

Product Overview

NCP1071: High-Voltage Switcher for Low Power Offline SMPS

For complete documentation, see the data sheet.

The NCP1071 integrate a fixed frequency current mode controller with a 700 V MOSFET. Available in a PDIP-7 or SOT-223 package, the NCP1071 offers a high level of integration, including soft-start, frequency-jittering, short-circuit protection, skip-cycle, a maximum peak current set point, ramp compensation, and a Dynamic Self-Supply (eliminating the need for an auxiliary winding).

Unlike other monolithic solutions, the NCP1071 is quiet by nature: during nominal load operation, the part switches at one of the available frequencies (65, 100 or 130 kHz). When the output power demand diminishes, the IC automatically enters frequency foldback mode and provides excellent efficiency at light loads. When the power demand reduces further, it enters into a skip mode to reduce the standby consumption down to a no load condition.

Protection features include: a timer to detect an overload or a short-circuit event, Overvoltage Protection with auto-recovery and AC input line voltage detection.

For improved standby performance, the connection of an auxiliary winding stops the DSS operation and helps to reduce input power consumption below 50 mW at high line.

Features

- Integrated 700 V MOSFET with $R_{DS(on)}$ of 22Ω
 - Current-Mode Fixed Frequency Operation (65/100/130 kHz)
 - Peak Current: NCP1071 = 350mA
 - Skip-Cycle Operation at Low Peak Current
 - Dynamic Self-Supply (DSS)
 - Auto-Recovery Output Short Circuit Protection with Timer-Based Detection
 - Frequency Foldback Operation
 - 300 μ A No Load Power Consumption
 - Frequency Jittering (including during frequency foldback mode)
 - AC Input Voltage Line Detection
- For more features, see the data sheet

Applications

- Auxiliary
- Standby Isolated Power Supplies
- White Goods
- Smart Meter
- E-Meter

Benefits

- Up to 20W output SMPS design capability
- Ability to scale for efficiency or size
- Adjust output current protection based on output power demand
- Eliminate acoustic noise
- Eliminate Aux winding
- Provides more robust protection without worrying about the coupling of the aux winding
- Improved efficiency at light load / Improved EMI over the entire load
- <50mW no Load Power Consumption
- Better EMI Signature Over the Entire Operating Range
- Enhanced Protection Against Faults With Low Input Voltage

End Products

- Auxiliary
- Standby Isolated Power Supplies
- White Goods
- Smart Meter
- E-Meter

Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Control Mode	f _{sw} Typ (kHz)	f _{jitter} Typ (%)	Stand-by Mode	R _{DS(on)} Typ (Ω)	V _{DSS} (BR) Max (V)	I _{Peak} (mA)	HV Start-up Min (V)	DSS (mA)	UVLO	Short Circuit Protection	Over Power Compensation	Brown-out	Latch	Package Type
NCP1071P065G	0.4673	Pb-free Halide free non AEC-Q and PPAP	Active	Current Mode	65	6	Yes	22	700	350	Yes	8	6.4	Yes	No	No	No	PDIP-7
NCP1071P100G	0.4673	Pb-free Halide free non AEC-Q and PPAP	Active	Current Mode	100	6	Yes	22	700	350	Yes	8	6.4	Yes	No	No	No	PDIP-7
NCP1071P130G	0.4673	Pb-free Halide free non AEC-Q and PPAP	Active	Current Mode	130	6	Yes	22	700	350	Yes	8	6.4	Yes	No	No	No	PDIP-7
NCP1071STAT3G	0.4673	Pb-free Halide free non AEC-Q and PPAP	Active	Current Mode	65	6	Yes	22	700	350	Yes	8	6.4	Yes	No	No	No	SOT-223-4 / TO-261-4D
NCP1071STBT3G	0.4673	Pb-free Halide free non AEC-Q and PPAP	Active	Current Mode	100	6	Yes	22	700	350	Yes	8	6.4	Yes	No	No	No	SOT-223-4 / TO-261-4D
NCP1071STCT3G	0.4673	Pb-free Halide free non AEC-Q and PPAP	Active	Current Mode	130	6	Yes	22	700	350	Yes	8	6.4	Yes	No	No	No	SOT-223-4 / TO-261-4D

For more information please contact your local sales support at www.onsemi.com.

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