

SI-8205NHD

Description

The SI-8205NHD is a synchronized rectifier type chopper regulator IC with a built-in power MOS.

Due to a current control system, it is applicable to such a super low ESR capacitor as a ceramic capacitor.

It is provided with various protection functions such as overcurrent protection, low input prohibition, overheat protection etc.

In order to protect the IC against in-rush current at start-up, the soft start function is provided.

The soft start time can be set by connecting external capacitors. And the frequency can be set by connecting an external capacitor. This device is supplied in a compact and thin HSOP8 package with heat slug on the back side.

Application

- DVD recorders, FPD TV
- OA equipment (printers, etc)
- On-board local power supplies

Features

- High efficiency: 90%(VIN=12V, Vo=5V, IO=1A, fo=500kHz)
- 150mΩ MOSFET(High/Low side)
- Ceramic capacitor can be used for output
- Externally adjusted frequency type: 200kHz~1MHz
- Output voltage range: 0.5~24V
- Built-in drooping type overcurrent and thermal protection circuits

Remarks

Package

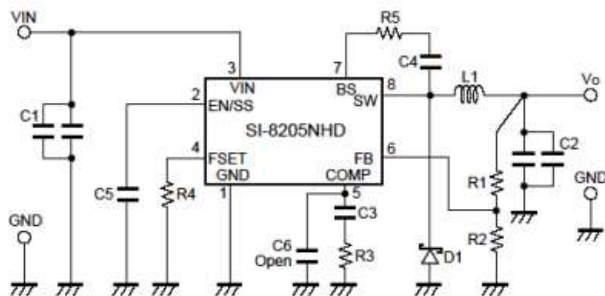
Package Name:HSOP8



Specifications

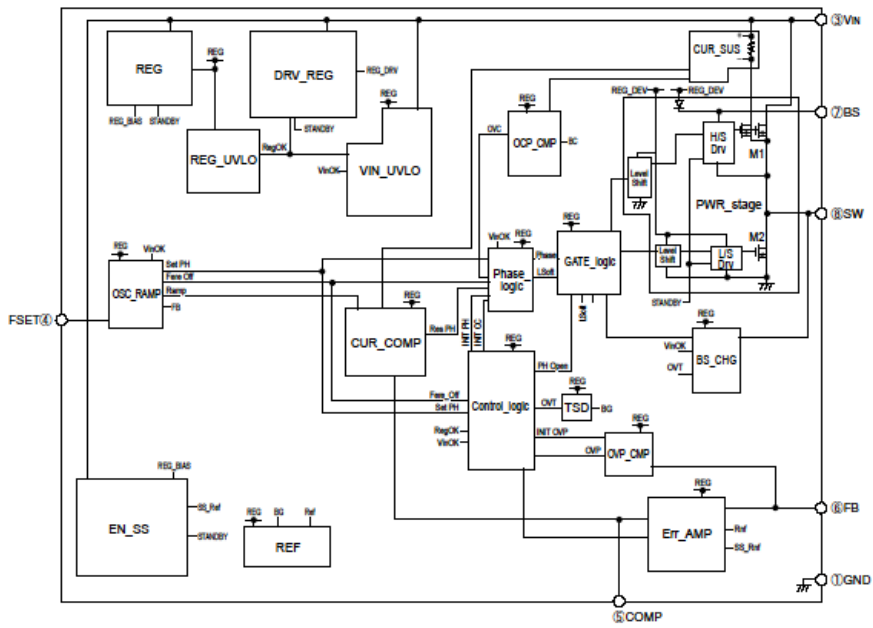
Built-in Power	YES
Output Voltage	0.5V to 24V
Output Current	3A
Input Voltage Range	8V to 43V
Operating Frequency	200kHz to 1000kHz
Synchronous / Asynchronous	Synchronous
Current Mode Control	YES
Maximum Input Voltage	43V
Minimum Input Voltage	8V
Output On / Off	YES
Low ESR Capacitor Support	YES
Overcurrent Protection	Drooping Type
Phase Compensation	External
Thermal Protection	YES
UVLO	YES

Representative Circuit



- C1:10 μF/50V×2
(murata:GRM55DB31H106KA87)
- C2:22 μF/16V×2
(murata:GRM32ER71A226KE20)
- C3:270pF*1
(murata:GRM18 type)
- C4:10 μF
(murata:GRM18 type)
- C5:1 μF
(murata:GRM18 type)
- L1:10 μH
- D1:SJPB-L6 (SanKen)
- R1:9kΩ*1
- R2:1kΩ
- R3:51kΩ*1
- R4:150kΩ
- R5:47Ω *1: Vo=5V

Internal Block Diagram



Pin-out Diagrams

Data sheet

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Application Note

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