

NC2600 series

2A Low Quiescent Current PWM/PFM Step-down Switching Regulator

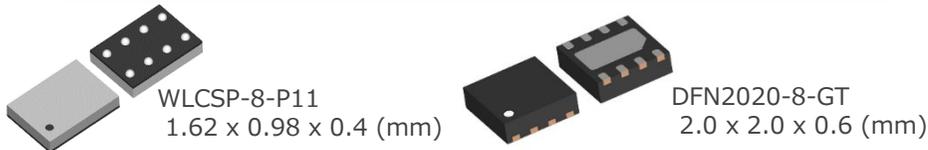


- ❑ Peak efficiency of 95% achieves high light and heavy load efficiency.
- ❑ High switching frequency of 4.0 MHz saves space including peripheral circuits.
- ❑ WLCSP-8-P11 package achieves the high-density mounting.
- ❑ The power good function and variable soft start make sequence control easier.

KEY SPECIFICATIONS

- Input Voltage Range (Maximum Rating): 2.3 V to 5.5 V (6.5 V)
- Operating Temperature Range: -40°C to 85°C
- Output Voltage (Fixed Output Voltage Type): 0.6 V to 3.3 V
(Adjustable Output Voltage Type): 0.6 V to 5.5 V
- Output Voltage Accuracy: $\pm 1.5\%$ ($V_{SET} \geq 1.2$ V), ± 18 mV ($V_{SET} < 1.2$ V)
- Feedback Voltage Accuracy: ± 9 mV
- Quiescent Current: Typ. 17 μ A
- Switching Frequency: Typ. 4.0 MHz ($V_{SET} = 1.8$ V)
- UVLO Detection Voltage: Typ. 2.0 V
- Soft-Start Time: Typ. 0.15 ms (When CSS is open.)
Configurable with External Capacitor
- Thermal Shutdown Function: Detection Temperature Typ. 150°C
Release Temperature Typ. 120°C
- Auto Discharge Function, Latch Protection Function

PACKAGE

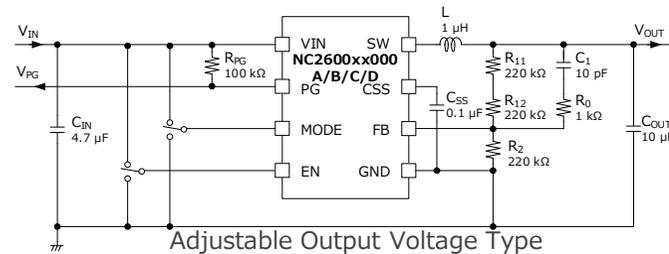
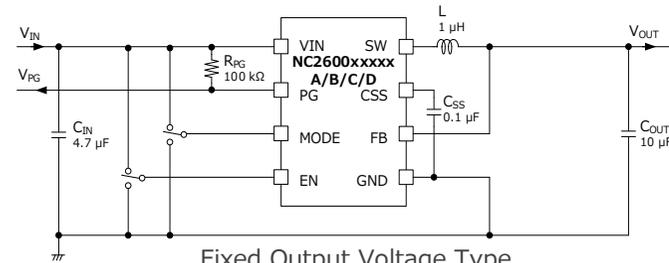


APPLICATIONS

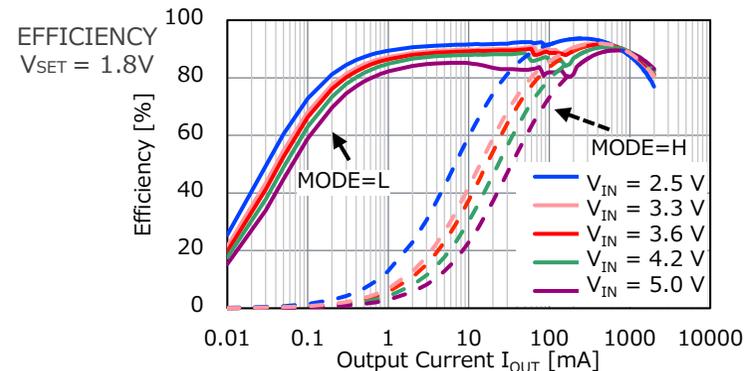
- Mobile communication devices: Mobile phone, Smartphone
- Digital camera, Laptop
- Devices using lithium-ion batteries



