

Product Overview

NCP380: Power Distribution Switch, Current-Limiting (Fixed and Adjustable)

For complete documentation, see the data sheet.

The NCP380 is a high-side power distribution switch designed for applications where heavy capacitive loads and short-circuits are likely to be encountered, incorporating a 70 mΩ (DFN package), P channel MOSFET in a single package. The device limits the output current to a desired level by switching into a regulation current-mode when the output load exceeds the current-limit threshold or a short is present. The current limit threshold is either user adjustable between 500mA and 2.1A via an external resistor or internally fixed. The power switch rise and fall times are controlled to minimize current ringing during switching. An internal reverse-voltage detection comparator disables the power-switch if the output voltage is higher than the input voltage to protect devices on the input side of the switch. The /FLAG logic output asserts low during over current, reverse-voltage or over temperature conditions. The switch is controlled by a logic enable input active high or low.

Features

- 2.5V 5.5V operating range
- 70 mΩ High-Side MOSFET
- Adjustable and Fixed current limit
- Under voltage lock-out
- Built-in Soft start
- Thermal Protection
- Soft turn-off
- Reverse voltage Protection
- Enable active high or low
- Compliance to IEC61000-4-2 (Level 4), 8.0 kV (Contact), and 15 kV (Air)

For more features, see the data sheet

Applications

- Laptops, USB ports, TVs

Part Electrical Specifications

Product	Compliance	Status	Type	V _I Max (V)	r _{DS(on)} Max (mΩ)	T _{SD} Typ (°C)	T _{hyst} Typ (°C)	Package Type
NCP380HMU05AATB G	Pb-free Halide free	Active	Fixed	7	80	140	10	UDFN-6
NCP380HMU10AATB G	Pb-free Halide free	Active	Fixed	7	80	140	10	UDFN-6
NCP380HMU15AATB G	Pb-free Halide free	Active	Fixed	7	80	140	10	UDFN-6
NCP380HMU20AATB G	Pb-free Halide free	Active	Fixed	7	80	140	10	UDFN-6
NCP380HMU21AATB G	Pb-free Halide free	Active	Fixed	7	80	140	10	UDFN-6
NCP380HMUAJAATB G	Pb-free Halide free	Active	Fixed	7	80	140	10	UDFN-6
NCP380HSN05AAT1 G	Pb-free Halide free	Active	Fixed	7	100	140	10	TSOP-5 / SOT-23-5
NCP380HSN05AAT2 G	Pb-free Halide free	Active	Fixed	7	100	140	10	TSOP-5 / SOT-23-5
NCP380HSN10AAT1 G	Pb-free Halide free	Active	Fixed	7	100	140	10	TSOP-5 / SOT-23-5
NCP380HSNAJAAT1 G	Pb-free Halide free	Active	Adjustable	7	100	140	10	TSOP-6
NCP380LMU05AATB G	Pb-free Halide free	Active	Fixed	7	80	140	10	UDFN-6
NCP380LMU10AATB G	Pb-free Halide free	Active	Fixed	7	80	140	10	UDFN-6
NCP380LMU15AATB G	Pb-free Halide free	Active	Fixed	7	80	140	10	UDFN-6
NCP380LMU20AATB G	Pb-free Halide free	Active	Fixed	7	80	140	10	UDFN-6
NCP380LMUAJAATB G	Pb-free Halide free	Active	Adjustable	7	80	140	10	UDFN-6
NCP380LSN05AAT1G	Pb-free Halide free	Active	Fixed	7	100	140	10	TSOP-5 / SOT-23-5
NCP380LSN10AAT1G	Pb-free Halide free	Active	Fixed	7	100	140	10	TSOP-5 / SOT-23-5
NCP380LSNAJAAT1G	Pb-free Halide free	Active	Adjustable	7	100	140	10	TSOP-6
NCV380HMUAJAATB G	AEC Qualified PPAP Capable Pb-free Halide free	Active	Adjustable	7	80	140	10	UDFN-6
NCV380LMUAJAATB G	AEC Qualified PPAP Capable Pb-free Halide free	Active	Adjustable	7	80	140	10	UDFN-6

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