TARGET APPLICATIONS

- Smartphones/tablet PCs/notebooks
- IoT devices
- Digital cameras
- Game devices
- Portable medical devices
- Other power-sensitive applications

KEY FEATURES

- Ultra-low ON resistance for highest efficiency
- In-rush current control
- Overvoltage tolerant inputs to 30 V
- Overvoltage protection (OVP)
- Overcurrent protection (OCP)
- Overtemperature protection (OTP)
- Reverse current protection (RCP)
- VIN impedance detection
- Surge protection (IEC61000-4-5)

Safe, efficient protection solutions in a small footprint

NX30P6093A BLOCK DIAGRAM
**BENEFITS**

- Protects from overvoltage, overcurrent surges
- Effective power distribution for USB Type-C and PD ports
- Extends battery life by disconnecting unused subsystems
- Replaces multiple discrete and LDOs and lowers total part count

With very low leakage current, and low ON resistance, NX3P/NX5P/NX20P/ NX30P high-side load switches and OVP protection ICs are ideal to manage power distribution to subsystems while reducing total power dissipation.

OVP and OCP functions safeguard PMIC and sub-blocks from poorly regulated supplies during charge, and from faulty loads while in OTG mode.

Available in extremely small plastic and WLCSP packages, they can provide a continuous current from 200 mA to 8.0 A while operating from -40 to 85º C.

**PROTECTION AND CONTROL**

NXP's load switches and OVP protection ICs integrate reverse-current/voltage protection, overvoltage protection and overtemperature protection, actively safeguarding it and the components it supplies, when a system-fail event is detected.

Integrated slew-rate control reduces in-rush current associated with system start-up, while the ILIM-feature limits the maximum switch current. Equipped with a low-threshold logic enable input, they can be used with both new and legacy controllers.

Undervoltage and overvoltage lock-out ensure the switch remains disabled until issues are removed before resuming normal operation.

**PACKAGES**

Built in small-footprint WLCSP packages, these load switches also integrate ESD IEC61000-4-2 and surge IEC61000- 4-5 protection, making them ideal for portable applications where board space is at a premium. Requiring minimal external components, the low pin count further improves crowded layouts by simplifying routing and eliminating dependencies of intricate line-layout patterns.

NXP packages are Dark Green, Pb-free, and RoHS compliant. For more information about NXP load switches, visit: [www.nxp.com/products/logic/load_switches](http://www.nxp.com/products/logic/load_switches).

**NXP LOAD SWITCH PORTFOLIO**

<table>
<thead>
<tr>
<th>Device</th>
<th>Target Applications</th>
<th>VIN (V)</th>
<th>RON (mΩ)</th>
<th>IMAX (A)</th>
<th>ILIM</th>
<th>Slew Rate</th>
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