TYPICAL APPLICATIONS



TYPICAL CHARACTERISTICS



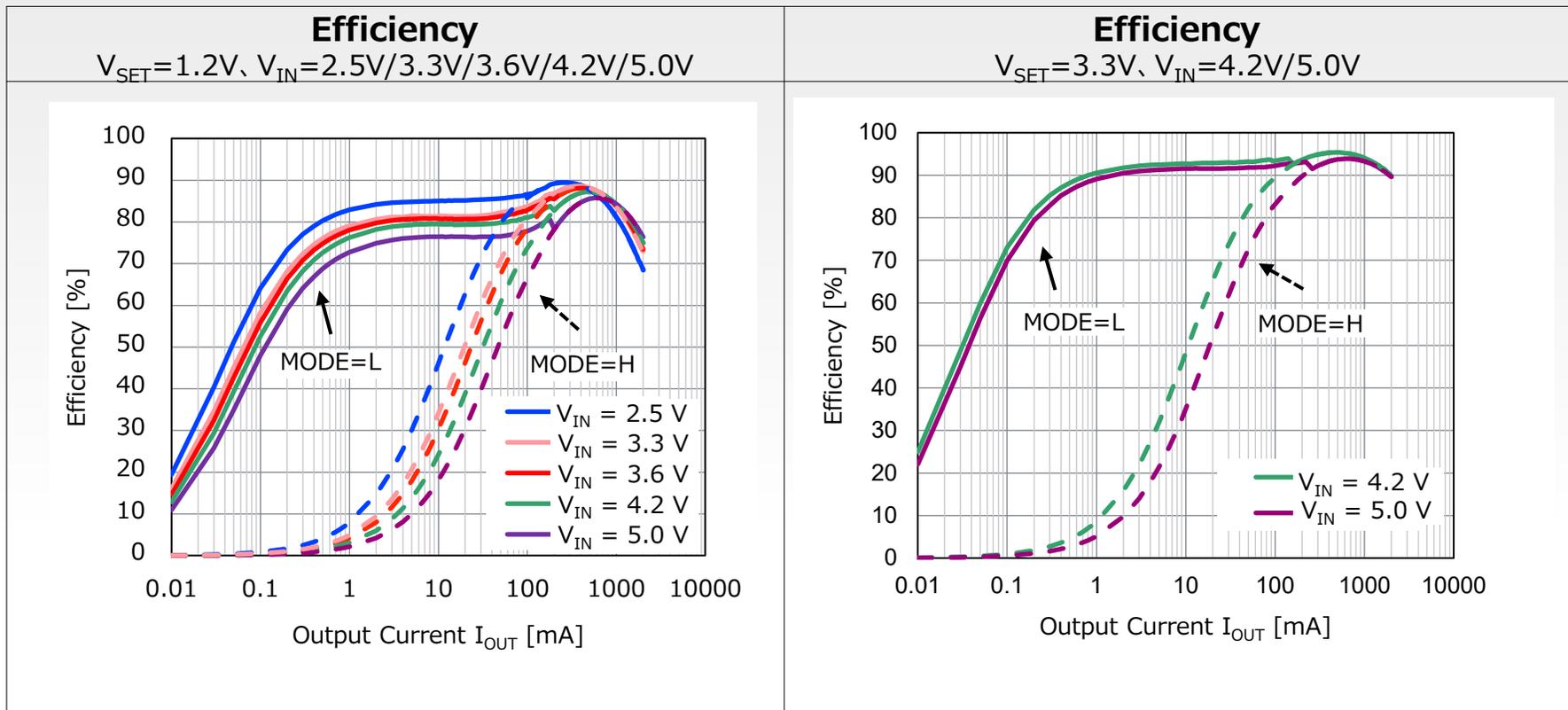
- Peak efficiency of 95% achieves high light and heavy load efficiency.

