchronous rectification boost DC/DC converter that can charge a Li-ion battery with a single solar cell and a multi-junction solar cell or Thermoelectric Generator (TEG). The DC/DC converter can extract the maximum power point (MPP) of the power source and safely charges into Li-ion battery with the protection function.

MB39C831 can start up from 0.35V also and operates at very low voltage. As such it is suitable for various applications driving from a single solar cell.

Feature

- Input Voltage Range: 0.30V to 4.75V
- Lowest Start-Up Voltage: 0.35V
- Selectable Output Voltages:
3.0V, 3.3V, 3.6V, 4.1V, 4.5V, 5.0V
- Quiescent Current (Constant Voltage Mode) :
32 μ A(No Load)
- Input Peak Current Limit: 200mA
- Maximum Power Point Tracking (MPPT)



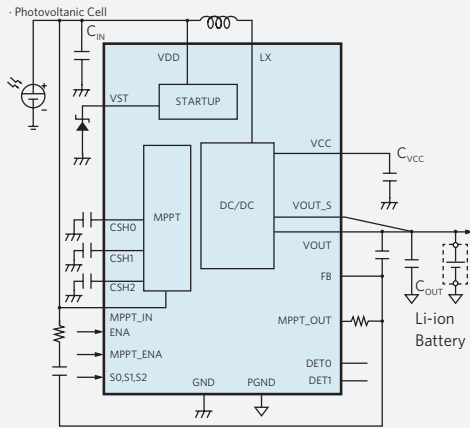
- Over Voltage/ Current Protection for Charger
- Power-Save Mode:
- QFN40: 6.0mm x 6.0mm x 0.85mm
(Pin pitch 0.5mm)

Item	Conditions	Min	Typ	Max	Unit
Input Start-Up Voltage	VDD (Ta=25°C)	–	0.35	0.50	V
VDD Input Voltage	VDD	0.3	–	4.75	V
Output Voltage Select	MPPT_ENA=L S[2:0]=0h-5h	3.0	–	5.0	V
Quiescent Current	Battery Charging Mode	–	41	82	μ A
	Constant Voltage Mode	–	32	64	μ A
Operating Ambient Temperature	Ta	-40	–	+85	°C

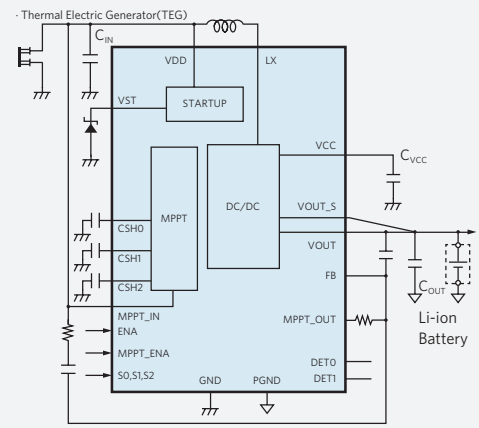
Note: Green IT Award is an Japanese Prize.



Block diagram

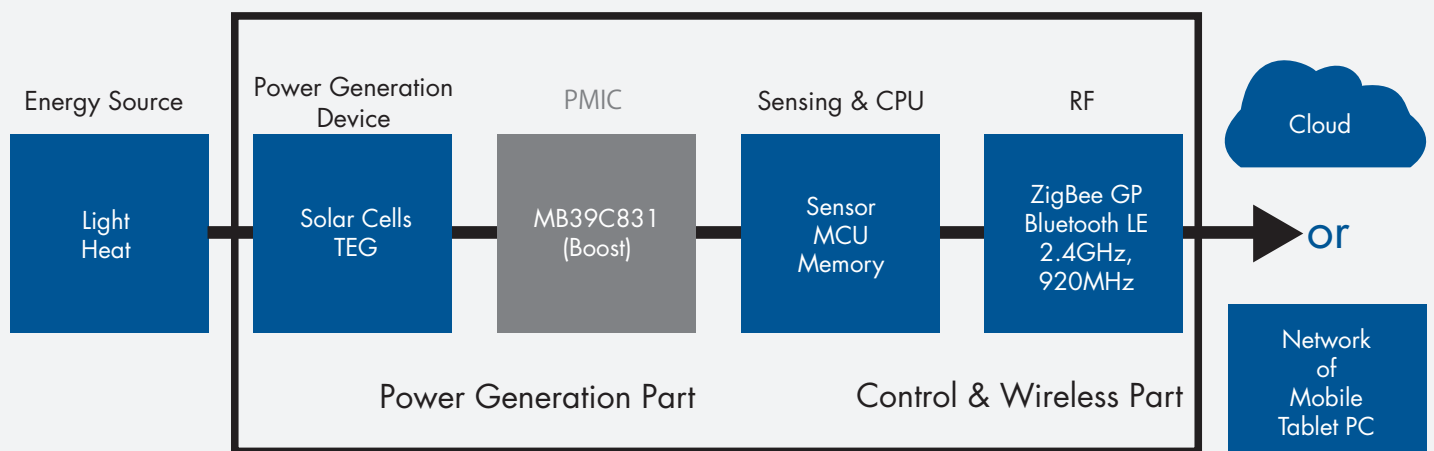


Power source : Power generator from solar-cells



Power source: Power generator from Thermoelectric Generator

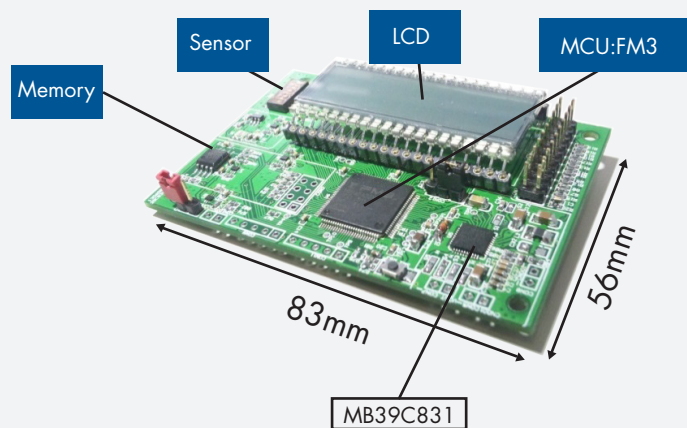
System diagram



Application

- Solar Energy Harvesting
- Thermal Energy Harvesting
- Cell Phone
- eBook
- Electronic Dictionary
- Wireless Sensor Node

Starter kit



Web design simulation service



URL: <http://www.cypress.com/easy-design-sim>

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 Doc# 002-08879 Rev*A

