

2A* 30V Input PWM Step-down DC/DC Converter

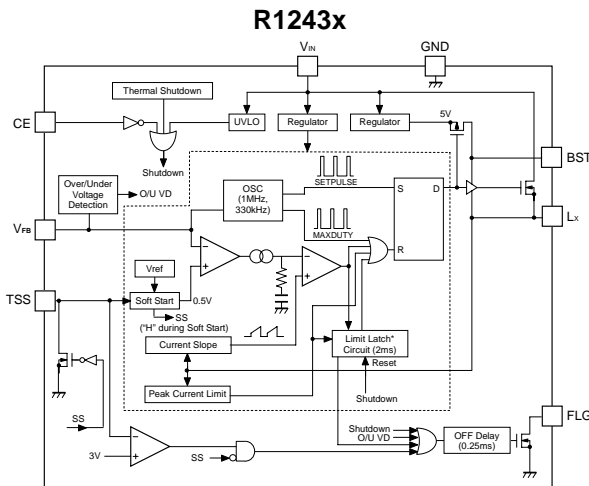
The R1243x Series are 30V input, CMOS-based PWM step-down DC/DC converters featuring 2A* output current. R1243x includes a soft start circuit and a latch or fold-back protection circuit. By simply using an inductor, resistors, a diode, and capacitors as external components, a high-efficiency step-down DC/DC converter can be easily configured. Due to current mode PWM control, the R1243x provides a fast response and high efficiency. Ceramic output capacitors can be used.

FEATURES

- Supply Current (I_{DD}) Typ. 0.7mA ($V_{IN}=30V$, SET $V_{FB}=1.0V$)
- Standby Current ($I_{standby}$) Max. 10 μ A ($V_{IN}=30V$, CE="L")
- Input Voltage Range (V_{IN}) 4.5V to 30.0V
- Output Voltage Range (V_{OUT}) 0.8V to 18.0V (externally adjustable)
(Feedback voltage : 0.5V)
- Feedback Voltage Accuracy $\pm 1.4\%$
- Output Current (I_{OUT}) 2A*
- Oscillator Frequency (f_{osc}) Select from 1MHz or 330kHz
- Oscillator Maximum Duty Cycle (Maxduty) ... Typ. 90%
- UVLO Detect Voltage (V_{UVLO}) Typ. 3.8V
- Soft Start Time (t_{start}) Typ. 0.4ms ~
(Adjustable by an external capacitor)
- High Side Switch Limit Current Typ. 3.8A
- Thermal Shutdown Circuit Stops at 160°C
- Latch Protection Circuit Delay time for protection
Typ. 2ms (A/C Version)
- Fold-back Protection Circuit Fold-back frequency
Typ. 250kHz (B Version)
Typ. 82.5kHz (D Version)
- FLG pin (Nch. Open drain output) FLG "OFF" Delay Time Typ. 0.25ms
- Package DFN(PLP)2527-10, HSOP-8E

*) This is an approximate value, because output current depending on conditions and external parts.

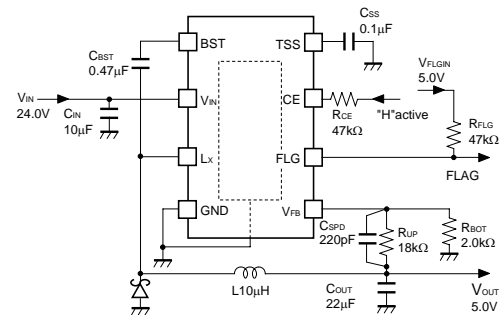
BLOCK DIAGRAM



* Latch / Fold-back Selectable

TYPICAL APPLICATION

R1243x001C/D
($V_{OUT}=5.0V$, Soft Start Time 12ms, Flag Function using)



C_{IN} , C_{OUT} : Ceramic capacitors can be used.

C_{BST} : Bootstrap Capacitor

C_{SS} : Capacitor for setting soft start time

SELECTION GUIDE

Halogen Free	Package	Q'ty per Reel	Part No.
H/F	DFN(PLP)2527-10	5,000 pcs	R1243K001* -TR
H/F	HSOP-8E	1,000 pcs	R1243S001* -E2-FE

*: Specify a combination of the oscillator frequency and the protection circuit.

PACKAGE

DFN(PLP)2527-10				HSOP-8E			
Top View		Bottom View		Top View		Bottom View	
10	9	8	7	6	5	4	3
2	1	3	4	5	6	7	8
1	Lx	6	CE	1	BST	5	V_{FB}
2	Lx	7	TSS	2	V_{IN}	6	FLG*2
3	GND	8	BST	3	Lx	7	CE
4	V_{FB}	9	V_{IN}	4	GND	8	TSS
5	FLG*2	10	V_{IN}				

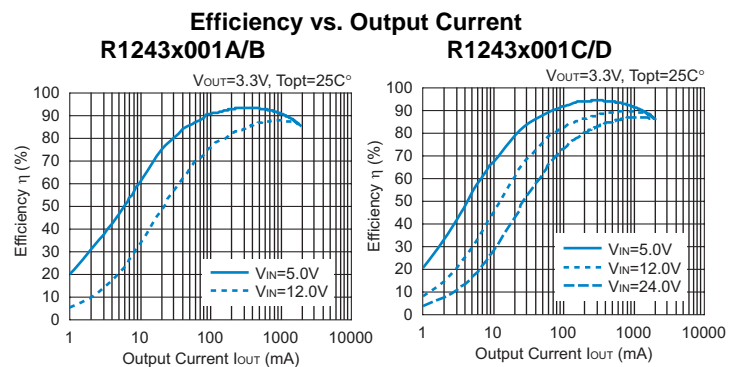
*) The tab is substrate level (GND), must be connected to GND level.

*2) The FLG pin connected to the GND level or should be open when FLG is not used.

APPLICATIONS

- Power source for digital home appliances such as digital TVs and DVD players
- Power source for hand-held communication equipment, cameras, and VCRs
- Power source for office automation equipment such as printers and fax machines
- Power source for battery-powered equipment

TYPICAL CHARACTERISTIC





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