General Issue

- Want a high efficiency IC for any load.

Our Solution

- NC2600 can achieve high efficiency at both light and heavy loads by PWM/PFM automatic switching.



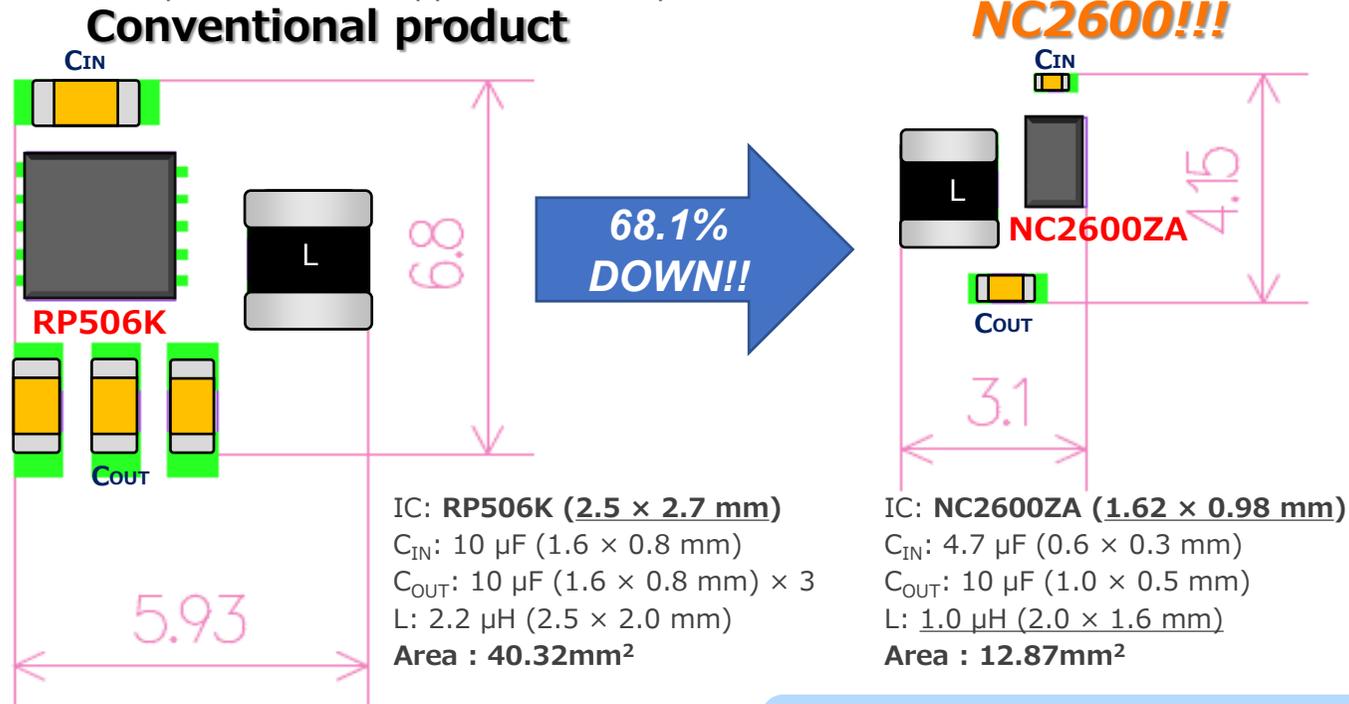
- High switching frequency of 4.0 MHz saves space including peripheral circuits.
- WLCSP-8-P11 package achieves the high-density mounting.

General Issue

- Want to save space, including peripheral circuits.

Our Solution

- NC2600ZA is miniaturized by adopting WLCSP-8-P11 package, miniaturized with 1.0μH inductor, and small size capacitor can be applied to save space.



