

## Product Overview

### NCP360: Overvoltage Protection Circuit, USB Positive, with Internal PMOS FET and Status Flag

For complete documentation, see the data sheet.

NCP360 is able to disconnect the system from its output pin in case wrong VBUS operating conditions are detected. The system is positive overvoltage protected up to +20 V. Thanks to the integrated PMOS FET, no external device is necessary, reducing the system cost and the PCB area of the application board. NCP360 is able to instantaneously disconnect the output from the input if the input voltage exceeds the overvoltage threshold (OVLO). NCP360 provides a negative-going flag (FLAG) 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

- Very Fast Protection, Up to 20 V, with 25  $\mu$ A Current Consumption
  - On-chip PMOS Transistor
  - Overvoltage Lockout (OVLO)
  - Undervoltage Lockout (UVLO)
  - Alert FLAG Output
  - EN Enable Pin
  - Thermal Shutdown
  - 6-Lead UDFN 2 x 2 mm Package
  - TSOP-5 3 x 3 mm Package
  - These are Pb-Free Devices
- For more features, see the data sheet

#### Benefits

- When wall adapter or AC-DC overvoltage appears, the internal pass element is turned off very fast in order to protect the downstream system. The current consumption is around 25  $\mu$ A although the very fast turn off capability.
- No external device is necessary.
- Typical OVLO is set to 5.675 V. Additional threshold can be manufactured. Please contact your ON Semiconductor Sales contact for further information.
- Typical UVLO is set to 3.0 V. Additional thresholds can be manufactured. Please contact your ON Semiconductor Sales contact for further information.
- The microcontroller can take into account Flag status and controls thanks to EN pin the pass element state.
- The OVP device can be forced to off state thanks to this pin.
- When internal junction temperature is exceeded, the pass element is turned off.
- Very small package, small thickness.
- Low cost version.

#### Applications

- USB Devices
- Mobile Phones
- Peripherals

## Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	V <sub>CC</sub> Min (V)	V <sub>CC</sub> Max (V)	P <sub>(AV)</sub> Max (W)	V <sub>IT+</sub> Typ (V)	V <sub>IT-</sub> Typ (V)	I <sub>DDH</sub> Max (μA)	T <sub>A</sub> Min (°C)	T <sub>A</sub> Max (°C)	Package Type
NCP360MUTBG	0.3333	Pb-free	Active	1.2	20	0.3	5.675	3	35	-40	85	UDFN-6
		Halide free										
NCP360SNAET1G	0.24	Pb-free	Active	1.2	20	0.3	6.25	3	35	-40	85	TSOP-5 / SOT-23-5
		Halide free										
NCP360SNAFT1G	0.24	Pb-free	Active	1.2	20	0.3	7.07	3	35	-40	85	TSOP-5 / SOT-23-5
		Halide free										
NCP360SNAIT1G	0.24	Pb-free	Active	1.2	20	0.3	7.2	3	35	-40	85	TSOP-5 / SOT-23-5
		Halide free										
NCP360SNT1G	0.24	Pb-free	Active	1.2	20	0.3	5.675	3	35	-40	85	TSOP-5 / SOT-23-5
		Halide free										
NCV360SNAET1G	0.2933	AEC Qualified	Active	1.2	20	0.3	6.25	3	35	-40	85	TSOP-5 / SOT-23-5
		PPAP Capable										
		Pb-free										
		Halide free										
NCV360SNAFT1G	0.2933	AEC Qualified	Active	1.2	20	0.3	7.07	3	35	-40	85	TSOP-5 / SOT-23-5
		PPAP Capable										
		Pb-free										
		Halide free										
NCV360SNT1G	0.2933	AEC Qualified	Active	1.2	20	0.3	5.675	3	35	-40	85	TSOP-5 / SOT-23-5
		PPAP Capable										
		Pb-free										
		Halide free										

For more information please contact your local sales support at [www.onsemi.com](http://www.onsemi.com).

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