

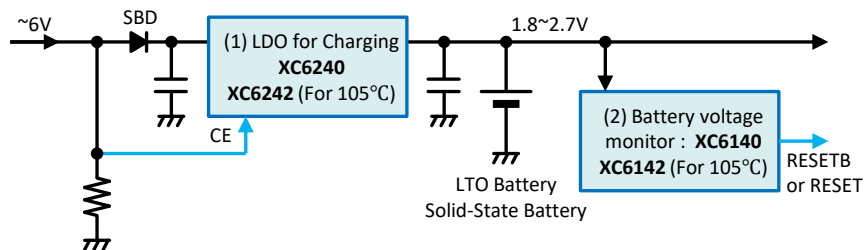
LTO and Solid-State batteries Reference Solutions

■ LTO battery :

Li rechargeable battery using lithium titanate for negative electrode

- Ideal for power supplies and backup circuits for small devices and modules in Industrial/IoT/Automotive applications.
 - Constant voltage charging by LDO is possible.
No need for dedicated expensive CC/CV charger ICs.
 - Reliable and safe with long life and resistance to repeated charge/discharge.
 - Resistant to over-discharge. Simple voltage detector is sufficient.
 - Stable voltage of 2.1V~2.4V.
Easy energy extraction compared to Supercap (EDLC).
 - 105°C high-temperature operation, reflow-compatible, thin and hot-laminate-compatible products are also available.

■ Reference circuit for LTO and Solid-State battery charging and battery voltage monitoring

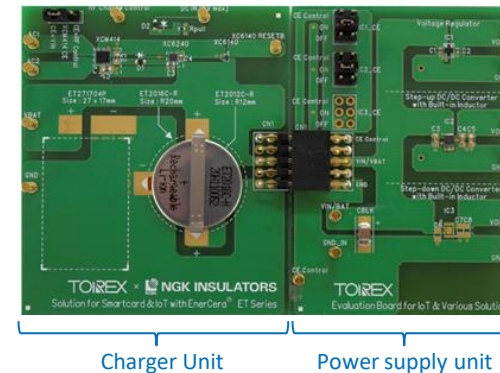


Block	Product	Features
(1) LDO for Charging	XC6240	For LTO/Solid-State battery charging, 2.63V, 150mA
	XC6242	For 105°C compatible charging, 2.63V, 150mA
(2) Battery voltage monitor	XC6140	RESET IC for battery voltage monitoring Detect voltage: 1.6~2.2V, Release voltage: 2.475V, Iq=104nA
	XC6142	105°C compatible, RESET IC for battery voltage monitoring Detect voltage; 1.6~2.1V, Release voltage: 2.450V, Iq=104nA

■ Reference Solution / Evaluation board for LTO batteries

Adopted as reference designs for charger IC and battery monitoring IC for LTO batteries by each manufacturer.

Evaluation boards for charging and power supply are provided for each battery.



(1) LDO for charging LTO and Solid-State battery : XC6240, XC6242

Charging with low Iq LDO of max. $V_{OUT} = 2.70V$ including temperature range in accordance with battery specifications.

To suppress inrush current, insert a few ohms resistor between the LDO and the battery.

(2) Battery voltage monitoring : XC6140, XC6142

Set the voltage to release when charging starts by the LDO in accordance with the charging and discharging characteristics of the battery.