Since there are few external parts and the constant can be small, there is a margin in the effective capacity.

- ❑ The power good function and variable soft start make sequence control easier.

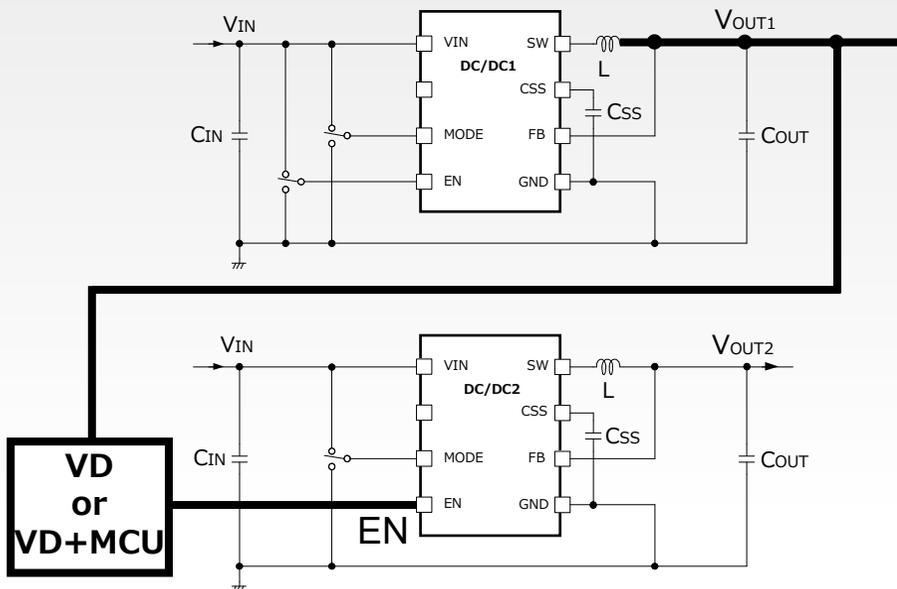
General Issue

- Want to easily perform sequence control.

Our Solution

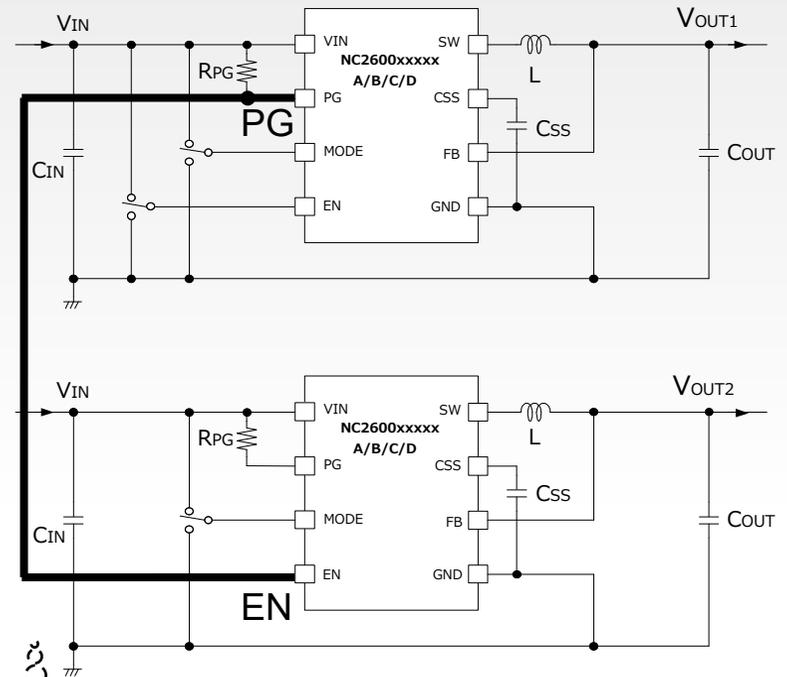
- A built-in power good function eliminates the need for a sequence control circuit and easily perform sequence control.

