

## Product Overview

### NCP370: Full Overvoltage and Overcurrent Protection Circuit

For complete documentation, see the data sheet.



The NCP370 is an overvoltage, overcurrent and reverse control device. Two main modes are available by setting logic pins. First mode is Direct Mode from Wall Adapter to the system. In this mode the system is both positive and negative overvoltage protected up to +28 V and down to -28 V. The wall adapter is disconnected from the system if the input voltage exceeds the overvoltage (OVLO) or undervoltage (UVLO) thresholds. At powerup, the Vout turns on 30 ms after the Vin exceeds the undervoltage threshold. The second mode, called the Reverse Mode, allows an external accessory to be powered by the system battery or a boost converter. Here, the external accessory would be connected to the device input (bottom connector of system) and the device battery would be at the device output. In this case, overcurrent protection is activated to prevent accessory faults and battery discharge. Thanks to the NCP370 using an internal NMOS, the system cost and the PCB area of the application board are minimized. The NCP370 provides a negative going flag (FLAG(BAR)) output which alerts the system that a fault has occurred. In addition, the device has ESD protected input (15 kV Air) when bypassed with a 1.0  $\mu$ F or larger capacitor.

### Features

- Overvoltage Protection up to 28 V
- Overvoltage Protection down to -28 V
- On-Chip Low RDS(on) NMOS Transistor: 135 mohm
- Overvoltage Lockout (OVLO)
- Undervoltage Lockout (UVLO)
- Alert FLAG(BAR) Output
- Direct mode DIR(BAR) Input
- Reverse mode REV(BAR) Input
- Reverse Overcurrent protection
- This is a Pb-Free Device

For more features, see the data sheet

### Applications

- Cell Phones, Camera Phones, Digital Still Cameras, Personal Digital Applications, and MP3 Players

### Part Electrical Specifications

Product	Compliance	Status	V <sub>CC</sub> Min (V)	V <sub>CC</sub> Max (V)	P <sub>(AV)</sub> Max (W)	V <sub>I<sub>T</sub></sub> Typ (V)	V <sub>IT</sub> Typ (V)	I <sub>DDH</sub> Max ( $\mu$ A)	T <sub>A</sub> Min ( $^{\circ}$ C)	T <sub>A</sub> Max ( $^{\circ}$ C)	Package Type
NCP370MUAITXG	Pb-free Halide free	Active	-28	28	2.5	6.6	2.7	280	-40	85	LLGA-12

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