Complicated Sequence...



A control circuit is required...

NC2600!!!



No control circuit required !

- ❑ The power good function and variable soft start make sequence control easier.

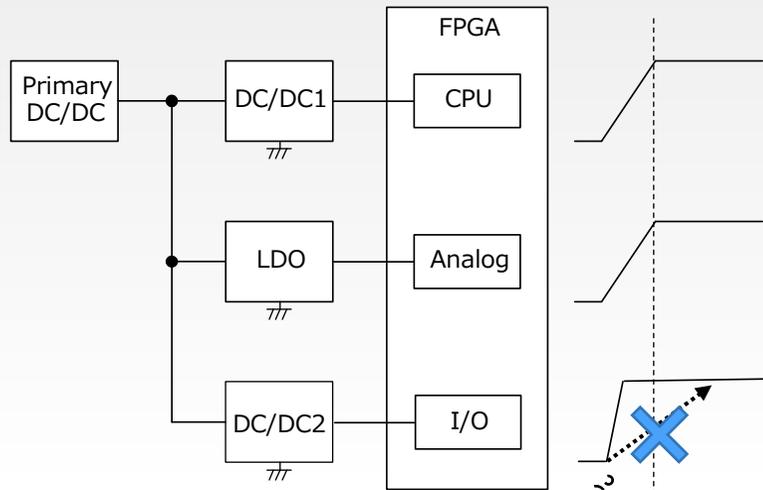
General Issue

- Want to easily perform sequence control.

Our Solution

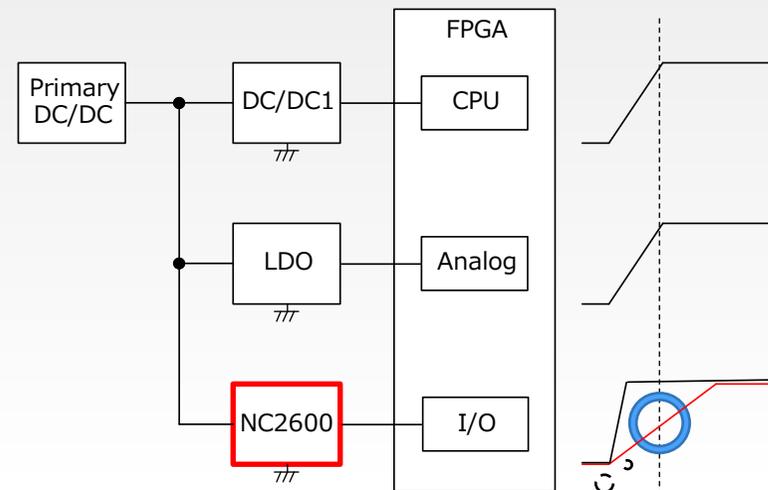
- The soft-start time can be adjusted with an external capacitor, allowing easily perform sequence control.

Startup time is uncontrollable...



Fixed soft start time
What should I do !

NC2600!!!



Soft-start time set with condenser
Very easy!

SELECTION GUIDE

Product Name	Package	Quantity per Reel	Pb Free	Halogen Free
NC2600ZAbbbcE2e	WLCSP-8-P11	5,000pcs	○	○
NC2600GTbbbcE4e	DFN2020-8-GT	3,000pcs	○	○

bbb : Specifying the set output voltage (V_{SET})

Fixed Output Voltage Type : Lineup of main voltages in the range of 0.6V (060) to 3.3V (330).

Please refer to the ORDER INFORMATION in the data sheet for the lineup.

Adjustable Output Voltage Type : (000)

c : Selection of auto-discharge function and latch protection function.

c	Latch Protection Function	Auto Discharge Function
A	Yes	Yes
B	Yes	No
C	No	Yes
D	No	No

e : Select the quality grade

e	Applications	Operating Temperature Range	Test Temperature
S	General-purpose and Consumer application	-40°C to 85°C	25°C



Nisshinbo Micro Devices Inc.